

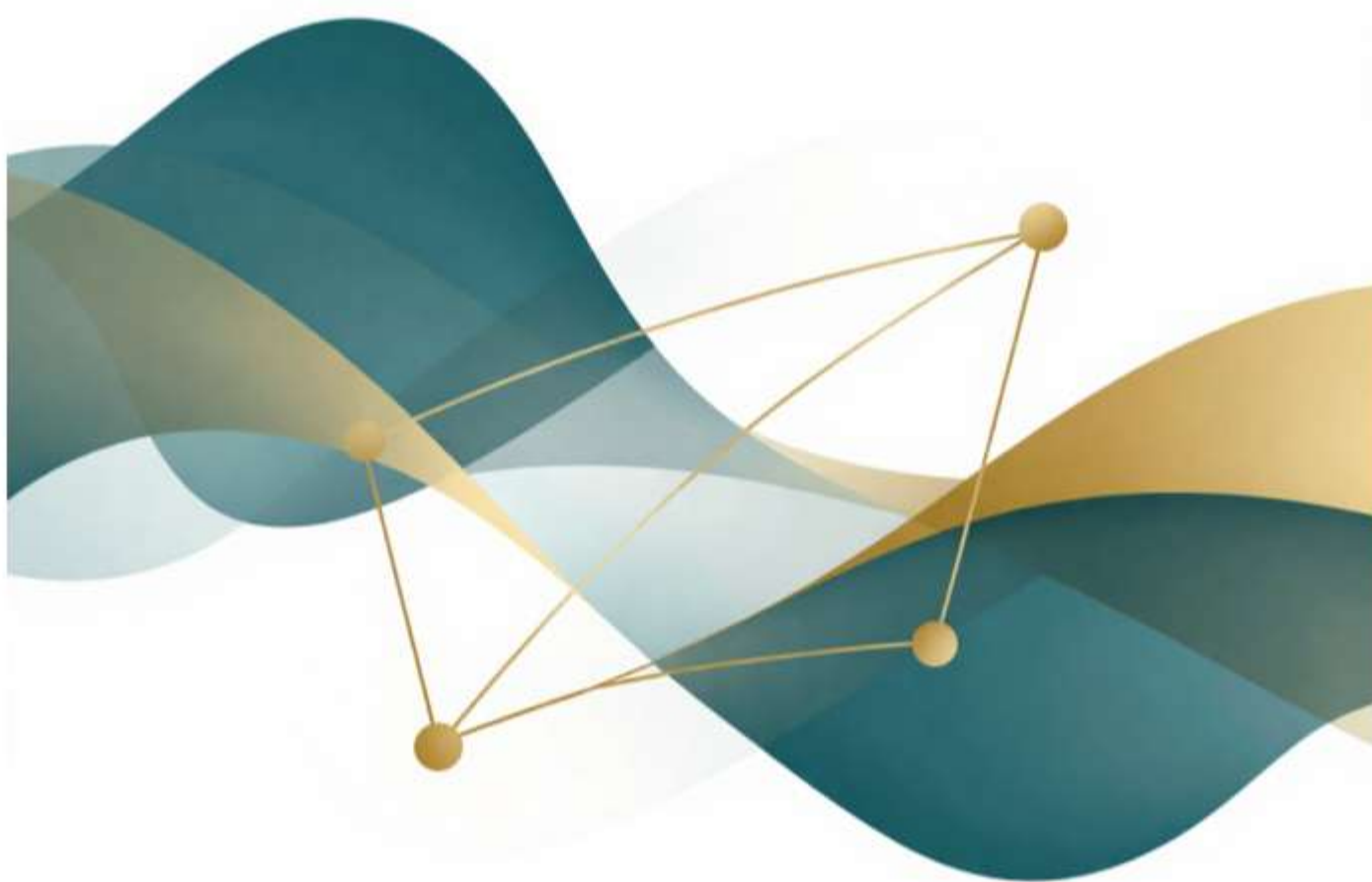


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Editor's Note

Universities have always been among society's most enduring institutions. Yet endurance alone is no longer enough. In an era shaped by rapid technological change, shifting learner expectations, global competition, climate uncertainty, demographic transitions, and questions about the public value of higher education, universities are being asked not merely to adapt, but to reinvent themselves: *Reinventing Universities for a Changing World*.

The idea of “reinventing universities” invites us to look beyond incremental reform. It asks what kind of university is needed for the present moment: one that is digitally capable but deeply human, globally connected yet locally responsible, research-driven while also committed to inclusion, sustainability, employability, and lifelong learning. Recent discussions of higher education transformation emphasize that digital transformation and smart campuses can reshape teaching, engagement, institutional management, and decision-making, while broader debates remind us that universities must redesign their missions around public purpose, agility, and social impact. The MHESI Reinventing University project aims to reform Thailand's higher education system by categorizing universities into 5 strategic groups, aligning their strengths with national development goals.

This issue takes that challenge seriously. The contributions gathered here reflect a shared recognition that the future university cannot be built through technology alone, nor through tradition alone. It must emerge from thoughtful leadership, ethical innovation, interdisciplinary collaboration, and a renewed commitment to learners and communities. Reinvention, in this sense, is not a rejection of the university's heritage; it is a call to reinterpret that heritage in light of new realities. As readers engage with the articles in this journal, I invite them to consider several guiding questions: How can universities prepare graduates for uncertain futures while preserving the depth of intellectual inquiry? How can digital tools expand access without weakening human connection? How can institutions become more responsive, equitable, and sustainable while maintaining academic quality? And how can universities serve not only as places of knowledge production, but also as partners in shaping more resilient societies?

Reinventing universities is therefore both an institutional task and an intellectual invitation. It requires courage to question inherited models, imagination to design new possibilities, and responsibility to ensure that transformation remains anchored in human dignity and the public good. It is my hope that this issue contributes meaningfully to that conversation and encourages educators, researchers, policymakers, and university leaders to rethink what higher education can become.

APHEIT journal is a platform for Share and Learn. We always value your contributions.

Manit Boonprasert, Ed.D

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Empowerment of school administrators to enhance educational administration and drive high-performance outcomes in Thai primary schools

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ABSTRACT

This study examined how empowering school administrators can enhance educational administration and promote high-performance outcomes in Thai primary schools. A mixed-methods design was used, involving 419 teachers from 13 primary schools under the Office of the Basic Education Commission, interviews with 13 educational administrators and principals, and a focus group discussion with 11 experts in educational administration. Exploratory Factor Analysis identified five empowerment components: strategic policy and administrative management; organizational climate and environment; competency enhancement and professional development; confidence building, trust, and motivation; and evaluation efficiency and feedback. Factor loadings ranged from 0.303 to 0.820, supporting the construct validity of these dimensions. Qualitative findings showed that these components align with key dimensions of high-performance administration, including organizational leadership, planning and strategy, stakeholder support, data-driven decision-making, human resource management, and feedback and outcomes. The results indicated that empowered administrators are better able to set strategic direction, build collaborative school cultures, develop personnel capacity, foster trust and motivation, and use evaluation data for continuous improvement. The proposed framework offers practical guidance for policymakers and school leaders seeking to strengthen administration and achieve sustainable high-performance outcomes in Thai primary schools.

Keywords: Empowerment, School Administrators, Educational Administration, High-Performance Outcomes, Primary Schools

Introduction

Educational leadership and effective school management are at the heart of quality education, especially in primary schools where the foundation for lifelong learning is built. In Thailand, as in

many other countries, the role of school administrators has evolved significantly, requiring them to not only manage daily operations but also guide schools toward high-performance outcomes. School leaders must now navigate complex

challenges, including curriculum implementation, resource allocation, policy changes, and improving student outcomes. To address these demands, it is crucial to focus on the empowerment of school administrators equipping them with the necessary tools, skills, and confidence to lead effectively. This paper aims to explore the empowerment of school administrators in primary schools in Thailand, with a focus on enhancing educational administration and driving high-performance outcomes. The study identifies key components of empowerment that can strengthen school leadership and management practices. Furthermore, the paper highlights seven critical components for achieving high-performance school administration in the context of Thailand's Department of Local Administration. This comprehensive framework is designed to provide actionable guidelines for school administrators to improve their practices, manage resources efficiently, and foster an environment conducive to student success. In Thailand, educational policy has undergone significant reforms in recent years, driven by the need to improve the quality of education and the effectiveness of school management. The Thai educational leadership and effective school administration are fundamental to improving educational quality and student achievement, particularly in primary education where learners develop essential knowledge, skills, and attitudes for lifelong learning. In Thailand, school administrators play a critical role in translating educational policies into practice, managing resources, supporting teachers, engaging stakeholders, and creating learning environments that promote student success. As educational systems continue to face rapid social, economic, and technological changes,

school administrators are increasingly expected to perform not only managerial functions but also strategic leadership roles that drive organizational effectiveness and sustainable school improvement.

The Thai education system has undergone significant reform during the past two decades. The National Education Act of 1999 and its subsequent amendments emphasized decentralization, educational quality assurance, and community participation in school management. Under this framework, local educational institutions have been granted greater responsibility for decision-making and educational development (Chotikapanich, 2013). Furthermore, national initiatives such as Thailand 4.0 have highlighted the importance of innovation, leadership capacity, and data-driven management practices in educational organizations (Ministry of Education, 2019). These reforms have increased expectations for school administrators to become effective leaders capable of responding to local needs while maintaining high standards of educational performance.

Among the factors influencing administrative effectiveness, empowerment has emerged as an important concept in educational leadership. Empowerment refers to the process of enhancing individuals' authority, confidence, competence, autonomy, and capacity to make decisions and influence organizational outcomes. In educational settings, empowered administrators are more likely to demonstrate initiative, strategic thinking, collaboration, and commitment to continuous improvement. Previous studies have consistently highlighted the positive effects of empowering leadership on educational organizations. Balyer, Özcan, and Yıldız

(2017) found that school administrators play a vital role in empowering teachers through shared decision-making, trust-building, and supportive leadership practices. Similarly, Yıldız and Balyer (2022) reported that empowering leadership behaviors significantly influence teachers' organizational citizenship behaviors, encouraging them to contribute beyond their formal responsibilities. More recently, Çevik and Doğan (2025) demonstrated that empowering leadership positively affects teachers' psychological resilience, suggesting that empowerment strengthens both individual and organizational capacity in educational settings.

Empowerment is particularly important for school administrators because they operate within increasingly complex educational environments. They are expected to manage curriculum implementation, human resources, financial planning, stakeholder engagement, and educational innovation simultaneously. Without sufficient empowerment, administrators may face difficulties in making timely decisions, implementing strategic initiatives, and responding effectively to emerging challenges. Empowered administrators are more likely to foster collaborative cultures, support teacher development, and establish organizational conditions that facilitate continuous improvement. Therefore, strengthening administrator empowerment has become an essential strategy for enhancing educational administration and school effectiveness.

In addition to empowerment, educational institutions are increasingly expected to achieve high-performance outcomes. High-performance schools are characterized by effective leadership, strategic

planning, stakeholder engagement, organizational learning, continuous improvement, and measurable educational results. Research has demonstrated that leadership practices significantly influence school performance and organizational success. Nguyen and Walker (2018) emphasized that instructional and strategic leadership are critical drivers of school effectiveness in Southeast Asian educational contexts. Likewise, Sparks and Malkus (2020) found that the systematic use of data and evidence-based decision-making contributes significantly to improved instructional quality and organizational performance. These findings suggest that leadership capacity and management effectiveness are essential conditions for achieving high-performance outcomes in schools.

In Thailand, government agencies and educational organizations have increasingly promoted performance-oriented management approaches to improve educational quality. However, considerable variation remains among schools in terms of leadership effectiveness, organizational capacity, and educational outcomes. Reports from the Office of the Education Council (OEC, 2018) indicate that many school administrators continue to experience challenges related to leadership development, strategic management, and organizational improvement. These challenges are particularly evident in schools operating under resource constraints or located in geographically disadvantaged areas. Although policy reforms have encouraged decentralization and greater administrative responsibility, many school leaders still face limitations in professional development opportunities,

decision-making autonomy, and access to effective management tools.

Despite growing recognition of the importance of empowerment and leadership effectiveness, several research gaps remain. First, existing studies have often focused on empowering leadership from the perspective of teachers rather than examining empowerment as a comprehensive framework for school administrators. Second, studies addressing school performance have frequently emphasized leadership effectiveness, strategic planning, or organizational outcomes without explicitly investigating the empowerment mechanisms that enable administrators to achieve such outcomes. Third, there remains limited empirical evidence integrating empowerment dimensions with high-performance school administration within the context of Thai primary education (Panya, 2015; OEC, 2018). As a result, educational administrators and policymakers still lack a comprehensive framework that explains how administrator empowerment can contribute directly to high-performance outcomes.

Addressing these gaps is particularly important because effective educational reform requires school leaders who possess both the authority and capacity to lead change. Empowerment should not be viewed merely as the delegation of authority but as a multidimensional process involving strategic capability, organizational support, professional development, motivation, trust, and continuous feedback. Understanding these dimensions can provide practical guidance for strengthening leadership capacity and improving educational administration across diverse school contexts.

Therefore, this study aims to propose guidelines for empowering school administrators to enhance educational administration and drive high-performance outcomes in primary schools in Thailand. The study seeks to identify the key dimensions of administrator empowerment and examine their relationship with high-performance school administration. By integrating quantitative and qualitative evidence, the research develops a comprehensive framework that links empowerment components with high-performance administrative practices.

The findings of this study are expected to contribute both theoretically and practically. Theoretically, the research expands the body of knowledge on educational leadership by integrating empowerment and high-performance administration into a unified conceptual framework. Practically, the findings provide educational policymakers, local administrative organizations, and school leaders with evidence-based guidelines for strengthening leadership capacity, improving management effectiveness, enhancing stakeholder engagement, promoting data-driven decision-making, and achieving sustainable educational improvement. Ultimately, the study contributes to the development of high-performing primary schools capable of delivering quality educational outcomes and responding effectively to future educational challenges.

Research Objective

To propose guidelines for empowerment of school administrators to enhance educational administration and drive high-performance outcomes in Thai Primary Schools.

Research process

This study employed a mixed-methods approach to investigate the empowerment of primary school administrators in Thailand. The quantitative component involved 419 teachers from 13 primary schools under the Office of the Basic Education Commission (OBEC) during the 2024 academic year. The sample size was determined using Krejcie and Morgan's (1970) table and selected through multi-stage sampling across six regions: North, Central, East, West, Northeast, and South. Schools were selected via simple random sampling from OBEC Award recipients (2020–2021), and stratified random sampling was used to select teachers proportionally within each school. For the qualitative component, in-depth interviews were conducted with 13 educational administrators and school principals chosen through purposive sampling. Criteria included OBEC Award recipients and those recognized for best practices in school empowerment, selected using snowball sampling. All participants had at least five years of experience in educational administration. Additionally, a focus group discussion was conducted with 11 experts, including senior OBEC officials, award-winning administrators, and academic professionals in educational administration. These participants were selected through purposive and snowball sampling and required a minimum of 10 years of experience. The methodology ensured comprehensive insights from both practitioners and experts to develop an effective empowerment framework.

Literature reviews and concept

Research on the empowerment of school administrators has highlighted its significant impact on various educational

outcomes, including teacher performance, organizational health, and student achievement. The following studies provide insights into these dynamics: Balyer, A., Özcan, K., & Yıldız, A. (2017). Teacher Empowerment: School Administrators' Roles. This study examines how school administrators empower teachers through shared decision-making, enhancing their status, and fostering trust-based relationships. Findings indicate that while administrators excel in these areas, they often fall short in supporting teachers' professional development and autonomy. The study underscores the necessity for administrators to balance empowerment strategies to boost teacher efficacy and organizational effectiveness. Çevik, M. S., & Doğan, E. (2025). Is there a significant relationship between the empowering leadership behaviors of school principals and the psychological resilience of teachers. This research explores the correlation between principals' empowering leadership behaviors and teachers' psychological resilience. Results demonstrate a positive relationship, with gender and tenure moderating this effect. Specifically, female teachers and those with longer tenures experience stronger benefits, suggesting that tailored empowerment approaches can enhance teacher resilience. ScienceDirect. Yıldız, A., & Balyer, A. (2022). The Effect of School Principals' Empowering Leadership Behaviors on Teachers' Organizational Citizenship Behaviors. This study investigates the impact of principals' empowering leadership on teachers' organizational citizenship behaviors (OCB). Findings reveal a significant positive relationship, indicating that when principals delegate authority and support teacher autonomy, teachers are more likely to engage in

behaviors that exceed their formal job requirements, thereby enhancing school effectiveness. Research on high-performance outcomes in primary schools emphasizes effective leadership, strategic planning, and stakeholder involvement. Nguyen, D., & Walker, A. (2018) explored the role of instructional leadership in achieving performance excellence in Southeast Asian primary schools, highlighting leadership as a key driver of school success. Similarly, Sparks, D., & Malkus, N. (2020) examined data-driven decision-making in primary education, finding that systematic use of performance data enhances instructional quality and student outcomes. Both studies support the integration of leadership, planning, and data utilization, components aligned with the empowerment model proposed for Thai primary schools.

Research Findings

Results of Exploratory Factor Analysis (EFA). The results of the Exploratory Factor Analysis (EFA) based on the questionnaire data revealed five key components after applying factor rotation to clarify the factor structure. Factor loadings representing the correlation between each variable and the extracted factor ranged from 0.303 to 0.820. A loading value of 0.30 or above is considered significant, indicating a meaningful relationship between the variable and its respective factor. Factor 1 (Loadings: 0.334 – 0.558) reflects school administrators' management abilities and leadership. This factor was named "Strategic Policy and Administrative Management. Factor 2 (Loadings: 0.315 – 0.496) represents the creation of a supportive organizational atmosphere and culture. It was labeled "Organizational Climate and Environment. Factor 3 (Loadings: 0.343 – 0.820)

indicates the enhancement of personnel capacity and professional development. This factor was named "Competency Enhancement and Professional Development". Factor 4 (Loadings: 0.412 – 0.554) reflects the provision of resources that support administrative functions. It was named "Confidence Building, Trust, and Motivation. Factor 5 (Loadings: 0.303 – 0.479) concerns stimulating and motivating personnel. It was labeled "Evaluation Efficiency and Feedback. Overall, the analysis identified five principal components influencing the empowerment of school administrators. Research Findings from Focus Group Discussion with 11 experts comprising educational administrators, school principals, OBEC Award recipients, and academic scholars was conducted to integrate the five empowerment components (derived from the exploratory factor analysis) with the seven components of high-performance school administration under the Department of Local Administration. The goal was to synthesize these perspectives into a comprehensive framework for empowering school administrators to lead high-performance primary schools across Thailand. Integration of Empowerment Components with High-Performance Administration.

The five empowerment components;

- 1) Strategic policy and administrative management.
- 2) Organizational climate and environment.
- 3) Competency enhancement and professional development.
- 4) Confidence building, trust, and motivation.
- 5) Evaluation efficiency and feedback were critical. Figure 1

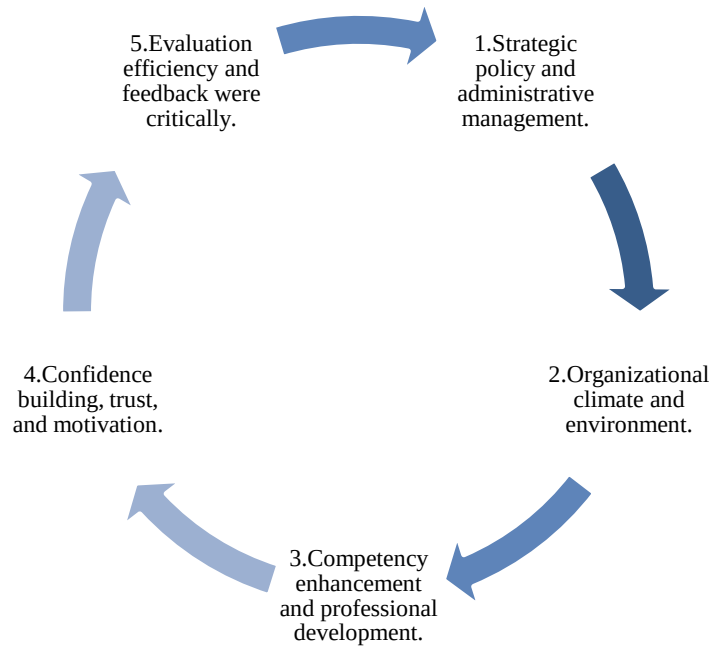


Figure 1: Empowerment Components with High-Performance Administration

The experts agreed that the empowerment framework serves as the foundation to operationalize the broader goals of high-performance administration. Each empowerment contributes to the practical implementation of strategic educational leadership.

Key findings from the focus group discussion:

1) Strategic Policy and Administrative Management / Planning and Strategy / Organizational Leadership. Four experts emphasized that empowering school leaders to formulate clear policies and align them with strategic goals is fundamental to effective school leadership. This empowerment enhances their ability to adapt to changes, manage complex systems, and implement data-informed reforms. Strategic empowerment fosters autonomy in decision-making, allowing leaders to set direction and mobilize resources to drive school improvement. The participants also emphasized that school administrators must be provided with tools to conduct needs

assessments and translate school visions into actionable strategic plans. Strategic management training and workshops tailored to regional contexts were recommended.

2) Organizational Climate and Environment to Support Stakeholders / Organizational Leadership. The organizational climate was considered a critical foundation for empowering leadership. Experts agreed that a positive environment nurtures trust and collaboration among teachers, students, parents, and the community. This environment directly supports stakeholder involvement and improves communication. School administrators need to be empowered to cultivate inclusive, democratic school cultures that value teacher input and parent collaboration. Participants suggested promoting shared values and reinforcing cultural strengths within the school community to improve morale and stakeholder satisfaction.

3) Competency Enhancement and Professional Development including

Human Resource Management / Effectiveness Management. The group emphasized that continuous professional development is essential for achieving excellence. Empowerment through competency development ensures that administrators and teachers are equipped with relevant skills, particularly in leadership, pedagogy, innovation, and data analysis. The experts recommended personalized learning plans for school leaders, competency-based promotion systems, and professional learning communities (PLCs). These strategies allow for sustained growth and directly support effective human resource management practices aligned with high-performance standards. Furthermore, a culture of self-reflection and self-improvement was identified as crucial. When administrators receive empowerment support, they are more likely to promote lifelong learning and skill upgrades among their staff.

4) Confidence Building, Trust, and Motivation. Organizational Leadership/Support for Stakeholders. A major insight from the focus group was that building psychological empowerment through trust, encouragement, and recognition is as important as developing technical skills. Experts noted that when leaders feel valued and supported, they are more likely to be innovative, decisive, and resilient under pressure. Empowerment strategies such as peer mentoring, recognition systems, and supportive supervision were proposed. The participants highlighted that motivated administrators influence the entire organizational culture and encourage similar attitudes among teachers and staff. These practices align with the development of strong, empathetic organizational leadership. Trust between schools and

communities was also highlighted as a critical success factor. Administrators who build trust through transparency and engagement can better mobilize community support for student learning initiatives.

5) Evaluation Efficiency and Feedback. Data-Driven Decision-Making / Feedback and Outcomes. Experts confirmed that data is an indispensable tool for high-performance administration. The empowerment component related to evaluation and feedback reflects a shift from compliance-based reporting to a learning-oriented use of data. Effective administrators must be trained to interpret performance metrics, use feedback constructively, and apply data insights to inform instructional and administrative decisions. Participants recommended integrated school data systems, training on data literacy, and the establishment of performance indicators aligned with national educational standards. In particular, they encouraged formative evaluation processes that allow for ongoing adjustments and improvements. The group also discussed the importance of using both internal and external feedback mechanisms including peer reviews, stakeholder surveys, and community feedback to guide school development. Transparency in feedback loops enhances trust and encourages broader participation in school governance.

Research discussion

Empowering Leaders for High-Performance Outcomes. The integration of empowerment and high-performance components resulted in a proposed administrative model focused on building leadership capacity through practical empowerment strategies. The model emphasizes: 1) Strategic autonomy and

decision-making capacity, 2) Inclusive and trust-based school cultures, 3) Continuous capacity development and reflective practice, 4) Motivation and psychological support mechanisms, 5) Evidence-based management and continuous feedback. Participants agreed that the empowerment of school leaders must be approached holistically combining structural, cultural, and personal dimensions. Structural empowerment includes clear policies, professional development, and access to resources. Cultural empowerment involves fostering trust, collaboration, and shared values. Personal empowerment focuses on building confidence, autonomy, and a growth mindset.

The focus group findings reinforced the notion that empowering school administrators is key to achieving high-performance outcomes in Thai primary schools. The five empowerment components are not only supportive but essential drivers for realizing the seven high-performance components endorsed by the Department of Local Administration. The proposed administrative model emphasizing strategic autonomy, inclusive school culture, continuous capacity development, motivation, and evidence-based management aligns closely with previous research on school leadership and empowerment, both in Thailand and internationally. Balyer, Özcan, and Yıldız (2017) highlight the pivotal role of school administrators in promoting teacher empowerment through collaborative decision-making and 5 supportive work environments. This directly supports the model's focus on building inclusive and trust-based school cultures, as well as establishing psychological support mechanisms that empower both leaders and staff. Similarly, Çevik and Doğan (2025) demonstrate a strong relationship between empowering leadership behaviors and teachers' psychological resilience,

affirming the model's emphasis on personal empowerment, motivation, and emotional support. By fostering resilience, school leaders can enhance overall school performance and stability, particularly under pressure or during educational reform.

Chotikapanich (2013) identifies several challenges in Thai school management, including centralized control and limited decision-making power for school administrators. These findings reinforce the need for strategic autonomy and structural empowerment, as outlined in the proposed model, to enable school leaders to respond effectively to local needs and drive meaningful change. Nguyen and Walker (2018) emphasize leadership for learning in Southeast Asian contexts, advocating for continuous professional development and reflective practices. This aligns with the model's component on competency enhancement and capacity building, ensuring school administrators are equipped with the necessary knowledge and skills to lead effectively. Sparks and Malkus (2020) further support the model's inclusion of evidence-based management by illustrating how data-driven decisions contribute to better learning outcomes and administrative efficiency. In the Thai context, Panya (2015) critiques the limitations of decentralization efforts, which often lack full implementation. This echoes the model's call for holistic empowerment-encompassing structural, cultural, and personal dimensions—to bridge gaps between policy and practice.

Government reports from the Ministry of Education (2019) and the Office of the Education Council (2018) highlight the nation's shift toward innovation and strategic educational management. These national priorities are reflected in the model's integration of policy-driven leadership strategies, innovation, and feedback systems

aimed at performance improvement. Together, these sources reinforce the conclusion drawn from the focus group discussion: empowering school administrators across these five dimensions is not only desirable but essential for achieving the seven high-performance components outlined by the Department of Local Administration. This integrated framework offers a clear, actionable roadmap for educational reform, enabling school leaders to navigate challenges, build capacity, and deliver sustainable, high-quality outcomes in Thailand's primary schools.

Conclusion and recommendation

Conclusion

This study investigated the empowerment of school administrators and its contribution to high-performance outcomes in primary schools in Thailand. The findings identified five key dimensions of administrator empowerment: (1) strategic policy and administrative management, (2) organizational climate and environment, (3) competency enhancement and professional development, (4) confidence building, trust, and motivation, and (5) evaluation efficiency and feedback. These dimensions were validated through exploratory factor analysis and further confirmed by educational experts.

The study also revealed that the five empowerment dimensions are closely associated with seven components of high-performance school administration, namely organizational leadership, planning and strategy, stakeholder support, data-driven decision-making, human resource management, effectiveness management, and feedback and outcomes. The integration of these components resulted in a comprehensive framework that supports school leaders in improving administrative effectiveness and organizational performance.

The findings suggest that empowering school administrators is a critical factor in strengthening leadership capacity, enhancing organizational effectiveness, promoting collaborative school cultures, and supporting evidence-based decision-making. The proposed framework provides a practical foundation for improving educational administration and achieving sustainable high-performance outcomes in primary schools in Thailand.

Recommendations

Based on the findings of this study, the following recommendations are proposed:

1) Policy and Structural Support. Educational authorities should strengthen decentralization policies by providing school administrators with greater autonomy in planning, resource allocation, and decision-making. Clear policy frameworks should also support innovation and strategic leadership at the school level.

2) Professional Development. Continuous professional development programs should be designed to enhance administrators' competencies in leadership, strategic management, human resource development, digital technology, and data-driven decision-making. Training programs should be responsive to local educational contexts and emerging challenges.

3) Development of Supportive School Cultures. Schools should foster collaborative and trust-based organizational cultures that encourage shared decision-making, stakeholder participation, and professional learning communities. Such environments can strengthen motivation, commitment, and organizational effectiveness.

4) Improvement of Monitoring and Evaluation Systems. Educational organizations should promote the use of integrated data systems and performance

indicators that support evidence-based management. Regular feedback mechanisms and formative evaluation processes should be implemented to facilitate continuous improvement.

5) Professional Networking and Mentorship. Leadership networks and mentoring programs should be established to encourage knowledge sharing, peer support, and the dissemination of best practices among school administrators.

Recommendations for Future Research

Future studies should examine the effectiveness of the proposed empowerment framework through implementation in different educational settings. Comparative studies across regions, school sizes, or educational levels may provide further insights into contextual factors influencing empowerment and high-performance outcomes. In addition, confirmatory factor analysis (CFA) and structural equation modeling (SEM) are recommended to validate and extend the relationships identified in this study.

References

- Balyer, A., Özcan, K., & Yıldız, A. (2017). Teacher empowerment: School administrators' roles. *Eurasian Journal of Educational Research*, 17(70), 1–18. <https://doi.org/10.14689/ejer.2017.70.1>.
- Çevik, M. S., & Doğan, E. (2025). *Is there a significant relationship between the empowering leadership behaviors of school principals and the psychological resilience of teachers?* BMC Psychology, 13, Article 17. <https://doi.org/10.1186/s40359-024-02330-3>
- Chotikapanich, D. (2013). School leadership and management in Thailand: Issues and challenges. *Journal of Educational Administration*, 51(3), 327–340.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610. <https://doi.org/10.1177/001316447003000308>.
- Ministry of Education. (2019). *Thailand 4.0 and the education sector: Moving forward with educational innovation*. Ministry of Education.
- Nguyen, D., & Walker, A. (2018). Leadership for learning in Southeast Asian primary schools. *Educational Management Administration & Leadership*, 46(5), 738–758.
- Office of the Education Council. (2018). *The state of school management in Thailand: An analysis of administrative practices and outcomes*. Office of the Education Council.
- Panya, K. (2015). Decentralization of school management in Thailand: A critical review. *Educational Administration Quarterly*, 51(4), 501–518.
- Sparks, D., & Malkus, N. (2020). Using data to drive decisions in primary education. *Journal of Educational Administration*, 58(3), 289–308.
- Yıldız, A., & Balyer, A. (2022). The effect of school principals' empowering leadership behaviors on teachers' organizational citizenship behaviors. *International Journal of Progressive Education*, 18(5), 27–41.

Leadership skills for the 21st century of administrators in the University of Nanning City under Guangxi Province

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ABSTRACT

This study aimed to identify the components of 21st century leadership skills among university administrators in Nanning City, Guangxi Province, and to propose implementation guidelines for enhancing these skills. A mixed-methods design was used. Quantitative data were collected from 310 professors selected through stratified random sampling from 1,551 professors across ten universities, while qualitative data were obtained from focus group discussions with 9 experts. The conceptual framework, synthesized from relevant literature, initially included six dimensions: vision, organizational management, communication, staff development, strategic planning, and collaboration. Quantitative data were analyzed using descriptive statistics and exploratory factor analysis, and qualitative data were analyzed through content analysis. Findings showed a high overall level of leadership skills among administrators ($M = 4.12$). The data were suitable for factor analysis ($KMO = 0.829$; Bartlett's Test, $\chi^2 = 14,615.382$, $p < .001$). Seven components were identified: organizational management, visionary management, staff development, collaborative leadership, communication competence, systematic management, and strategic planning. Together, they explained 62.298% of the total variance. Based on these findings, 33 implementation guidelines were proposed to support leadership development and strengthen institutional effectiveness in higher education.

KEYWORDS: Leadership Skills for the 21st Century, University Administrators, Higher Education Leadership, Nanning City, Guangxi Province

Introduction

The 21st century presents unprecedented challenges such as terrorism, poverty, global warming, and war, alongside rapid technological development (Yvette Mucharraz, 2016). Economic globalization has intensified competition among nations, with human resources becoming a decisive factor. As institutions responsible for cultivating talent, universities play a critical role in advancing national science,

technology, and culture, while administrators shape both institutional development and broader societal progress. In this context, leadership has become a key determinant of organizational performance. Furthermore, innovation has emerged as a transformative force in leadership, with creativity identified as its core (Csikszentmihalyi, 2013; Sternberg, 2002; Sternberg, Kaufman, & Pretz, 2004).

As higher education institutions continue to experience rapid technological

advancement and digital transformation, the expectations placed upon university administrators have expanded significantly. Beyond traditional managerial responsibilities, contemporary leaders are required to navigate complex organizational environments characterized by technological disruption, increased stakeholder expectations, internationalization, and evolving educational models. Effective leadership in the digital era requires administrators to demonstrate strategic vision, organizational management capability, communication competence, collaborative leadership, staff development expertise, systematic management, and strategic planning. These competencies enable leaders to foster innovation, facilitate organizational learning, strengthen institutional adaptability, and promote sustainable development. Consequently, leadership skills have become increasingly important for ensuring that higher education institutions remain competitive, resilient, and responsive to societal changes in the twenty-first century (Mumford, Campion, & Morgeson, 2007; Kurniady et al., 2020; Oliveira & Saraiva, 2023; Keil et al., 2024).

The challenges in China's higher education system stem from multiple factors. First, resources are unevenly distributed, with high-quality universities concentrated in developed areas, while remote and rural regions remain underserved. Of more than 3,000 universities, only about 5% are considered high-quality and are mostly located in first-tier cities (Ministry of Education of the People's Republic of China, 2024). This has widened the gap between eastern and western regions. Second, the quality of education varies significantly, with some universities excelling in faculty, research, and facilities, while others suffer from weak teaching and limited student opportunities. Third, systemic rigidity hinders progress, as outdated structures, curricula, and regulations fail to meet the demands of modern society, underscoring the need for innovation and reform (Li & Chen, 2023). These challenges require university administrators to possess diverse leadership

competencies that can effectively support institutional transformation, improve governance quality, and enhance organizational performance in a rapidly changing educational environment.

Although previous studies have examined leadership skills and leadership competencies in educational settings, most have focused on schools, general educational organizations, or specific leadership dimensions. Limited empirical research has investigated the underlying components of leadership skills required for university administrators within the context of higher education transformation in China, particularly in Nanning City under Guangxi Province. Moreover, the accelerating pace of digital transformation and organizational change has created new demands for leadership competencies that may differ from those identified in previous studies. Therefore, there is a need to systematically identify and validate the essential leadership skill components required by university administrators and to develop practical guidelines that can support effective leadership development in contemporary higher education institutions.

The findings of this study are expected to contribute both theoretically and practically. Theoretically, the study expands the body of knowledge on leadership skills for the 21st century by identifying empirically validated leadership components relevant to higher education administrators. Practically, the findings provide a framework for policymakers, university leaders, and educational practitioners to design leadership development programs, strengthen institutional governance, enhance organizational effectiveness, and support sustainable university development. The proposed guidelines may also serve as a reference for improving leadership capacity among university administrators in Guangxi Province and other higher education institutions facing similar challenges in the digital era.

Research Objectives

1. To study components of leadership skills for the 21st century of administrators in the university of Nanning city under Guangxi Province

2. To propose guidelines for leadership skills for the 21st century of administrators in the university of Nanning city under Guangxi Province

Literature Review

Leadership Skills for the 21st Century

Mumford, Campion, and Morgeson (2007) proposed that effective leadership requires a combination of cognitive, interpersonal, business, and strategic skills. Leaders at higher organizational levels need strong strategic thinking, decision-making, communication, and organizational management competencies to cope with increasingly complex environments. Their framework highlights the importance of integrating multiple leadership skills to achieve organizational effectiveness. Kurniady et al. (2020) emphasized that leadership in higher education management requires administrators to possess vision, collaboration, communication, innovation, and the ability to manage institutional change. University leaders must be capable of fostering organizational learning, promoting teamwork, and responding effectively to the challenges of globalization and educational transformation. Oliveira and Saraiva (2023) argued that the emergence of Education 4.0 and digital transformation has reshaped leadership requirements in higher education. Contemporary leaders are expected to demonstrate adaptability, strategic planning, digital awareness, communication competence, and innovation-oriented management. These competencies enable institutions to remain competitive and sustainable in rapidly changing educational environments.

Based on the above perspectives, leadership skills for the 21st century can be defined as a combination of strategic, managerial, communication, collaborative,

and developmental competencies that enable university administrators to effectively lead institutional transformation and achieve sustainable organizational success in the digital era.

Research Design

This study employed a mixed-methods research design consisting of quantitative and qualitative phases. The quantitative phase was conducted first to identify and validate the components of Leadership Skills for the 21st Century of university administrators in Nanning City, Guangxi Province. The qualitative phase was subsequently conducted to develop and refine implementation guidelines based on the quantitative findings.

Quantitative Research Phase:

The researcher reviewed and synthesized relevant theories, concepts, and empirical studies related to leadership skills for the 21st century. The synthesis of literature from 20 scholars resulted in six preliminary dimensions: (1) Vision, (2) Organizational Management, (3) Communication, (4) Staff Development, (5) Strategic Planning, and (6) Collaboration. Based on these dimensions, a structured questionnaire was developed to collect data from university professors.

The population consisted of 1,551 professors from ten public universities in Nanning City, Guangxi Province. The sample comprised 310 professors, determined using the Krejcie and Morgan (1970) sampling table and selected through stratified random sampling. The data collected were analyzed using descriptive statistics and Exploratory Factor Analysis (EFA) to identify the underlying components of leadership skills.

Qualitative Research Phase

Following the quantitative analysis, a qualitative study was conducted to develop implementation guidelines for enhancing leadership skills among university administrators. Nine experts from ten universities in Nanning City were selected through purposive sampling to participate in focus group discussions. The experts provided recommendations, validated the identified

leadership components, and proposed practical guidelines for implementation. The qualitative data were analyzed using content analysis.

Instruments and Quality Assessment

Two research instruments were employed in this study: a questionnaire and a focus group discussion protocol.

The questionnaire consisted of two sections. Section 1 collected demographic information of respondents, while Section 2 contained items measuring leadership skills for the 21st century based on the synthesized literature. The content validity of the questionnaire was evaluated by five experts using the Index of Item-Objective Congruence (IOC). The IOC values ranged from 0.80 to 1.00, indicating acceptable content validity. The questionnaire was subsequently pilot-tested, and reliability analysis yielded a Cronbach's alpha coefficient of 0.96, indicating excellent internal consistency.

The focus group discussion protocol was developed based on the findings from the quantitative phase and relevant literature. The protocol was reviewed by experts to ensure content relevance, clarity, and appropriateness. The IOC values ranged from 0.80 to 1.00, demonstrating satisfactory content validity. The discussion questions focused on validating the identified leadership components and generating practical recommendations for implementation in higher education institutions.

Data Analysis

Part 1: Result of Data Analysis on Questionnaire Demographic Information

The study surveyed 310 professors, of whom 70.3% were male and 29.7% female. In terms of age, 11.6% were between 20–45 years, while 88.4% were above 45 years. Regarding education, 1.9% held a bachelor's degree, 39.7% a master's degree, 52.3% a doctoral degree, and 6.1% a postdoctoral qualification. For work experience, 11.6% had less than 15 years, whereas 88.4% had more than 15 years.

Part 2 Result of Data Analysis on Questionnaire

Phase 1 involves identifying variables from the literature. The researcher conducted a content analysis and synthesis of the literature, which resulted in six key components: (1) vision, (2) organizational management, (3) communication, (4) staff development, (5) strategic planning, and (6) collaboration. A descriptive analysis was then carried out to summarize the data using mean and standard deviation.

The results indicate that the overall level of 21st-century leadership skills among university administrators in Nanning City, Guangxi Province, was relatively high (Mean = 4.12). All six components were rated at a high level. Communication received the highest rating (Mean = 4.15), followed by Vision (Mean = 4.14), Staff Development (Mean = 4.14), Collaboration (Mean = 4.12), Strategic Planning (Mean = 4.09), and Organizational Management (Mean = 4.07).

Phase 2 aims to explore the components of 21st-century leadership skills of university administrators in Nanning City, Guangxi Province. Before conducting factor analysis, the adequacy of the dataset was assessed using the Kaiser-Meyer-Olkin (KMO) Test and Bartlett's Test of Sphericity. The KMO statistic, which ranges from 0 to 1, measures sampling adequacy for factor analysis. Based on Kaiser's (1974) criteria, a KMO value above 0.90 indicates excellent suitability; values between 0.80–0.89 indicate good suitability; 0.70–0.79 are acceptable; 0.60–0.69 are marginally acceptable; and values below 0.50 suggest unsuitability for factor analysis. Bartlett's Test of Sphericity was also applied to determine whether the correlation matrix was significantly different from an identity matrix. Both tests were computed using statistical software.

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.829, exceeding the recommended minimum threshold of 0.50 and indicating a high level of suitability for factor analysis. Bartlett's Test of Sphericity produced a chi-square value of

14,615.382 with a p-value of 0.000, which is well below the 0.05 significance level. Taken

together, these results confirm that the dataset is appropriate for component analysis.

Table 1. Rotation Sums of Squared loadings

Components	Eigenvalues	Rotation Sums of Squared loadings	
		Percentage of Variance	Percentage of Cumulative
1	13.655	23.544	23.544
2	5.789	9.981	33.525
3	5.174	8.921	42.445
4	3.922	6.763	49.208
5	2.813	4.849	54.057
6	2.577	4.444	58.501
7	2.202	3.797	62.298

As presented in Table 1, based on the extraction criterion of eigenvalues greater than 1, a total of 7 principal factors were identified. The cumulative variance explained by these 7 factors reached 62.298% . And The 7 components included a total of 56 variables with factor loadings between 0.483 and 0.823. The Exploratory factor analysis (EFA) was employed to examine the questionnaire content,

yielding seven distinct guideline components for the 21st century of administrators in the university of Nanning city under Guangxi Province, as illustrated in Figure 1.

The Components for Leadership Skills for the 21st Century of Administrators in the University of Nanning City under Guangxi Province

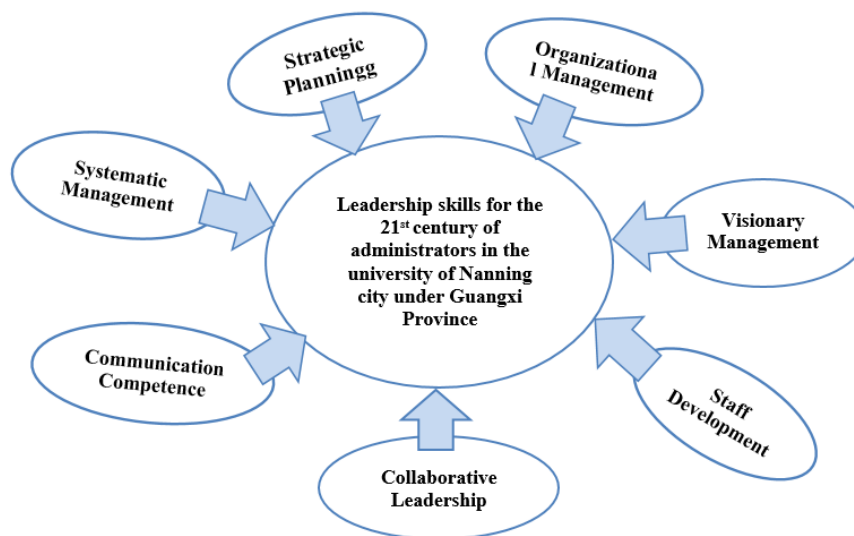


Figure 1 The Components for Leadership Skills for the 21st Century of Administrators in the University of Nanning City under Guangxi Province

This figure summarizes the seven empirically derived guideline components that constitute leadership skills for administrators in Nanning city under Guangxi Province in the 21st century.

Component 1: "**Organizational Management**" consists of 1) Convey information and ideas clearly and effectively 2) Adapt language appropriately for different audience 3) Use data or evidence for planning and decision-making 4) Foster transparent and accountable decision-making processes 5) Maintain operational effectiveness 6) Contribute effectively to achieving institutional goals 7) Engage in constructive communication with stakeholders 8) Communication fosters collaboration within the organization 9) Foster collaboration among different departments 10) Practice active listening with staff and students.

Component 2: "**Visionary Management**" consists of 1) Shape a future-oriented vision focused on long-term development; 2) Communicate their vision clearly and effectively 3) Reflects the needs and expectations 4) Define long-term goals clearly 5) Inspire and motivate others 6) Promote continuous learning and organizational improvement 7) Align with the cultural context of the university 8) Requires collaboration among stakeholders 9) Motivate staff to work together towards shared goals.

Component 3: "**Staff Development**" consists of 1) Provide development programs that meet staff needs 2) To promote collaboration and knowledge sharing 3) Align staff development with the university's organizational goals 4) Enhance staff competencies and expertise 5) Support and foster staff leadership potential 6) Adapt strategies to changing contexts 7) Assess staff's professional development needs regularly 8) Encourages continuous self-improvement and motivation 9) Plan Systematically and implement continuously staff development 10) Empowers personnel to effectively contribute to organizational success.

Component 4: "**Collaborative Leadership**" consists of 1) Foster mutual

support within teams 2) Work effectively and harmoniously with others 3) Manage group dynamics appropriately; (4) Create an open and collaborative working environment 5) Courage shared responsibility in group settings 6) Ensure that strategic decisions are aligned with the organization's overall objectives 7) Acknowledge and integrate diverse perspectives throughout the planning process 8) Considers uncertainty and potential risks when planning for the future.

Component 5: "**Communication Competence**" consists of 1) Build productive and lasting relationships with others 2) Align collaborative efforts with organizational objective 3) Communicate to advance shared organizational goals 4) Provide constructive feedback that supports development 5) To promotes understanding and organizational unity; (6) Receive suggestions and embrace new ideas 7) Promote equal participation among all stakeholders; (8) Articulate the vision and goals of the institution.

Component 6: "**Systematic Management**" consists of 1) Monitor and evaluate organizational processes 2) Pledge to realize the vision 3) Delegate tasks clearly and appropriately according to individual role 4) Engage in systematic and effective planning 5) Allocate within the university management.

Component 7: "**Strategic Planning**" consists of 1) Understand and responds effectively to complex and dynamic educational contexts 2) View the university as an interconnected system and understands how each part influences the whole 3) Set clear and strategic goals aligned with the university's vision and mission; 4) Think comprehensively and considers multiple aspects before making strategic decisions 5) Think analytically and assess complex situations logically 6) Develop long-term plans that support sustainable development.

Part 3 Analysis of implementation guidelines

The guidelines for leadership skills for the 21st century of administrators in the university of Nanning city under Guangxi Province. The objectives of this research were:

(1) to identify the components of Leadership Skills for the 21st Century of university administrators in Nanning City, Guangxi Province, and (2) to propose implementation guidelines for enhancing these leadership skills. A mixed-methods research design was employed. In the quantitative phase, data were collected from 310 professors selected through stratified random sampling from a population of 1,551 professors across ten universities in Nanning City. In the qualitative phase, nine experts participated in focus group discussions to validate and refine the findings.

The conceptual framework was synthesized from the literature and initially consisted of six dimensions: vision, organizational management, communication, staff development, strategic planning, and collaboration. The quantitative data were analyzed using descriptive statistics and Exploratory Factor Analysis (EFA), while qualitative data were analyzed through content analysis.

The findings revealed that the overall level of leadership skills among university administrators was high (Mean = 4.12). The Kaiser-Meyer-Olkin (KMO) value of 0.829 and Bartlett's Test of Sphericity ($\chi^2 = 14,615.382, p < .001$) confirmed the suitability of the data for factor analysis. The EFA results identified seven empirically derived components that explained 62.298% of the total variance. These components were: (1) Organizational Management, (2) Visionary Management, (3) Staff Development, (4) Collaborative Leadership, (5) Communication Competence, (6) Systematic Management, and (7) Strategic Planning. The findings indicate that effective university leadership in the 21st century requires an integrated framework that combines strategic direction, organizational capability, communication effectiveness, collaborative practices, and

systematic management. Based on the conceptual framework and empirical findings, 33 implementation guidelines were proposed to support leadership development and institutional effectiveness in higher education.

The 33 guidelines are as follows: 1) Listen actively to staff and students, model behavior, and accept accountability. 2) Administrator' management practices effectively contribute to achieving institutional goals in disciplinary development, faculty building, talent cultivation, and social services. 3) Optimize actively resource allocation to maximize its effectiveness. 4) Adopt data and evidence-based approaches in planning and decision-making to achieve efficient organizational operation. 5) Ensure transparency and accountability in the decision-making process. 6) Ensure university operational efficiency by building learning-oriented innovative teams and enhancing member capabilities. 7) Help employees identify shared values and goals, guiding them to reflect on their own identity and mission within the context of those values. 8) Develop a strategic road-map for the team and establish an efficient execution process. 9) Construct shared visions by adhering to the essential principle of broad participation among faculty, students, and stakeholders for visions. 10) Establish a flexible and continuous cyclical mechanism for vision tracking, monitoring, feedback evaluation, and iterative refinement. 11) Articulate a common vision that inspires stakeholders, offers extensive developmental opportunities, gains follower identification, and provides continuous guidance for organizational or team advancement. 12) Vision embodies a future-oriented, challenging perspective that emphasizes long-term developmental objectives. 13) Conduct comprehensive research and understanding of teachers' development needs. 14) Improving the Teacher Training and Development System. 15) Support and cultivate employees' leadership potential. 16) Establish scientific performance appraisal systems and regularly implement diverse evaluation processes. 17) Enhance comprehensive welfare and benefit

systems while implementing contribution-based compensation distribution to attract and retain core staff members. 18) Establish clearly defined, strategically aligned common objectives. 19) Foster an environment of academic knowledge-sharing and open collaboration within the team. 20) Facilitate conflict resolution within the team. 21) Create a relaxed and inclusive environment for innovation. 22) Establish an effective incentive mechanism. 23) Listen to and genuinely understand both staff and students. 24) Express themselves clearly, precisely, and concisely by administrators. 25) Provide timely feedback. 26) Use nonverbal communication. 27) Allocates personnel, finance, materials, and affairs systematically. 28) Coordinate a rational division of responsibilities and allocation of powers. 29) Establish an effective oversight and evaluation mechanism. 30) Enhance and perfect the capacity for strategic planning and development. 31) Construct legitimacy mechanisms for higher education strategic management. 32) Develop long-term plans that support sustainable development. 33) Enhance strategic thinking ability.

Discussion

The findings revealed that Leadership Skills for the 21st Century of university administrators in Nanning City, Guangxi Province consist of seven components: Organizational Management, Visionary Management, Staff Development, Collaborative Leadership, Communication Competence, Systematic Management, and Strategic Planning. These findings reflect the increasingly complex role of university administrators in responding to educational transformation, organizational change, and digital advancement in higher education.

The prominence of Organizational Management and Systematic Management indicates that effective university leadership requires administrators to efficiently manage resources, coordinate institutional processes, and ensure organizational effectiveness. This finding is consistent with Mumford, Campion, and Morgeson (2007), who emphasized that

leadership effectiveness depends not only on interpersonal skills but also on managerial and strategic capabilities. In contemporary higher education, administrators are expected to integrate resources, maintain accountability, and support institutional performance in increasingly dynamic environments.

The emergence of Visionary Management and Strategic Planning highlights the importance of future-oriented leadership. University administrators must be able to establish a clear institutional direction, communicate shared goals, and formulate long-term development strategies. This finding supports the view of Kurniady et al. (2020) that higher education leaders must possess the ability to guide institutional transformation and respond proactively to changing educational demands. Strategic leadership is particularly important in ensuring the sustainability and competitiveness of universities in the twenty-first century.

The identification of Staff Development, Collaborative Leadership, and Communication Competence further demonstrates that effective leadership extends beyond administrative control to encompass human resource development and stakeholder engagement. Administrators must create supportive environments that encourage professional growth, collaboration, and knowledge sharing among faculty and staff. These findings are consistent with Oliveira and Saraiva (2023), who argued that leadership in the era of Education 4.0 requires adaptability, collaboration, communication, and continuous learning. Similarly, Keil et al. (2024) emphasized that sustainable organizational development depends on leaders' ability to foster participation, innovation, and collective responsibility.

Overall, the seven components identified in this study suggest that leadership skills for the 21st century represent an integrated set of managerial, strategic, interpersonal, and developmental competencies. These competencies are essential for enabling university administrators to navigate digital transformation, enhance institutional

effectiveness, and promote sustainable development in higher education institutions.

Recommendation

Recommendations from research findings

Based on the findings that identified seven essential components of Leadership Skills for the 21st Century, Organizational Management, Visionary Management, Staff Development, Collaborative Leadership, Communication Competence, Systematic Management, and Strategic Planning, the following recommendations are proposed.

1) For Universities. Universities should establish systematic leadership development programs for administrators at all levels, focusing on the seven identified leadership competencies. Training activities should emphasize strategic thinking, vision development, communication skills, collaborative leadership, and evidence-based decision-making. In addition, universities should create continuous professional development opportunities that enable administrators to adapt to technological changes and emerging challenges in higher education.

2) For University Leadership Development and Human Resource Management. Higher education institutions should integrate the identified leadership competencies into leadership assessment, succession planning, and performance evaluation systems. Staff development programs should be designed to strengthen administrators' capabilities in strategic planning, organizational management, and team development. Universities should also encourage mentoring systems and leadership coaching to support continuous leadership growth.

3) For enhancing Inter-University Collaboration. Universities should strengthen collaboration and knowledge-sharing networks among higher education institutions.

Collaborative activities such as leadership forums, professional learning communities, joint training programs, and best-practice exchanges can facilitate the dissemination of effective leadership practices. Such cooperation may enhance administrators' capacity to address common challenges related to digital transformation, organizational innovation, and institutional governance.

4) For Government and Educational Policy Agencies. Government agencies and higher education authorities should utilize the findings as a reference for developing leadership competency frameworks and policy guidelines for university administrators. National and provincial educational authorities should support leadership development initiatives, allocate resources for administrator training, and promote policies that strengthen institutional governance, strategic management, and organizational effectiveness in higher education institutions. Particular attention should be given to preparing university leaders for the challenges associated with digital transformation and sustainable educational development.

Recommendation for Further Research:

1) Future studies should examine the leadership skills of university administrators in different regions of China or across countries to compare leadership competency patterns in diverse higher education contexts.

2) Future research should investigate the relationship between the identified leadership skill components and organizational outcomes, such as institutional effectiveness, innovation, employee performance, and university competitiveness.

3) Future studies should explore the impact of digital transformation on leadership skills and examine how digital leadership competencies contribute to sustainable development in higher education institutions.

References

- Csikszentmihalyi, M. (2013). *Creativity: Flow and the psychology of discovery and invention*. HarperCollins.
- Keil, M., Michaux, V., Ziefle, M., & Arning, K. (2024). *Agents of sustainable change: The importance of leadership and responsibility in corporate sustainability*. *Frontiers in Sustainability*, 5, 1490669. <https://doi.org/10.3389/frsus.2024.1490669>.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610.
- Kurniady, D. A., Nurlatifah, S., Komariah, A., & Sunaengsih, C. (2020). Analysis of 21st-century leadership in higher education management. In *Proceedings of the 3rd International Conference on Research of Educational Administration and Management (ICREAM 2019)* (pp. 109–115). Atlantis Press.
- Li, X. X., & Chen, S. B. (2023). Regional disparities and dynamic evolution of higher education development level in China. *Journal of Education of Renmin University of China*, 6, 83–97.
- Ministry of Education of the People's Republic of China. (2024). *Education of the People's Republic of China*. 教育部发布全国高校名单(截至2024年6月20日) — 中国教育在线
- Mucharraz, Y., & Cano, Y. (2016). *Leadership in the 21st century*.
- Mumford, T., Campion, M., & Morgeson, F. (2007). The leadership skills strataplex: Leadership skill requirements across organizational levels. *Leadership Quarterly*, 18, 154–166.
- Oliveira, S. R. M., & Saraiva, M. A. (2023). Leader skills interpreted in the lens of education 4.0. *Procedia Computer Science*, 217, 1296–1304. <https://doi.org/10.1016/j.procs.2022.12.167>
- Sternberg, R. J. (2002). School-based tests of the triarchic theory of intelligence: Three settings, three samples, three syllabi. *Contemporary Educational Psychology*, 27, 167–208.
- Sternberg, R. J., Kaufman, J. C., & Pretz, J. E. (2002). *The creativity conundrum: A propulsive model of kinds of creative contributions*. Psychology Press.

A development model of effective educational administration in the 21st-century schools under the Salesian Foundation of Thailand

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ABSTRACT

This study identified the components of effective educational administration in the 21st-century schools under the Salesian Foundation of Thailand, validated the proposed model with empirical data, and developed implementation guidelines. The model comprised four interrelated components: personnel administration, organizational leadership, academic management, and learner quality development. Using a descriptive research design, data were collected from 400 administrators and teachers selected through stratified proportional random sampling from 1,257 personnel in seven Salesian schools. Data were analyzed using descriptive statistics, Pearson's correlation, and confirmatory factor analysis (CFA). The results showed that all 60 indicators received high ratings with low variability. The first-order CFA models showed good fit ($\chi^2/df = 1.22-1.33$, CFI = .996–1.000, TLI = .995–1.004, RMSEA = .023–.029), and the second-order model demonstrated excellent fit ($\chi^2(34) = 44.88$, $\chi^2/df = 1.32$, GFI = .98, AGFI = .96, CFI = .998, TLI = .997, RMSEA = .028, RMR = .003). Strong positive correlations were found among the four components ($r = .94-.99$), with learner quality development contributing most strongly to the model. The study provides an empirically validated, context-specific model that can guide policy development, school improvement, and future research in Salesian and other faith-based educational settings.

KEYWORDS: Effective Educational Administration, Salesian Foundation of Thailand.

Introduction

Education is a key mechanism for developing human resources, which form the foundation of sustainable social and economic progress. In the 21st- century, rapid digitalization and technological change are transforming how people live, work, and learn, forcing education systems to adapt to a

far more dynamic and uncertain environment (Hargreaves & Fullan, 2012; Panich, 2012; OECD, 2019). School administration is increasingly confronted with complexity, volatility, and interdependent challenges driven by digital and AI transformation, demographic shifts, economic restructuring, labor market disruption, climate change, and

evolving social and cultural expectations (OECD, 2019).

Contemporary evidence suggests that traditional schooling has struggled to keep pace with the demands of learners and societies when compared with the speed of technological and labor market change (Schleicher, 2018). The World Economic Forum (2020) estimates that by 2025, many existing jobs will be replaced by automation and AI, while emerging roles will require a very different mix of skills. The digital revolution not only reshapes economies but penetrates the very foundations of learning (Brynjolfsson & McAfee, 2014), pushing educational leaders to move from managing routine operations toward leading change and redesigning learning systems for complex contexts (Hargreaves & Fullan, 2012; OECD, 2012; Darling-Hammond et al., 2020).

Consequently, successful schools are increasingly defined as “living learning communities” that are responsive to students’ real-life contexts, rather than institutions judged solely by narrow quantitative indicators (Darling-Hammond et al., 2020).

Within this landscape, 21st-century competencies are not merely a conceptual framework but a practical necessity. Skills such as critical thinking, problem-solving, collaboration, adaptability, and self-directed learning have been conceptualized as “transversal competencies” that cut across disciplines and contexts (Griffin et al., 2011 2012; Trilling & Fadel, 2009). Effective educational administration must therefore foster learning environments that support meaningful uses of technology, promote active and inquiry-based learning, and invest in continuous teacher development aligned with contemporary realities (Sanratana, 2013). At the policy level, the National Education Plan of Thailand 2017–2036 emphasizes the development of Thai citizens as global citizens capable of adapting to change, contributing to a learning society, and enhancing the quality and efficiency of the education system (Office of the Education Council, 2017). However, persistent gaps remain between national policy intentions

and school-level implementation, underlining the need for systematic models that can translate policy into measurable, school-wide practices.

Research in Thailand has highlighted several recurring factors associated with effective schools: participatory administration, the use of information technology for management, systematic personnel development, quality assurance, and strong partnership networks (Sanratana, 2013). High-performing schools tend to exhibit strong instructional leadership, ongoing teacher professional development, high-quality curriculum and pedagogy, and active engagement of parents and communities (Panich, 2012). The Education 4.0 discourse further stresses that school management must enable learners to become innovative, creative, and adaptive problem-solvers through participatory governance and school-based innovation (OECD, 2019). At the same time, the role of teachers has shifted from knowledge transmitters to facilitators, mentors, and inspirational figures who ignite self-directed learning (Panich, 2012), while school administrators are expected to serve as change leaders who support teachers and staff in designing learning experiences that align with 21st-century demands (Hargreaves & Fullan, 2012).

For private schools under religious foundations, such as the Salesian Foundation of Thailand, educational administration must simultaneously uphold ethical and religious identity while responding to global change (OECD, 2019). Salesian schools aim to promote young people as morally grounded and professionally competent citizens according to the charism of Saint John Bosco, with particular attention to disadvantaged youth, high-quality vocational education, and the integration of moral and academic formation (Office for National Education Standards and Quality Assessment [ONESQA], 2019). In practice, Salesian schools typically emphasize caring teacher-student relationships, respectful discipline, youth participation, and the integration of moral and life-skills education within the

broader curriculum. These elements are rooted in the Preventive System, which emphasizes reason, religion, and loving-kindness as the core of holistic youth development.

Despite these strengths, Salesian schools in Thailand face similar pressures to schools worldwide, including technological disruption, demographic changes, increasing educational competition, and shifting labor market demands (World Economic Forum, 2020). Many Salesian schools have consistently achieved good or very good ratings in external quality assurance (Office for National Education Standards and Quality Assessment, 2019), yet the challenge remains to sustain and elevate quality to international standards. This requires a context-specific administrative model that can transform Salesian values and institutional strengths into coherent and measurable management mechanisms.

Existing international models of effective school leadership and administration often derived from public or generic school systems (e.g., Hitt & Tucker, 2016; Marzano et al., 2005) provide important insights but do not fully capture the distinctive philosophy, identity, and mission of Salesian schools in Thailand. There is a noticeable lack of empirical models that articulate what “successful educational administration in the 21st-century” means within this specific context, especially in terms of integrating leadership, personnel development, academic management, organizational communication, and knowledge management into a coherent learning ecosystem (Zhao, 2012).

Despite the growing body of literature on effective school leadership and educational administration, several important gaps remain. Existing models generally emphasize instructional leadership, organizational effectiveness, quality assurance, or school improvement in mainstream educational settings (Hitt & Tucker, 2016; Marzano et al., 2005). However, these models provide limited guidance for faith-based educational

institutions that must simultaneously balance academic excellence, moral formation, organizational sustainability, and mission-driven values. In practice, administrators of Salesian schools in Thailand face the challenge of integrating the Preventive System of Saint John Bosco—reason, religion, and loving-kindness—into modern management practices while responding to rapid technological change, increasing stakeholder expectations, and demands for measurable educational outcomes. Although many Salesian schools have demonstrated strong educational performance, there remains no empirically validated model that systematically integrates Salesian identity, educational mission, leadership practices, personnel development, academic administration, and learner development into a coherent framework. This limitation highlights the need for a context-specific model that reflects both contemporary educational requirements and the distinctive ethos of Salesian education in Thailand.

In response to these gaps, the present study seeks to develop and validate a development developmental model for effective educational administration in 21st-century schools under the Salesian Foundation of Thailand. The model is intended to align with Salesian educational philosophy while addressing contemporary educational challenges in a holistic and systematic manner. By doing so, the study aims to contribute both to academic knowledge and to practical policy and leadership guidance, offering a contextually grounded framework that can guide school improvement within the Salesian network and potentially inform similar faith-based or value-driven school systems in other settings.

Purposes

1. To identify the key components that underpin effective educational administration in 21st-century schools under the Salesian Foundation of Thailand.
2. To validate the goodness of fit of the proposed developmental model of effective educational administration in 21st-

century Salesian schools against empirical data.

3. To propose practical guidelines for the development and application of this model in schools under the Salesian Foundation of Thailand.

Literature Review

1) Effective Educational Administration in the 21st Century

The rapid advancement of digital technologies, artificial intelligence, globalization, and changing workforce demands has transformed educational administration in the 21st century. Educational institutions are expected to develop learners who possess critical thinking, problem-solving, collaboration, adaptability, and lifelong learning competencies (Griffin et al., 2012; Trilling & Fadel, 2009). Consequently, school administrators must move beyond traditional management approaches and adopt leadership practices that support innovation, organizational learning, and continuous improvement (Hargreaves & Fullan, 2012; OECD, 2019). Effective educational administration is therefore increasingly viewed as a holistic and integrated process that aligns leadership, human resources, academic quality, and learner development toward sustainable educational outcomes.

2) Human Resource Management in Educational Institutions

Human resource management is recognized as a fundamental factor influencing school effectiveness. Hargreaves and Fullan (2012) proposed that professional capital, including teacher competence, collaboration, and continuous professional development, constitutes a critical resource for educational improvement. Effective schools invest in teacher learning, promote professional collaboration, and create supportive organizational cultures that encourage innovation and reflective practice. Human resource management therefore plays an important role in strengthening institutional capacity and enhancing educational quality.

3) Organizational Leadership and School Effectiveness

Leadership is widely regarded as a key determinant of school success. According to Marzano et al. (2005), effective educational leaders establish clear visions, create supportive organizational environments, and align resources with educational goals. Similarly, Hitt and Tucker (2016) emphasized that leadership practices contribute to student achievement through organizational development, instructional support, and capacity building. In rapidly changing educational contexts, school leaders are expected to function as change agents capable of guiding institutions through uncertainty while maintaining organizational effectiveness (OECD, 2012; OECD, 2019).

4) Academic Administration and Quality Learning

Academic administration focuses on the planning, implementation, monitoring, and continuous improvement of teaching and learning processes. Panich (2012) argued that educational institutions must redesign learning environments to support active learning, learner engagement, and knowledge creation. Likewise, Sanrattana (2013) emphasized that educational administration in the digital age requires effective curriculum management, instructional innovation, quality assurance systems, and the integration of technology into learning processes. Effective academic administration therefore contributes directly to educational quality and institutional performance.

5) Learner Development Quality and Salesian Educational Identity

Contemporary educational perspectives emphasize that learner development extends beyond academic achievement and includes social, emotional, moral, and personal growth (Darling-Hammond et al., 2020). Successful schools create learning environments that support holistic learner development and prepare students for the challenges of the 21st century. Within the Salesian educational tradition, learner development is guided by the Preventive System of Saint John Bosco,

which emphasizes reason, religion, and loving-kindness. Salesian schools seek to develop learners who are academically competent, morally responsible, spiritually grounded, and socially engaged. Therefore, educational administration in Salesian schools must balance organizational effectiveness with the preservation of institutional identity, values, and mission.

Based on the literature, effective educational administration in the 21st century can be conceptualized through four interrelated dimensions: human resource management, organizational leadership, academic administration, and learner development quality. These dimensions provide the conceptual foundation for the Development of Effective Administrative Success in the 21st Century (DEAS21) model proposed in this study.

Research Framework and Process

This study employed a three phases:

Phase 1: Conceptualization and Instrument Development (Qualitative Phase) A systematic review of Thai and international literature was conducted to derive the core dimensions, subcomponents, and indicators of successful 21st-century school administration, leading to a preliminary conceptual framework. A questionnaire was then constructed in line with operational definitions, its content validity reviewed by five experts, and a pilot test conducted to refine wording, structure, and scoring procedures before field use.

Phase 2: Quantitative Data Collection (Quantitative Phase) The validated questionnaire was administered to administrators and teachers in Salesian schools through a structured survey procedure under approved ethical protocols. Data screening and quality control procedures were used to ensure completeness and consistency prior to model testing.

Phase 3: Model Confirmation and Application (Model Confirmation & Application) Quantitative data were analyzed to assess the measurement quality and to confirm both first- and second-order structures of the proposed model. Post-CFA expert review was then used to refine indicators and translate the validated model into practical policy and practice guidelines that are contextually appropriate for Salesian schools in Thailand.

To summarize the overall design, the study was organized into three sequential phases (Figure 1). Phase 1 focused on conceptualization and instrument development through systematic literature review and expert validation. Phase 2 comprised quantitative data collection using a stratified sample of administrators and teachers in Salesian schools. Phase 3 involved model confirmation and application, including first- and second-order CFA, expert review, and the synthesis of policy and practice guidelines for the Salesian Foundation of Thailand.

Figure 1 - Research Framework for the Development and Validation of the DEAS21 Model

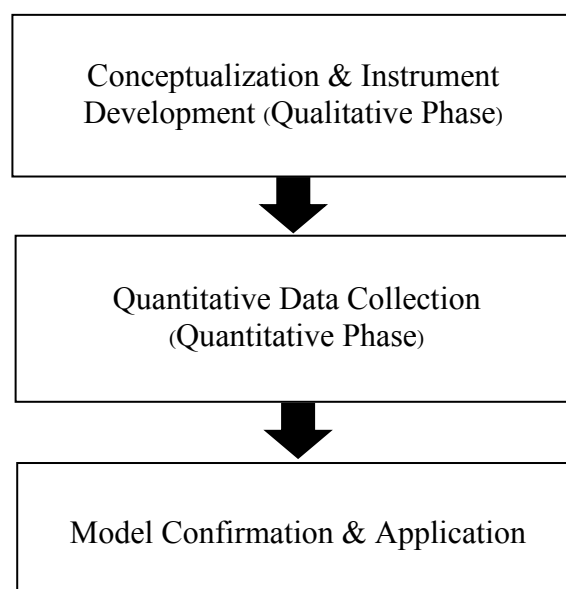


Figure 1 The research framework, showing how the qualitative conceptual work, large-scale survey, and model validation were integrated to develop the DEAS21 model for effective educational administration in the 21st-century.

Population and Sample

The population comprised all principals, school administrators, teachers, and educational personnel in seven schools under the Salesian Foundation of Thailand in the 2024 academic year ($N = 1,257$). Using stratified random sampling by school and role (administrator/ teacher), 400 respondents were selected, including 25 school administrators and 375 teachers. The sample size exceeded conventional minimum requirements for confirmatory factor analysis and was set to ensure adequate representation of each school and role, as well as to compensate for possible non-response.

Instruments

Data were collected using a structured questionnaire developed from the conceptual framework of effective 21st-century educational administration in Salesian schools. The instrument consisted of two parts:

Part 1. Demographic information: Five forced-choice items on gender, age, highest qualification, position, and years in the current position, used for descriptive analysis and sample classification.

Part 2. Perceptions of indicator appropriateness: Sixty items covering four main dimensions and twelve subcomponents of successful school administration, rated on a 5-point Likert scale ranging from 1 (least appropriate) to 5 (most appropriate). Operational definitions were specified for all constructs to ensure consistent interpretation. Items were generated from a systematic review of national and international literature and the hypothesized model, then refined through expert review. Five specialists in educational administration, research

methodology, and Salesian education evaluated content validity using the index of item-objective congruence (IOC); all items met the acceptance criterion ($\text{IOC} \geq 0.50$), with an overall IOC close to 1.00. The revised questionnaire was piloted with 34 administrators and teachers from Salesian schools not included in the main sample. Internal consistency, assessed by Cronbach's alpha, was .994 for the overall scale and ranged from .973 to .984 across the four dimensions, exceeding the conventional .70 threshold.

Data Analysis

Data were analyzed using statistical software. Descriptive statistics (frequency, percentage, mean, standard deviation, skewness, kurtosis, and coefficient of variation) were used to summarize respondents' demographic characteristics and to screen item distributions. Mean scores on the 5-point rating scale were interpreted using conventional benchmarks ($1.00-1.80 =$ very low, $1.81-2.60 =$ low, $2.61-3.40 =$ moderate, $3.41-4.20 =$ high, $4.21-5.00 =$ very high). Items with excessively high coefficients of variation or extreme skewness/kurtosis were flagged for further review. The suitability of the correlation matrices for factor analysis was examined using Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. Sampling adequacy was confirmed ($\text{KMO} = 0.855$), and Bartlett's test was significant, $\chi^2 = 2,240.546$, $p < .001$, indicating that the data were appropriate for confirmatory factor analysis.

Confirmatory factor analysis (CFA) was then employed to validate the first- and second-order measurement models. Model fit

was evaluated using conventional indices, including the relative chi-square (χ^2/df), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), comparative fit index (CFI), Tucker–Lewis index (TLI), root mean square error of approximation (RMSEA), and root mean square residual (RMR). Acceptable thresholds were defined as χ^2/df close to or below 3, RMSEA below .05, and GFI, AGFI, CFI, TLI, and NFI at or above .90. Standardized factor loadings of at least .50 (preferably $\geq .70$) and statistical significance at $p < .05$ were used as criteria for indicator retention.

Based on these criteria, all first- and second-order models demonstrated good to excellent fit to the data. For the four first-order domain models—Human Resource Management (HUREM), Organizational Leadership (ORGLE), Learner Development Quality (LDQTY), and Academic

Administration (ACADM)— χ^2/df values ranged from approximately 1.22 to 1.33, with GFI and AGFI generally close to or above .95, CFI and TLI around .99, and RMSEA values below .03. For the overall second-order DEAS21 model, the fit indices were $\chi^2(34) = 44.88$, $p = .10$, $\chi^2/df = 1.32$, GFI = .98, AGFI = .96, CFI = .998, TLI = .997, RMSEA = .028, and RMR = .003, indicating excellent model fit. The four domain-level constructs also showed excellent internal consistency and convergent validity: Cronbach’s alpha coefficients ranged from .973 to .984, composite reliabilities (CR) were all above .90, and average variance extracted (AVE) values ranged from .77 to .84, exceeding conventional benchmarks. These results confirm that the DEAS21 domains are measured reliably and that each domain factor captures a substantial proportion of variance in its subcomponents.

Figure 2: Second-order CFA model of DEAS21 for effective educational administration in Salesian schools.



Note: Development of Effective Administrative Success in the 21st-century. The higher-order factor (DEAS21) is indicated by four first-order latent variables human resource management (HUREM), organizational leadership (ORGLE), learner development quality (LDQTY), and academic administration (ACADM) each measured by three subcomponents (SKDE, VLEA, CLOB; VPLN, CBOC, RMSY; SMLD, HLDV, SLEN; SPMA, CBTQ, CLDE). Only standardized factor loadings (λ) and primary structural paths are shown; correlated error terms are omitted for clarity. Model fit: $N = 400$, $\chi^2(34) = 44.88$, $\chi^2/df = 1.32$, CFI = .998, TLI = .997, RMSEA = .028, RMR = .003, supporting the validity of the DEAS21 structure.

Table 1: Detailed standardized loadings and reliability estimate for each component

Domain and subcomponent	Std. loading (λ)	R ²
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1. Human Resource Management (HUREM) ($\alpha = .973$)		
Skill Development (SKDE)	.824	.679
Visionary Leadership for Educators (VLEA)	.899	.808
Team Collaboration (CLOB)	.914	.835
2. Organizational Leadership (ORGLE) ($\alpha = .983$)		
Vision Planning (VPLN)	.884	.781
Capacity Building & Organizational Culture (CBOC)	.900	.810
Resource Management for Sustainability (RMSY)	.914	.835
3. Learner Development Quality (LDQTY) ($\alpha = .978$)		
Strategic Management for Learner Development (SMLD)	.919	.845
Holistic Learner Development (HLDV)	.886	.785
Supportive Learning Environment (SLEN)	.933	.870
4. Academic Administration (ACADM) ($\alpha = .984$)		
Strategic Planning & Management (SPMA)	.927	.859
Capacity Building & Teaching Quality (CBTQ)	.919	.845
Comprehensive Learner Development (CLDE)	.903	.815

Note. All factor loadings are standardized and significant at $p < .01$. Cronbach's alpha (α) values are reported at the domain level. R^2 indicates the proportion of variance in each subcomponent explained by its corresponding domain factor. At the second-order level, DEAS21 loaded strongly on all four domain factors ($\lambda = .93$ for HUREM, .97 for ORGLE, 1.01 for LDQTY, and .97 for ACADM; all $p < .01$).

The standardized loadings and reliability estimate for the four first-order domains and their twelve subcomponents are presented in Table 1. All factor loadings were positive, statistically significant at $p < .01$, and fell within an acceptable-to-strong range (approximately .82–.93 at the subcomponent level), with R^2 values indicating that each domain factor explained a substantial proportion of variance in its respective subcomponents. Cronbach's alpha coefficients at the domain level ranged from .973 to .984, indicating excellent internal consistency for Human Resource Management (HUREM), Organizational Leadership (ORGLE), Learner Development Quality (LDQTY), and Academic Administration (ACADM). At the second-order level, DEAS21 loaded strongly on all four domain factors ($\lambda = .93$ for HUREM, .97 for ORGLE, 1.01 for LDQTY, and .97 for ACADM; all $p < .01$), supporting the specification of a robust higher-order construct representing overall administrative success.

Model fit indices for the first- and second-order CFA models are summarized in

Table 2. All models demonstrated good to excellent fit to the data. For the four first-order domain models (HUREM, ORGLE, LDQTY, and ACADM), χ^2/df values ranged from approximately 1.22 to 1.33, with goodness-of-fit indices (GFI and AGFI) generally close to or above .95, comparative fit indices (CFI and TLI) around .99, and RMSEA values below .03. For the overall second-order DEAS21 model, the fit indices were $\chi^2(34) = 44.88$, $p = .10$, $\chi^2/df = 1.32$, GFI = .98, AGFI = .96, CFI = .998, TLI = .997, RMSEA = .028, and RMR = .003, indicating excellent model fit and supporting the internal coherence of the higher-order structure.

The four domain-level constructs also demonstrated excellent convergent validity (see Table 3). Cronbach's alpha coefficients ranged from .973 to .984 across HUREM, ORGLE, LDQTY, and ACADM, all well above the conventional .70 benchmark. Composite reliabilities (CR) were similarly high, exceeding .90 for all domains (HUREM = .886, ORGLE = .893, LDQTY = .926, ACADM = .924), indicating stable and internally coherent constructs.

The average variance extracted (AVE) values ranged from .77 to .84, surpassing the .50 criterion and confirming that each domain factor captured a substantial proportion of variance in its subcomponents. Taken together, these results support the convergent validity of the DEAS21 measurement model at the domain level.

Discriminant validity among the four domains was examined using the Fornell–Larcker criterion (Table 4). Diagonal elements represent the square roots of AVE

for each domain (approximately .88–.92), while off-diagonal elements are the latent correlations among the domains. Although all AVE values exceeded the .50 benchmark, the latent correlations (.94–.99) were higher than the square roots of their respective AVEs. This pattern suggests substantial conceptual overlap among HUREM, ORGLE, LDQTY, and ACADM, which is theoretically consistent with the specification of a strong second-order factor (DEAS21) representing overall administrative success.

Table 2: Overall model fit indices for first- and second-order CFA

Model	χ^2	df	χ^2/df	p	GFI	AGFI	CFI	TLI	NFI	RMSEA	RMR
HUREM	87.694	72	1.218	.101	.972	.953	.996	.995	.980	.023	.010
ORGLE	88.355	71	1.244	.080	.971	.952	.997	.995	.984	.025	.008
LDQTY	73.270	55	1.332	.050	.977	.950	.996	.993	.986	.029	.008
ACADM	53.702	67	0.802	.880	.982	.967	1.000	1.004	.990	.000	.006
DEAS21	44.882	34	1.320	.100	.982	.958	.998	.997	.993	.028	.003

Note. Ellipses indicate values to be taken directly from the corresponding AMOS output for the ORGLE and ACADM models. All models show acceptable to excellent fit, with χ^2/df close to or below 3, CFI/TLI around .99, and RMSEA below .05.

The limitation in discriminant validity at the domain level is therefore acknowledged, while the evidence still supports the use of DEAS21 as a higher-

order construct for modeling effective 21st-century educational administration in Salesian schools.

Table 3: Composite reliability (CR) and average variance extracted (AVE) for the four DEAS21 domains

Domain	α	CR	AVE
HUREM	.973	.886	.774
ORGLE	.983	.893	.809
LDQTY	.978	.926	.833
ACADM	.984	.924	.840

Note. CR and AVE values are derived from standardized factor loadings of the three subcomponents for each domain.

Table 4: Fornell–Larcker matrix for the four DEAS21 domains

domain	hurem	orgle	ldqty	acadm
HUREM	.880	.951	.974	.940
ORGLE	.951	.899	.990	.955
LDQTY	.974	.990	.913	.979
ACADM	.940	.955	.979	.917

Note. Diagonal elements are the square roots of AVE for each domain (approximate), and off-diagonal elements are latent correlations among the domains. The pattern shows that latent correlations (.94–.99) exceed the square roots of AVE (.88–.92), indicating substantial

overlap among the domains and supporting the presence of a strong second-order factor (DEAS21).

Although the four domains showed strong convergent validity, the very high latent correlations indicate limited discriminant validity at the domain level. In practice, this suggests that school personnel may perceive human resource management, organizational leadership, academic administration, and learner development quality as highly intertwined aspects of a single, overarching process of administrative success, which is consistent with the specification of DEAS21 as a strong second-order construct.

Conclusion and Discussion

Conclusion

This study developed and validated the DEAS21 model for effective 21st-century educational administration. The conclusions are aligned with the three research objectives as follows:

1. Identification of core components: Drawing on a systematic review of national and international literature, DEAS21 was conceptualized around four interrelated dimensions: Human Resource Management (HUREM) , Organizational Leadership (ORGLE) , Learner Development Quality (LDQTY) , and Academic Administration (ACADM) , further specified into twelve subcomponents and sixty indicators. Empirical screening showed that all indicators received high mean ratings (approximately 4.31– 4.43 on a 5- point scale) with low coefficients of variation, indicating strong and consistent professional endorsement. LDQTY emerged as the most salient domain, underscoring that holistic learner development and supportive learning environments are regarded as the primary markers of administrative success, with HUREM, ORGLE, and ACADM functioning as critical enabling systems.

2. Empirical validation of the DEAS21 model: First- and second- order confirmatory factor analyses yielded acceptable to excellent fit for both the twelve subscales and the higher- order DEAS21

construct. Standardized factor loadings for all indicators were positive, statistically significant, and fell within an acceptable-to-strong range (approximately .69–.92). Global fit indices reached high levels (for example, CFI close to .99 and RMSEA around .03), confirming the internal coherence of the measurement structure. At the second-order level, the overarching construct of “ 21st-century administrative success” was robustly represented by the four dimensions, with LDQTY showing the greatest relative weight, followed by ORGLE, ACADM, and HUREM. Taken together, these results indicate that DEAS21 is both theoretically well- founded and empirically stable in the school context.

3. Guidelines for development and application: The validated DEAS21 model provides an evidence- based framework for both policy and practice. At the system level, it offers a structured set of dimensions and indicators to support strategic planning, quality assurance, and monitoring within the Salesian network. At the school level, it enables leaders to align human resource management, organizational leadership, academic administration, and learner- focused practices around explicit learner-development goals, fostering an integrated rather than fragmented approach to school improvement. In this sense, DEAS21 functions simultaneously as a measurement framework and a strategic compass, with potential applicability to other faith-based or mission-driven school systems facing similar 21st-century challenges.

Discussion

The findings confirm that effective educational administration in 21st- century schools under the Salesian Foundation of Thailand is a multidimensional construct consisting of human resource management, organizational leadership, academic administration, and learner development quality. The strong factor loadings and

excellent fit indices support the proposition that these dimensions operate as an integrated system rather than as isolated administrative functions. This finding is consistent with Hitt and Tucker (2016), who argued that effective school leadership requires interconnected practices that simultaneously support teaching, learning, organizational capacity, and school improvement. Similarly, Marzano et al. (2005) emphasized that successful schools are characterized by leadership systems that align organizational processes with educational goals.

Among the four dimensions, learner development quality emerged as the most influential component of the DEAS21 model. This finding reflects contemporary educational perspectives that place student learning and holistic development at the center of school effectiveness. The result is consistent with Darling-Hammond et al. (2020), who emphasized that educational systems should focus on supporting learners' cognitive, social, emotional, and developmental needs. It also aligns with Griffin et al. (2012) and Trilling and Fadel (2009), who highlighted the importance of developing 21st-century competencies, including critical thinking, collaboration, adaptability, and lifelong learning. The prominence of learner development suggests that educational success is increasingly evaluated through the extent to which schools prepare students for complex and rapidly changing social environments.

The strong contribution of organizational leadership supports previous studies emphasizing the role of leadership in guiding educational change. Hargreaves and Fullan (2012) argued that educational leaders must move beyond administrative control and become agents of professional capital development, collaboration, and continuous improvement. Likewise, OECD (2012, 2019) highlighted the importance of visionary leadership in navigating uncertainty, technological transformation, and changing educational demands. The present findings suggest that organizational leadership serves as a critical mechanism for translating

institutional vision into effective school practices and sustainable development.

Human resource management also demonstrated a substantial contribution to the overall model. This finding supports the argument of Hargreaves and Fullan (2012) that educational quality depends largely on the professional capacity of teachers and staff. Effective schools require continuous professional development, collaborative learning cultures, and systems that support teacher growth. The strong loading of this dimension indicates that investments in personnel development remain essential for achieving long-term educational effectiveness in contemporary school settings.

Academic administration was another significant component of the model. This finding is consistent with Sanrattana (2013) and Panich (2012), who emphasized that educational administration in the digital age must support curriculum quality, instructional innovation, quality assurance, and effective learning management. In the context of Education 4.0 and rapid technological advancement, academic administration functions as an important mechanism for ensuring that educational practices remain relevant to changing learner's needs and societal expectations.

An important contribution of this study lies in its integration of these four dimensions into a higher-order construct represented by the DEAS21 model. Although previous studies have examined leadership, school effectiveness, personnel management, and learning quality separately, the present findings demonstrate that these dimensions are highly interconnected and collectively represent effective educational administration. The very high correlations among the four domains support the theoretical proposition that successful school administration requires a systemic and integrated approach rather than fragmented management practices. This finding is also consistent with Zhao (2012), who argued that schools must function as adaptive learning ecosystems capable of responding to complex educational challenges.

The findings further highlight the importance of Salesian educational identity in shaping effective educational administration. Unlike many existing models developed for general educational settings, the DEAS21 model reflects the distinctive philosophy and mission of Salesian education. Salesian schools are expected not only to achieve academic excellence but also to promote moral development, spiritual formation, social responsibility, and holistic learner growth. Rooted in the Preventive System of Saint John Bosco, which emphasizes reason, religion, and loving-kindness, educational administration in Salesian schools requires balancing organizational effectiveness with mission-centered values. Therefore, the DEAS21 model extends existing leadership and school effectiveness frameworks by incorporating the specific ethos, identity, and educational mission of the Salesian Foundation of Thailand.

The study therefore contributes both theoretically and practically. Theoretically, it provides empirical evidence supporting a multidimensional and integrated model of educational administration in the 21st century. Practically, it offers school leaders and policymakers a contextually grounded framework that can guide strategic planning, personnel development, academic improvement, and learner-centered educational practices within Salesian schools and other value-based educational institutions.

Recommendation

Recommendations for Policy and Practice

References

- Brynjolfsson, E., & McAfee, A. (2014). *The second machine age: Work, progress, and prosperity in a time of brilliant technologies*. W. W. Norton.
- Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied Developmental Science*, 24(2), 97–140.
- Griffin, P., McGaw, B., & Care, E. (Eds.). (2012). *Assessment and teaching of 21st century skills*. Springer.
- Hargreaves, A., & Fullan, M. (2012). *Professional capital: Transforming teaching in every school*. Teachers College Press.

1) School Level. Schools should adopt the DEAS21 model as a framework for self-assessment and continuous improvement. Particular attention should be given to learner development quality, which emerged as the most influential component of effective educational administration.

2) Supervisory Level. Educational supervisors and school networks should utilize the DEAS21 dimensions and indicators as a common framework for monitoring, supporting, and enhancing school performance across institutions.

3) Policy Level. The Salesian Foundation of Thailand should integrate the DEAS21 model into strategic planning, quality assurance, and performance evaluation systems to promote consistency and effectiveness throughout the educational network.

4) Salesian Educational Identity Level. Schools should apply the DEAS21 model in ways that strengthen the distinctive Salesian educational mission by balancing academic excellence, learner development, moral formation, and organizational effectiveness.

Recommendations for Future Research

1) Future studies should examine the implementation of the DEAS21 model in practice and evaluate its impact on school effectiveness, educational quality, and learner outcomes.

2) Future research should validate and extend the DEAS21 model in other educational contexts, including faith-based, private, and public schools, to assess its generalizability and applicability.

- Hitt, D. H., & Tucker, P. D. (2016). Systematic review of key leadership practices found to influence student achievement. *Review of Educational Research*, 86(2), 531–569.
- Marzano, R. J., Waters, T., & McNulty, B. A. (2005). *School leadership that works: From research to results*. ASCD.
- OECD. (2012). *Preparing teachers and developing school leaders for the 21st century*. OECD Publishing.
- OECD. (2019). *OECD future of education and skills 2030: OECD learning compass 2030*. OECD Publishing.
- Office for National Education Standards and Quality Assessment. (2019). *External quality assessment report of private schools*. Author.
- Office of the Education Council. (2017). *National education plan 2017–2036*. Author. [In Thai]
- Panich, V. (2012). *The way of learning for the 21st century*. Tathata Publication. [In Thai]
- Sanrattana, V. (2013). Educational management in the digital age. Chulalongkorn University Press.
- Schleicher, A. (2018). *World class: How to build a 21st-century school system*. OECD Publishing.
- Trilling, B., & Fadel, C. (2009). *21st century skills: Learning for life in our times*. Jossey-Bass.
- World Economic Forum. (2020). *The future of jobs report 2020*. World Economic Forum.
- Zhao, Y. (2012). *World class learners: Educating creative and entrepreneurial students*. Corwin.

Effect of the 4Cs on project-based learning in digital education: evidence from private universities in Thailand

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ABSTRACT

This study examines the effect of integrating the 4Cs—critical thinking, creativity, communication, and collaboration—into project-based learning in digital education at private universities in Thailand. Using a quantitative research design, data were collected from 500 undergraduate students with experience in digital project-based learning through a structured five-point Likert-scale questionnaire. Descriptive statistics and multiple linear regression were used for data analysis. The results showed moderate to high levels of 4C integration and revealed that all four competencies have positive and statistically significant effects on learning outcomes. The regression model explained 72.8% of the variance in learning outcomes, indicating strong explanatory power. Critical thinking and collaboration were the strongest predictors, followed by creativity and communication. These findings provided empirical evidence that embedding the 4Cs in digital project-based learning enhances students' learning outcomes. The study contributes to digital pedagogy by validating the 4Cs framework in Thai private higher education and highlights the need for instructional designs that prioritize 21st-century skill development alongside technology use.

KEYWORDS: Digital education; Project-based learning; 4Cs; Learning outcomes; Private universities

Introduction

The rapid expansion of digital education has transformed how teaching and learning are designed, delivered, and evaluated. Advances in educational technologies, online platforms, and digital resources have broadened access to learning and reshaped pedagogical practice (Haleem et al., 2022; Mahmadoy, 2025; Zou et al., 2025). Beyond content delivery, digital education is increasingly expected to develop 21st-century competencies that enable learners to succeed in complex, technology-driven environments. Among these competencies, the 4Cs—critical thinking,

creativity, communication, and collaboration are widely recognized as essential for academic success, employability, and lifelong learning (Ahmed, 2022; Tuazon & Sumadsad, 2022; Thornhill-Miller et al., 2023).

Project-based learning has emerged as an effective pedagogical approach for developing higher-order thinking and transferable skills by engaging learners in authentic, problem-centered tasks. Through inquiry, collaboration, and reflective practice, project-based learning encourages learners to actively construct knowledge while applying it to real-world contexts. When implemented

in digital education settings, project-based learning offers additional opportunities to integrate technology-mediated collaboration, communication, and creative problem-solving (Almulla, 2020; Azimi, 2025; Julaeha, 2025; Sánchez-García & Reyes-de-Cózar, 2025).

Although scholarship on digital education and project-based learning continues to grow, limited empirical attention has been given to the explicit integration of the 4Cs within digital project-based learning environments. This gap is particularly evident in Thai private higher education, where digital learning has expanded rapidly in response to technological advancement and educational reform. Many private universities still face challenges in systematically developing students' 21st-century competencies, and evidence on the pedagogical effectiveness of embedding the 4Cs in digital project-based learning remains limited.

Accordingly, this study investigates the integration of the 4Cs into project-based learning in digital education at private universities in Thailand. Using multiple linear regression, it examines whether critical thinking, creativity, communication, and collaboration significantly predict positive learning outcomes. The study contributes empirical evidence to the literature on digital pedagogy and project-based learning and offers practical insights for educators and institutions seeking to design learning environments that foster 21st-century skills.

Purpose

To examine the effects of the 4Cs on learning outcomes in digital project-based learning among undergraduate students at private universities in Thailand.

Benefit of Research

This research offers theoretical and practical contributions. Theoretically, it extends the digital education literature by providing empirical evidence on how the 4Cs

influence learning outcomes in project-based learning. Practically, the findings offer educators, instructional designers, and policymakers evidence-based guidance for designing digital project-based learning that promotes critical thinking, creativity, communication, and collaboration. The results may also inform curriculum development and professional training aimed at strengthening 21st-century competencies in digital learning environments.

Literature Review

This literature review synthesizes prior studies on the 4Cs, project-based learning, and digital education. By bringing together these strands of literature, the review establishes a conceptual foundation for understanding the role of digital project-based learning in fostering critical thinking, creativity, communication, and collaboration.

The 4Cs as Core 21st-Century Skills

The concept of the 4Cs—critical thinking, creativity, communication, and collaboration—has been widely recognized as a foundational framework for 21st-century learning. International organizations and educational scholars emphasize that these competencies are essential for learners to adapt to complex, technology-driven societies and dynamic labor markets. Critical thinking enables learners to analyze problems and make informed decisions, creativity supports innovation and idea generation, communication facilitates effective knowledge exchange, and collaboration enhances teamwork and collective problem-solving. In higher education, the development of the 4Cs has become a strategic priority, particularly as institutions seek to prepare graduates for professional environments characterized by uncertainty and digital transformation (Ahmed, 2022; Azmi et al., 2024; Thornhill-Miller et al., 2023).

Project-Based Learning and Skill Development

Project-based learning is a learner-centered pedagogical approach that engages students in authentic, inquiry-driven projects requiring sustained effort, problem solving, and reflection. Prior studies consistently report that project-based learning enhances student engagement, motivation, and deeper learning by encouraging learners to apply knowledge in real-world contexts. Importantly, project-based learning is strongly associated with the development of higher-order thinking skills and transversal competencies, including the 4Cs. Through collaborative project work, students are required to communicate ideas, negotiate roles, think critically about solutions, and demonstrate creativity in project outcomes. As a result, project-based learning is frequently identified as a pedagogical model well aligned with 21st-century skill development (Martinez, 2022; Maros et al., 2023; Ka-J et al., 2023; Saimon et al., 2023; Vaithianathan et al., 2024).

Digital Education and Project-Based Learning

The integration of digital technologies into education has further expanded the potential of project-based learning. Digital education environments provide tools and platforms that support collaboration, communication, and content creation beyond the constraints of time and place. Online learning management systems, cloud-based collaboration tools, and other digital platforms enable students to work collaboratively, access diverse resources, and present project outcomes in innovative formats, thereby improving learning outcomes. Research suggests that digital project-based learning can enhance learner autonomy and flexibility while supporting interactive and collaborative learning processes. However, the effectiveness of digital project-based learning depends heavily on instructional design and the extent to which learning activities intentionally foster targeted competencies (Al-Samarraie &

Saeed, 2018; Alshammery & Alhalafawy, 2023; Evenddy et al., 2023; Hoesny et al., 2024; Xudayberdiyevna, 2024).

Hypotheses Development

Based on the literature on the 4Cs, project-based learning, and digital education, this study proposes that integrating critical thinking, creativity, communication, and collaboration into digital project-based learning positively influences learning outcomes among undergraduate students in private universities in Thailand. Prior studies suggest that these competencies are essential for enhancing student engagement, higher-order thinking, and effective knowledge construction in technology-supported learning environments (Ahmed, 2022; Thornhill-Miller et al., 2023; Tuazon & Sumadsad, 2022). Project-based learning further provides opportunities for students to apply these competencies through authentic and collaborative learning activities (Martinez, 2022; Maros et al., 2023).

Collaboration is considered a key element of project-based learning because it encourages teamwork, shared problem-solving, and active participation in learning activities. Digital platforms also facilitate collaborative interaction through online communication and cloud-based tools, which may improve students' learning experiences and outcomes (Al-Samarraie & Saeed, 2018; Vaithianathan et al., 2024). Therefore, the following hypothesis is proposed:

H1: Collaboration positively affects learning outcomes in digital project-based learning.

Critical thinking is widely recognized as an essential competency for analyzing information, evaluating alternatives, and solving complex problems. In project-based learning environments, students are required to engage in inquiry, reflection, and decision-making processes that strengthen analytical reasoning skills (Tafakur et al., 2023). Digital learning environments further support access

to information and interactive tools that can enhance critical thinking development. Thus, the following hypothesis is proposed:

H2: Critical thinking positively affects learning outcomes in digital project-based learning.

Creativity is another important competency fostered through project-based learning, as students are encouraged to generate innovative ideas, develop original solutions, and create meaningful project outputs. Digital technologies provide opportunities for multimedia creation, flexible learning activities, and creative expression, which may contribute to improved educational outcomes (Julaeha, 2025; Xudayberdiyevna, 2024). Accordingly, the following hypothesis is proposed:

H3: Creativity positively affects learning outcomes in digital project-based learning.

Communication plays a crucial role in project-based learning because students must exchange ideas, present findings, and interact effectively with peers and instructors. Digital education environments support communication through online discussions, collaborative platforms, and virtual presentations, which can strengthen learning engagement and understanding (Evenddy et al., 2023). Therefore, the following hypothesis is proposed:

H4: Communication positively affects learning outcomes in digital project-based learning.

Figure 1 presents the conceptual framework of the study.

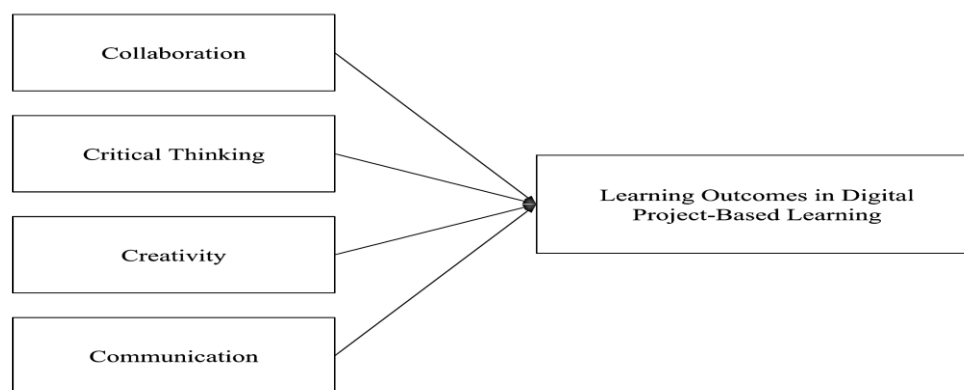


Figure 1. Conceptual Framework

The framework in Figure 1 proposes that the integration of the 4Cs—collaboration, critical thinking, creativity, and communication—within digital project-based learning positively enhances students' learning outcomes in private universities in Thailand.

Research Process

This study employed a quantitative research design to investigate the integration of the 4Cs into project-based

learning in digital education within private universities in Thailand.

Population and Sample

The target population consisted of undergraduate students enrolled in private universities in Thailand, ranging from first-year to fourth-year students, who had prior experience with digital project-based learning activities. Convenience sampling was employed to recruit participants. The minimum sample size was determined using Cochran's formula at a 95%

confidence level and a 0.05 margin of error, resulting in a required sample size of 384 participants. To ensure adequate statistical power and to account for potential incomplete responses, a total of 500 valid questionnaires were collected and included in the final analysis.

Instruments

Data were collected using a structured questionnaire developed based on relevant literature on the 4Cs, project-based learning, and digital education. Measurement items were measured using a five-point Likert scale. The questionnaire was reviewed by three experts in social sciences and digital education management to ensure clarity, content validity, and alignment with the study objectives prior to data collection. The reliability analysis demonstrated excellent internal consistency, with a Cronbach's alpha coefficient of 0.94, exceeding the recommended threshold of 0.70.

Data Collection

Data were collected through an online survey distributed via widely used digital communication platforms in Thailand, including Facebook and LINE. A mobile-friendly questionnaire format was employed to enhance accessibility and participation. Data collection was conducted between November and December 2025 to capture students' recent experiences with digital project-based learning.

Participants were informed of the study's objectives and assured that the data would be used solely for academic purposes. The study involved non-medical, anonymous survey research with participants aged 18 years or older and did not include vulnerable populations. Informed consent was obtained electronically prior to participation. Anonymity and confidentiality were strictly maintained, and no personally identifiable information was collected. In accordance

with the guidelines issued by Thailand Science Research and Innovation (TSRI), behavioral and social science research employing anonymous data collection instruments and posing no risk to participants is exempt from formal ethics committee approval. This study met the criteria for such exemption and adhered to recognized ethical standards.

Data Analysis

Data were analyzed using Jamovi, an open-source statistical software widely used in behavioral and social science research. Descriptive statistics were used to summarize demographic characteristics and variable distributions. Multiple linear regression analysis was conducted to examine the relationships between the 4C constructs and learning outcomes in project-based learning within digital education at private universities in Thailand.

Results

The study's participants comprised 500 undergraduate students from private universities in Thailand. Female students accounted for 56.4% of the respondents, while 43.6% were male. In terms of year of study, 24.8% were first-year students, 26.2% were second-year students, 25.6% were third-year students, and 23.4% were fourth-year or final-year students. Regarding fields of study, 32.0% of participants were enrolled in business and management programs, 27.6% in social sciences and humanities, 21.4% in information technology and digital-related programs, and 19.0% in education and other related disciplines. All respondents reported prior experience with project-based learning in digital education environments, indicating that the sample was well suited to assess the integration of the 4Cs in digital project-based learning. The demographic distribution reflects a diverse and representative sample of undergraduate students in private universities in Thailand.

Table 1: Descriptive Statistics

	N	Mean	Std. Deviation
Collaboration	500	3.317	0.999
Critical Thinking	500	3.296	1.008
Creativity	500	3.306	1.009
Communication	500	3.313	1.000

Table 1 presents the descriptive statistics for the four core constructs of the 4Cs—collaboration, critical thinking, creativity, and communication—as perceived by undergraduate students participating in digital project-based learning. The results indicate that the mean scores for all four constructs are above the midpoint of the five-point Likert scale, suggesting a generally positive perception of 4C integration within digital learning environments. Collaboration reported the

highest mean score ($M = 3.317$, $SD = 0.999$), followed closely by communication ($M = 3.313$, $SD = 1.000$) and creativity ($M = 3.306$, $SD = 1.009$). Critical thinking showed a slightly lower but still comparable mean ($M = 3.296$, $SD = 1.008$). The relatively similar standard deviations across constructs indicate a consistent level of variability in students' responses, suggesting that participants shared comparable experiences regarding the development of the 4Cs through digital project-based learning.

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1 ^a	0.853 ^a	0.728	0.725	0.55949

a. Predictors: (Constant), Communication, Collaboration, Creativity, Critical Thinking

Table 2 summarizes the overall fit of the regression model examining the relationship between the four 4C dimensions and learning outcomes in digital project-based learning. The model demonstrates a strong correlation between the independent variables and learning outcomes ($R=0.853$). The coefficient of determination ($R^2 = 0.728$) indicates that approximately 72.8% of the variance in learning outcomes can be explained by collaboration, critical thinking, creativity,

and communication. The adjusted R^2 value (0.725) further confirms the robustness of the model after accounting for the number of predictors. Additionally, the relatively low standard error of the estimate (0.55949) suggests that the model provides accurate predictions of learning outcomes, indicating a strong explanatory power of the 4Cs within the digital project-based learning context.

Table 3: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1 ^a	Regression	413.738	4	103.435	330.429	< 0.001 ^b
	Residual	154.950	495	0.313		
	Total	568.689	499			

a. Dependent Variable: Learning Outcomes in Project-Based Learning

b. Predictors: (Constant), Communication, Collaboration, Creativity, Critical Thinking

Table 3 reports the results of the analysis of variance (ANOVA) used to assess the overall statistical significance of the regression model. The findings reveal that the model is highly significant ($F = 330.429$, $p < 0.001$), indicating that the set of predictor variables collectively explains a substantial proportion of variance in learning outcomes. The regression sum of squares (413.738) is considerably larger than

the residual sum of squares (154.950), further demonstrating that the inclusion of the four 4C constructs significantly improves the model's ability to predict learning outcomes. These results confirm that the regression model is appropriate and statistically valid for examining the effects of integrating the 4Cs into digital project-based learning.

Table 4: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1 ^a	(Constant)	0.063	0.093		0.678	0.498
	Collaboration	0.258	0.052	0.241	4.968	< 0.001
	Critical Thinking	0.282	0.051	0.266	5.517	< 0.001
	Creativity	0.235	0.051	0.222	4.593	< 0.001
	Communication	0.205	0.046	0.192	4.433	< 0.001

a. Dependent Variable: Learning Outcomes in Project-Based Learning

The multiple regression equation indicates that learning outcomes in digital project-based learning can be predicted as follows:

$$Y = 0.063 + 0.258 (\text{Collaboration}) + 0.282 (\text{Critical Thinking}) + 0.235 (\text{Creativity}) + 0.205 (\text{Communication})$$

where Y represents learning outcomes in project-based learning. The equation demonstrates that collaboration, critical thinking, creativity, and communication all positively contribute to learning outcomes, with critical thinking showing the strongest predictive effect.

Table 4 presents the regression coefficients for each of the four 4C constructs and their individual contributions to learning outcomes in digital project-based learning. All predictors exhibit

positive and statistically significant effects ($p < 0.001$), indicating that higher levels of each 4C are associated with improved learning outcomes. Among the predictors, critical thinking demonstrates the strongest standardized effect ($\beta = 0.266$), followed by collaboration ($\beta = 0.241$), creativity ($\beta = 0.222$), and communication ($\beta = 0.192$). These findings suggest that while all four competencies play a significant role, critical thinking and collaboration exert relatively stronger influences on learning outcomes. Overall, the results underscore the importance of intentionally integrating the 4Cs into digital project-based learning designs to enhance students' educational outcomes in private universities in Thailand.

Discussion

This study investigated the effects of integrating the 4Cs—critical thinking, creativity, communication, and collaboration—into digital project-based learning at private universities in Thailand. The findings provide empirical support for this pedagogical approach, demonstrating that all four competencies significantly and positively influence students' learning outcomes.

The descriptive results show that students perceived moderate to high levels of 4C integration in digital project-based learning. This finding is consistent with prior studies indicating that project-based learning promotes collaboration, communication, and creative problem-solving, especially when supported by digital technologies (Almulla, 2020; Maros et al., 2023; Saimon et al., 2023). The relatively balanced mean scores across the four constructs suggest that digital project-based learning can support multiple 21st-century competencies simultaneously.

The regression results further indicate that the 4Cs explain a substantial proportion of variance in learning outcomes, confirming a strong predictive relationship between these competencies and students' perceived learning success. This supports previous research showing that digital education is most effective when technology is combined with instructional designs that foster higher-order skills rather than content delivery alone (Al-Samarraie & Saeed, 2018; Alshammary & Alhalafawy, 2023; Hoesny et al., 2024).

Critical thinking was the strongest predictor of learning outcomes. This result reinforces the role of analytical reasoning, evidence evaluation, and informed decision-making in project-based learning (Tafakur et al., 2023; Thornhill-Miller et al., 2023). In digital learning environments, access to diverse information sources and interactive tools may further strengthen students'

ability to analyze problems and develop reasoned solutions.

Collaboration also had a strong positive effect, highlighting the importance of teamwork, shared responsibility, and collective knowledge construction in digital project-based learning. This finding aligns with studies showing that collaborative learning improves engagement and problem-solving when supported by online communication tools and cloud-based platforms (Al-Samarraie & Saeed, 2018; Evenddy et al., 2023; Vaithianathan et al., 2024). In Thai private universities, such tools appear to play an important role in facilitating meaningful learning experiences.

Creativity and communication were also significant predictors, although their effects were slightly smaller than those of critical thinking and collaboration. These findings are consistent with research showing that project-based learning encourages students to generate original ideas, produce creative outputs, and communicate their work effectively (Martinez, 2022; Julaeha, 2025). Digital education expands these opportunities through multimedia production, online discussions, and virtual presentations, which can enhance motivation and learning effectiveness (Xudayberdiyevna, 2024; Yuanti et al., 2025).

Overall, the findings support theoretical perspectives that view the 4Cs as interconnected competencies essential for 21st-century learning (Ahmed, 2022; Tuazon & Sumadsad, 2022; Thornhill-Miller et al., 2023). They also extend prior research by demonstrating that purposeful 4C integration in digital project-based learning can improve learning outcomes in Thai private higher education, a context that remains underrepresented in empirical studies.

Conclusion

This study concludes that digital project-based learning is more effective when it intentionally integrates the 4Cs: critical thinking, creativity, communication, and collaboration. The findings show that all four competencies significantly enhance students' learning outcomes, with critical thinking and collaboration exerting the strongest effects.

Theoretically, the study validates the relevance of the 4Cs framework in digital higher education and provides context-specific evidence from Thai private universities. The results suggest that these competencies work together to strengthen learning outcomes when embedded in well-designed project-based learning activities.

Practically, the findings emphasize that technology adoption alone is insufficient. Educators and institutions should design digital project-based learning activities that deliberately cultivate higher-order thinking, teamwork, creative production, and effective communication.

As digital education continues to expand, systematic integration of the 4Cs can help universities create more meaningful, skill-oriented, and future-ready learning experiences.

Recommendations

Based on the findings, educators should design digital project-based learning activities that explicitly develop the 4Cs. Critical thinking can be promoted through problem analysis, evidence-based reasoning, and reflective tasks. Collaboration should be supported through clear group roles, shared digital workspaces, and assessment criteria that value teamwork. Creativity can be encouraged by allowing flexibility in project design, media use, and final outputs. Communication skills should be strengthened through online discussions, peer feedback, presentations, and structured interaction with instructors. Universities

should also provide professional development to help educators integrate digital tools with 4C-oriented pedagogy effectively.

Limitations and Future Research

Despite its contributions, this study has several limitations. First, its cross-sectional quantitative design limits causal interpretation. Future studies could use longitudinal designs to examine how critical thinking, creativity, communication, and collaboration develop over time in digital project-based learning environments. Second, the study relied on self-reported questionnaire data, which may be affected by response bias. Future research could incorporate interviews, classroom observations, or mixed-methods designs to gain deeper insight into students' learning experiences and behaviors.

Third, the sample was limited to undergraduate students from private universities in Thailand, which may restrict generalizability to public universities, vocational institutions, or international settings. Future studies should examine broader and more diverse populations. Fourth, this study focused on the direct effects of the 4Cs and did not examine mediating or moderating variables. Future research may explore digital literacy, student motivation, technological readiness, instructional quality, or learning engagement to provide a more comprehensive understanding of digital project-based learning effectiveness.

Finally, future studies may compare digital learning platforms, instructional strategies, and disciplinary contexts to identify which approaches most effectively support 4C integration in higher education. Such research would further advance digital pedagogy and 21st-century skill development in evolving educational environments.

References

- Ahmed, M. A. (2022). Business English instruction: Empowering learners with the 4Cs of the 21st century. *Frontiers in Education*, 7, 998987. <https://doi.org/10.3389/feduc.2022.998987>
- Almulla, M. A. (2020). The effectiveness of the project-based learning (PBL) approach as a way to engage students in learning. *SAGE Open*, 10(3), 1-15. <https://doi.org/10.1177/2158244020938702>
- Al-Samarraie, H., & Saeed, N. (2018). A systematic review of cloud computing tools for collaborative learning: Opportunities and challenges to the blended-learning environment. *Computers & Education*, 124, 77-91. <https://doi.org/10.1016/j.compedu.2018.05.016>
- Alshammmary, F. M., & Alhalafawy, W. S. (2023). Digital platforms and the improvement of learning outcomes: Evidence extracted from meta-analysis. *Sustainability*, 15(2), 1305. <https://doi.org/10.3390/su15021305>
- Azimi, B. A. (2025). Project-based learning in higher secondary education in Afghanistan: Implementation feasibility, practices, and contribution to 21st-century skills. *Journal Transnational Universal Studies*, 3(10), 341-356. <https://doi.org/10.58631/jtus.v3i9.195>
- Azmi, U., Safrijal, & Rahmi, M. (2024). Analysis of 4C skills (critical thinking, creativity and innovation, collaboration, and communication) of physics education students in facing the industrial revolution 4.0. *Jarmal Penelitian Pendidikan IPA*, 10(2), 695-703. <https://doi.org/10.29303/jppipa.v10i2.5584>
- Evenddy, S. S., Gailea, N., & Syafrizal, S. (2023). Exploring the benefits and challenges of project-based learning in higher education. *PPSDP International Journal of Education*, 2(2), 458-469. <https://doi.org/10.59175/pijed.v2i2.148>
- Haleem, A., Javaid, M., Qadri, M. A., & Suman, R. (2022). Understanding the role of digital technologies in education: A review. *Sustainable Operations and Computers*, 3, 275-285. <https://doi.org/10.1016/j.susoc.2022.05.004>
- Hoesny, M. U., Setyosari, P., Praherdhiono, H., & Suryati, N. (2024). Integrating digital technology into project-based learning: Its impact on speaking performance. *MEXTESOL Journal*, 48(3), 1-11. <https://doi.org/10.61871/mj.v48n3-4>
- Julaeha, S. (2025). The effectiveness of project-based learning in enhancing creativity in phase B students at SDN Pekayon 11 Pagi. *Journal of Higher Education and Academic Advancement*, 2(9), 421-431. <https://doi.org/10.61796/ejheaa.v2i9.1383>
- Ka-J, W., Samae, R., & Tanweer, F. (2023). Fostering 21st-century skills through project-based learning: Learners' perspectives from a Thai-English translation course. *Al-NUR Journal of Graduate School, Fatoni University*, 18(35), 59-75. https://so01.tci-thaijo.org/index.php/NUR_YIU/article/view/269750
- Mahmadov, Y. (2025). Transforming education through digital learning: Embracing the new era of learning. *International Journal of Education and Digital Learning*, 3(4), 157-166. <https://doi.org/10.61871/mj.v48n3-4>

- Maros, M., Korenkova, M., Fila, M., Levicky, M., & Schoberova, M. (2023). Project-based learning and its effectiveness: Evidence from Slovakia. *Interactive Learning Environments*, 31(7), 4147–4155. <https://doi.org/10.1080/10494820.2021.1954036>
- Martinez, C. (2022). Developing 21st century teaching skills: A case study of teaching and learning through project-based curriculum. *Cogent Education*, 9(1), 1–16. <https://doi.org/10.1080/2331186X.2021.2024936>
- Saimon, M., Lavicza, Z., & Dana-Picard, T. (2023). Enhancing the 4Cs among college students of a communication skills course in Tanzania through a project-based learning model. *Education and Information Technologies*, 28, 6269–6285. <https://doi.org/10.1007/s10639-022-11406-9>
- Sánchez-García, R., & Reyes-de-Cózar, S. (2025). Enhancing project-based learning: A framework for optimizing structural design and implementation—A systematic review with a sustainable focus. *Sustainability*, 17(11), 4978. <https://doi.org/10.3390/su17114978>
- Tafakur, T., Retnawati, H., & Shukri, A. A. M. (2023). Effectiveness of project-based learning for enhancing students critical thinking skills: A meta-analysis. *JINoP (Jurnal Inovasi Pembelajaran)*, 9(2), 191–209. <https://doi.org/10.22219/jinop.v9i2.22142>
- Thornhill-Miller, B., Camarda, A., Mercier, M., Burkhardt, J.-M., Morisseau, T., Bourgeois-Bougrine, S., Vinchon, F., El Hayek, S., Augereau-Landais, M., Mourey, F., Feybesse, C., Sundquist, D., & Lubart, T. (2023). Creativity, critical thinking, communication, and collaboration: Assessment, certification, and promotion of 21st century skills for the future of work and education. *Journal of Intelligence*, 11(3), 54. <https://doi.org/10.3390/jintelligence11030054>
- Tuazon, A., & Sumadsad, C. (2022). Observance of 21st century skills teaching practices and its impact on academic performance. *Kasetsart Journal of Social Sciences*, 43(4), 903–910. <https://doi.org/10.34044/j.kjss.2022.43.4.13>
- Vaithianathan, V., Subbulakshmi, N., Boopathi, S., & Mohanraj, M. (2024). Integrating project-based and skills-based learning for enhanced student engagement and success: Transforming higher education. In T. Minh Tung (Ed.), *Adaptive Learning Technologies for Higher Education* (pp. 345–372). IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-3693-3641-0.ch015>
- Xudayberdiyevna, N. M. (2024). Integrating educational technology for enhancing project-based learning motivation in students. *American Journal of Social Sciences and Humanity Research*, 4(11), 156–160. <https://doi.org/10.37547/ajsshr/Volume04Issue11-20>
- Yuanty, Y., Nurhidayah, N., Hanim, S. A., & Akbar, K. F. (2025). Analysis of the effectiveness of project-based learning in improving 21st century skills of students in Indonesian higher education institutions. *Jurnal BELAINDIKA: Pembelajaran dan Inovasi Pendidikan*, 7(1), 34–47. <https://doi.org/10.52005/belaindika.v7i1.382>
- Zou, Y., Kuek, F., Feng, W., & Cheng, X. (2025). Digital learning in the 21st century: Trends, challenges, and innovations in technology integration. *Frontiers in Education*, 10, 1562391. <https://doi.org/10.3389/feduc.2025.1562391>

Perceptions and practices of classroom assessment among university lecturers

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ABSTRACT

Teachers' perceptions of classroom assessment influence instructional decisions, feedback practices, and students' learning experiences in higher education. This mixed-methods study explored university lecturers' perceptions and practices of classroom assessment. Twenty-two lecturers completed a 33-item questionnaire, and five participated in semi-structured interviews. The findings showed that lecturers viewed assessment mainly as a tool for improving student learning and identifying students' strengths and weaknesses. They valued formative assessment, timely feedback, and continuous monitoring of learning progress. However, large class sizes, heavy workloads, and limited time constrained the use of formative assessment practices. Most respondents (82%) reported designing assessments to measure higher-order thinking skills, including analysis, synthesis, and creation. Common assessment forms included written assignments and quizzes (86%), while alternative assessments such as reflective journals (54%) and project-based assessments (50%) were also used. The findings highlight the need for sustained professional development and institutional support to promote authentic, learner-centered assessment practices in universities.

Keywords: Assessment, Perceptions of assessment, Assessment practices, Formative assessment

Introduction & Literature Review

Assessment is an essential element of teaching and learning – an integral part of teachers' work (Hildén & Fröjdendahl, 2018). Assessments significantly impact students' learning in various ways (Jimaa, 2011). How assessments are planned and implemented affects students' learning (Segers et al., 2008). The assessment methods employed by teachers impact students' learning approaches (Partanen et al., 2023, p. 475). A recent study also showed

that teachers' perception of assessment influences their assessment practices and the teaching and learning process (Fletcher et al., 2011).

Teachers' approach of instruction are linked to their concepts of teaching which in turn will affect how they evaluate students' learning (Watkins, Dahlin, & Ekholm, 2005). According to Gardner and Galanouli (2015), teachers' behavior is influenced by their perceptions of the dimensions of the assessment. Varied teachers'

perspectives lead to different evaluation techniques, according to Schellekens et al. (2023). Hence, teachers who consider the teaching and learning process as the replication or transmission of knowledge assess their students' capacity to replicate the learned knowledge. Teachers who emphasize critical thinking and meaningful learning tend to view assessment as an integral part of the learning process that promotes reflection, knowledge construction, and student engagement (Parmigiani et al., 2024).

According to DeLuca, Coombs, and LaPointe-McEwan (2018), teachers' assessment practices significantly influence students' learning experiences and classroom learning cultures. Assessment practices shape not only how students demonstrate learning but also how they engage with learning tasks, feedback, and self-regulation processes. Recent studies further indicate that teachers' beliefs, assessment literacy, and instructional orientations strongly affect the implementation of formative and learner-centered assessment practices (Schellekens et al., 2023; Parmigiani et al., 2024). Consequently, it is essential to examine and improve teachers' assessment literacy, perceptions, and classroom assessment practices to foster meaningful learning experiences and support higher-order thinking skills in higher education.

Assessment in the classroom is seen as a crucial component of successful teaching and learning. It is essential because it provides instruction to students on how to improve their performance and the learning process (Popham, 2008). Classroom assessment provide feedback on students' progress over time so that any learning difficulties can be detected and addressed. According to research (Stiggins, Arter, Chappuis, & Chappuis, 2006), classroom assessment is a crucial component of the teaching and learning process, and when it is

included into regular classroom activities, significant learning advantages can be obtained.

The aim of this study was to explore how university lecturers perceived and used classroom assessment. Given that perceptions influence behavior, researching how instructors view assessment is crucial.

Methodology

The study aimed to explore university lecturers' perceptions and practices of assessment. The study is intended to achieve the following objectives:

1. To establish lecturers' perceptions of classroom assessment.
2. To establish lecturers' classroom assessment practices.

This study used questionnaires and semi-structured interviews to investigate the research questions. The questionnaires were conducted aiming to establish the lecturers' perceptions about the assessment. Interviews were undertaken to obtain more understanding of the assessment practices. The researcher adapted the teachers' perception questions developed by Maclellan (2001).

The participants in this study are lecturers in a private university in Thailand. The respondents in the study were informed about the purpose of the study, their confidentiality, and that the use of data was voluntary. In total, 22 lecturers completed the questionnaire survey. Questionnaires were sent out to the researchers through office forms (online). Five lecturers participated in a semi-structured interview conducted informally to allow them to speak freely about classroom assessment topics and issues.

Quantitative data and qualitative data were analyzed separately. The qualitative data was used to validate the survey and to obtain more information about assessment practices. As this study was a cross-sectional study,

descriptive analysis was the main method. The Statistical Package for the Social Sciences (SPSS) was used to analyze demographic information and respondents' responses. Data from semi-structured interviews were analyzed through a deductive approach.

Findings

The research was conducted in one private university in Thailand. A mixed-methods approach was employed, utilizing both questionnaires and semi-structured interviews to obtain quantitative and qualitative data. The study used a 33-item questionnaire on perceptions and assessment practices. The questionnaire included demographic information, purposes, content, timing, and modes of assessment; marking criteria; and

value of feedback. Twenty-two lecturers from five departments participated in the study. Five lecturers participated in the semi-structured interviews to investigate the perceptions and practices of assessment.

As indicated in Table 1, 22 university lecturers – 11 male and 11 female – participated in the study. Six (27.3%) were from the Faculty of Arts and Humanities, and the remaining 4 (18.2%) were from the Faculty of Business, Education, Religious Studies, and Science, respectively. Regarding educational qualifications, the respondents were Master's and Ph.D. degree holders. The years of teaching experience showed that most lecturers had more than 11 years of experience in higher education settings.

Table 1 Respondents' Demographics

		Frequency	Percent
Gender	Male	11	50.0
	Female	11	50.0
Department	Arts and Humanities	6	27.3
	Business	4	18.2
	Education	4	18.2
	Religious Studies	4	18.2
	Science	4	18.2
Educational Qualification	Master	11	50.0
	PhD	11	50.0
Years of Teaching Experience	3-5 years	3	13.6
	6-10 years	5	22.7
	11 years and above	14	63.6

Lecturers' Perceptions on Purposes of Assessment

In the questionnaire, lecturers were asked about their perceptions of the purposes of classroom assessment. The findings showed that lecturers viewed identifying students' strengths and weaknesses as the most important purpose

of assessment, compared to motivating student learning, ranking students' achievement, and reflecting on teaching performance. This suggests that lecturers perceived assessment as an important tool for understanding and supporting student learning.

Table 2 Perceptions on Purposes of Assessment

Lecturers' Perceptions on Purposes of Assessment	Mean
Assessment is used to identify students' strengths and weaknesses.	4.45
Assessment is used to motivate student learning.	4.09
Assessment is used to rank student achievements.	3.91
Assessment is used to reflect lecturer's teaching performance.	3.23

The interview data also sought respondents' perceptions about the purpose of the assessment. In the interview, two lecturers stated that assessments exist to check students' learning progress and evaluate their performance.

In general, the purpose of assessment is to assess the student's learning outcomes, their learning progress, and their performance. An assessment is for teachers to see how well students have achieved the objectives (Lecturer C)

To me, the purpose of assessment is to make an impartial assessment of learners' performance or progress or to define each individual learning continuum and compare learners academic performance. Sometimes,

assessment tools are heart-breaking since they serve to penalize the retarded learners who need more endeavors and attention from the instructor. (Lecturer E)

Lecturers' Perceptions on Contents of Assessment

The respondents were asked to share their perceptions of the content of assessment. Each question aimed to elicit information on how lecturers think about the design of assessment tasks. On a five-Likert scale, they were asked to rank the importance of each item in connection to the assessment content. Table 3 summarizes the respondents' perceptions about the content of assessment.

Table 3 Perceptions on Contents of Assessment

Contents of Assessment	Never	Rarely	Sometimes	Often	Always	Mean
Assessments are designed to assess students' ability ...						
... to present information			4 (18.2%)	13 (59.1%)	5 (22.7%)	4.05
... to analyze information			3 (13.6%)	15 (68.2%)	4 (18.2%)	4.05
... to synthesize information			4 (18.2%)	13 (59.1%)	5 (22.7%)	4.05
... to apply knowledge into real life situations		1 (4.5%)	4 (18.2%)	12 (54.5%)	5 (22.7%)	3.95
... to evaluate information			6 (27.3%)	11 (50.0%)	5 (22.7%)	3.95
... to develop new knowledge		1 (4.5%)	8 (36.4%)	11 (50%)	2 (9.1%)	3.64

Table 3 indicated that 59% of lecturers considered presenting information to be an often-important aspect of assessment content, while 22% rated this aspect as always important. Similarly, most lecturers (68.2%) perceived analyzing information as an often-important component of assessment content. These

findings suggest that lecturers emphasized higher-order thinking skills in their assessment practices. However, lecturers viewed the development of new knowledge as less important compared to other aspects of assessment content. Only 9.1% of respondents

perceived this aspect as always important in designing assessment tasks.

Data obtained from the interviews further revealed that lecturers considered course objectives to be an essential factor in designing assessment tasks. Most lecturers explained that assessment activities were developed to align with course objectives and intended learning outcomes. In other words, lecturers designed assessment tasks to evaluate whether students had achieved the expected learning goals and understood the course content effectively.

The assessment meets the course description. Each assessment task would fulfill the requirement of the course aims. (Lecturer A)

The main objectives for designing assessment tasks are to measure learners' understanding of the contents or to evaluate if they meet the designated outcomes/goals of the chapter/topic that has been instructed or presented. (Lecturer D)

Lecturers' Perceptions on Timing of Assessment

In the questionnaire, lecturers were asked about the timing of the assessment practices implemented in their courses. Table 4 showed that the majority of lecturers (50% and 36% , respectively) reported that they “often” and “always” assessed students at the end of chapters, modules, or courses. This indicates that assessment was commonly conducted after the completion of learning activities to evaluate students' achievement and understanding of the content. In contrast, most lecturers indicated that they rarely assessed students at the beginning of a chapter, module, or course to determine prior knowledge or readiness for learning. Based on these findings, it may be suggested that lecturers relied more heavily on summative assessment practices than on ongoing formative or diagnostic assessments throughout the teaching and learning process.

Table 4 Lecturer's Perceptions on Timing of Assessment

Timing of Assessment	Never	Rarely	Sometimes	Often	Always	Means
Assessment is conducted ...						
... at the start of the course/chapter.	1 (4.5%)	7 (31.8%)	7 (31.8%)	3 (13.6%)	4 (18.2%)	3.09
... during the course/chapter.	1 (4.5%)	2 (9.1%)	7 (31.8%)	8 (36.4%)	4 (18.2%)	3.55
... at the end of the course/chapter.			3 (13.6%)	11 (50%)	8 (36.4%)	4.23

Data obtained from interviews indicated that only a few lecturers assess students' prior knowledge before the class or at the start of a chapter or module.

Mostly, I give [an] assessment to my students at the end of the chapter or unit, rarely at the start of chapters. (Lecturer C)

Lecturer's Perceptions on Modes of Assessment

Lecturers were also asked about the mode of assessment practiced in their courses. The eight modes of assessment reflect the lecturer's assessment practices. Table 5 indicated respondents' responses about the modes of assessment used.

Table 5 Lecturer's Perceptions on Modes of Assessment

Modes of Assessment	Never	Rarely	Sometimes	Often	Always	Mean
Assessment is conducted through...						
... individual presentations.	1 (4.5%)	1 (4.5%)	5 (22.7%)	11 (50%)	4 (18.2%)	3.73
... written assignments.			3 (13.6%)	12 (54.5%)	7 (31.8%)	4.18
... multiple-choice questions.	2 (9.1%)	4 (18.2%)	8 (36.4%)	7 (31.8%)	1 (4.5%)	3.05
... short answer questions	1 (4.5%)	1 (4.5%)	5 (22.7%)	12 (54.5%)	3 (13.6%)	3.68
... reflective journal-writing	1 (4.5%)	4 (18.2%)	5 (22.7%)	9 (40.9%)	3 (13.6%)	3.41
... group-project presentations with formative feedback		3 (13.6%)	8 (36.4%)	9 (40.9%)	2 (9.1%)	3.45
... a final exam	1 (4.5%)	1 (4.5%)	1 (4.5%)	7 (31.8%)	12 (54.5%)	4.27
... presentation without feedback	9 (40.9%)	8 (36.4%)	4 (18.2%)	1 (4.5%)		1.86

The most common assessment mode employed by lecturers was the final examination. More than half of the lecturers (54.5%) reported that they always used final examinations as a mode of assessment, while 32% indicated that they often used them in their courses. This finding suggests that summative assessment remained a dominant practice among the respondents. In contrast, presentation without feedback was the least frequently used assessment mode, with 41% reporting that they never used it and another 36% stating that they rarely used it. Other commonly used assessment methods included written assignments (54.5%, mean = 4.18), followed by individual presentations and short-answer questions. These findings indicate that lecturers employed a combination of traditional and interactive assessment approaches to evaluate students' learning.

Although written assignments and short-answer questions were frequently practiced, the findings also revealed limited use of digital and technology-enhanced formative assessment tools, particularly in post-COVID-19 higher education contexts. Recent studies have highlighted the growing importance of learning management systems, online quizzes, automated feedback systems, and instant-

response applications in supporting formative assessment and improving student engagement. For example, Chang Lu and Maria Cutumisu (2022) found that online formative assessments and learning management system (LMS) engagement positively influenced students' academic performance and learning engagement in technology-enhanced courses. Similarly, recent research emphasized that digital assessment and feedback tools can support continuous assessment practices and reduce challenges related to large class sizes and heavy lecturer workload (Castillo-Manzano et al., 2024; Sembey, Hoda, & Grundy, 2024). These technology-supported assessment practices may help lecturers provide more efficient feedback and facilitate ongoing monitoring of student learning.

In the interview, data showed that final exams were the common form of summative assignments, while written assignments and short quizzes were also conducted to check students' learning progress.

I use [written] assignments, class activities (only when I have a small class), quizzes, presentations and final exams. I used these modes because it helps to measure students learning progress and their performance in class. (Lecturer B)

I generally use [written] assignments, reading reports, quizzes, presentations and exams. I used these modes because I learned using them when I was in school and found them very useful. (Lecturer C)

Lecturer C's statement, "because I learned using them when I was in school and found them very useful," provides important insight into the deeply rooted nature of traditional assessment practices among university lecturers. This finding suggests that lecturers' current assessment approaches may be strongly influenced by their own educational experiences and prior exposure to conventional assessment methods. Such practices may reflect broader educational and cultural traditions in which examinations, written assignments, and teacher-directed evaluation are viewed as legitimate and effective forms of assessment.

This finding may also be understood within the cultural context of Thai and many Asian educational settings, where teachers are often viewed as authoritative figures and classroom practices tend to emphasize respect for hierarchy, structured learning, and examination-oriented instruction. Hussain et al. (2021) and Treve (2021) noted that traditional educational cultures and established teacher-student hierarchies can influence lecturers' willingness to adopt more student-centered and formative assessment approaches. Therefore, the gap between lecturers' positive perceptions of assessment for learning and their continued reliance on summative assessment practices may not only result from structural barriers such as workload and class size, but also from long-standing educational beliefs, institutional culture, and prior learning experiences.

Lecturers' Perceptions of Assessment Criteria

In one of the sections in the questionnaire, lecturers were asked to indicate

their practices regarding assessment criteria. Table 6 summarizes the respondents' answers to the assessment criteria.

The majority of lecturers (59%) stated they often gave explicit marking criteria, while 18% revealed their assessment was always based on explicit criteria. Most of them (50% = always, and 36% = often) indicated that assessment criteria are clearly stated in the course outline, while almost all lecturers specified that assessment requirements and criteria are made available in the course outline at the beginning of the course. This proactive dissemination of assessment criteria aligns with recommendations for enhancing assessment literacy and student engagement, fostering a clearer understanding of expectations and pathways to success (Gaikwad et al., 2023, p. 15).

However, while the provision of explicit marking criteria is a positive indicator of assessment transparency, it remains important to examine whether these criteria are aligned with formative assessment principles. Explicit criteria may serve not only grading purposes but also guide students toward improvement through constructive feedback and clear learning expectations.

In this study, the findings suggest that assessment criteria were primarily used to communicate grading requirements, with less emphasis on how criteria could support ongoing learning and self-improvement. This distinction reflects the broader tension identified in the study between assessment of learning, which focuses on measuring achievement, and assessment for learning, which emphasizes feedback, reflection, and continuous learning development.

Interview data confirmed the quantitative results that most lecturers indicated the total marks for each assessment were explicitly indicated in the course outline and made available to students at the beginning of the course.

I use rubrics (holistic and analytical) for scoring criteria, and the percentage or weight for each category is clearly explained in my class. (Lecturer D)

Marking criteria for written assignments is based on organization, grammar, and language structure. (Lecturer E)

Table 6 Lecturers' Perceptions of Assessment Criteria

Assessment Criteria	Never	Rarely	Sometimes	Often	Always	Mean
Marking (scoring) is based on implicit criteria.	6 (27.3%)	7 (31.8%)	6 (27.3%)	3 (13.6%)		2.27
Marking (scoring) is based on explicit criteria.		2 (9.1%)	3 (13.6%)	13 (59.1%)	4 (18.2%)	3.86
Detailed marking criteria are provided for all assignments.		2 (9.1%)	4 (18.2%)	11 (50.0%)	5 (22.7%)	3.86
Assessment criteria are clearly stated in the course outline.			3 (13.6%)	8 (36.4%)	11 (50.0%)	4.36
Assessment requirements and marking criteria in the course outlines are made available to students at the beginning of the course.			1 (4.5%)	9 (40.9%)	12 (54.5%)	4.50

Lecturers' Perceptions on Value of Feedback

Lecturers were asked about the utility of feedback. This includes their perspectives on the value of feedback and how it relates to facilitating learning, discussions with lecturers and classmates, and perceptions of future assessments. A summary of respondents' answers were shown in Table 7.

The findings regarding the value of feedback showed that lecturers generally perceived feedback as an essential component of student learning. Sixteen out of 22 lecturers (72.7%) strongly agreed that feedback helps students improve their learning, resulting in the highest mean score ($M = 4.73$). Similarly, 9 lecturers (40.9%) reported that detailed written feedback is always necessary to encourage deep learning, while 11 lecturers (50.0%) indicated that it is often necessary ($M = 4.32$).

Most lecturers also believed that feedback supports students' future learning

and assessment preparation. Twelve lecturers (54.5%) stated that feedback often helps students prepare for future assessments, while 8 lecturers (36.4%) reported that it always does so ($M = 4.27$). In addition, 15 lecturers (68.2%) indicated that feedback is often provided within a reasonable time to facilitate learning ($M = 4.00$).

The findings further showed that lecturers perceived feedback as promoting classroom interaction and communication. Twelve lecturers (54.5%) believed that feedback often prompts discussion among students, while 11 lecturers (50.0%) reported that feedback often encourages discussion between students and lecturers. These results suggest that lecturers recognized feedback not only as a tool for evaluation but also as an important mechanism for supporting learning, reflection, and classroom engagement.

In the interview data, lecturers highlighted their beliefs that feedback could

improve students' learning and encourage deep learning.

[the purpose of] giving feedback is to indicate strengths and weaknesses, improve learning, and amend mistakes. (Lecturer A)

Feedback is necessary for genuine and continuous learning. Feedback will make students more reflective and grow in their learning. Without feedback, students do not know their strengths and weaknesses and areas to improve their learning. (Lecturer B)

Table 7 Lecturers' Perceptions on Value of Feedback

Value of Feedback	Never	Rarely	Sometimes	Often	Always	Mean
Detailed written feedback is necessary to encourage deep learning.			2 (9.1%)	11 (50.0%)	9 (40.9%)	4.32
Feedback on assessment is given within a reasonable time to facilitate learning.		1 (4.5%)	2 (9.1%)	15 (68.2%)	4 (18.2%)	4.00
Feedback allows students to prepare for future assessments.			2 (9.1%)	12 (54.5%)	8 (36.4%)	4.27
Feedback prompts discussion between students in the classroom.		2 (9.1%)	5 (22.7%)	12 (54.5%)	3 (13.6%)	3.73
Feedback prompts discussion between students and lecturers.			5 (22.7%)	11 (50.0%)	6 (27.3%)	4.05
Feedback helps students to improve their learning.				6 (27.3%)	16 (72.7%)	4.73

Even though lecturers accepted that feedback was a motivating tool for supporting learning, they nonetheless highlighted difficulties with providing feedback. Such challenges include class sizes, time constraints, and other academic loads.

Recent studies suggest that technology-enhanced assessment tools can help address many of the barriers associated with traditional formative assessment practices. For example, Gagik Sedrakyan et al. (2023) highlighted that digital formative assessment tools facilitate interactive learning, immediate feedback, and continuous monitoring of student progress, thereby reducing some of the workload demands on lecturers. Similarly, Shiweda Haipinge et al. (2022) emphasized that technology-supported diagnostic assessment tools in hybrid and online classrooms can enhance student engagement and support

timely feedback processes. These findings suggest that integrating learning management systems, online quizzes, automated feedback systems, and instant-response applications may help lecturers provide more efficient and learner-centered assessment practices while overcoming constraints related to time and large class sizes.

Discussion

Lecturers perceived identifying students' strengths and weaknesses as the primary purpose of assessment. The findings also indicated that traditional forms of assessment, such as tests and written assignments, are the predominant practice in this university. The data also revealed that assessment criteria are explicitly stated and made available to students to inform them of what they are expected.

The content of the assessment focused on analytical skills and information

presentation skills. It was shown that most lecturers used summative assessments. This is inconsistent with perceptions of the purpose of assessment. According to research, diagnostic assessments are mostly used to identify students' strengths and weaknesses (Sujinah et al., 2024, p. 4).

Limitations and Implications

Although the study was carefully prepared and carried out, there were some unavoidable limitations. The study was undertaken in only one private university, and thus the findings may be different across other private universities. The study examined only the teachers' perceptions of classroom assessment. It would be meaningful to explore university students' perceptions of classroom assessment and compare the results.

The study would help explore practices of assessment that enhance student learning in the private university context. The study's findings can provide insights into teachers' classroom assessment practices and function beyond grading students' performance. Moreover, it showed that assessment could foster student learning. Lecturers in the university should broaden their understanding of the purpose and mode of assessment.

Based on the results, the study also suggests implementing a variety of alternative assessment tools in the university to encourage

deep learning and foster critical and analytical thinking skills. Therefore, lecturers need to be encouraged to explore and attend professional development regarding assessment techniques and tools.

Conclusion

The findings showed that lecturers believed in assessment for learning; however, assessment of learning is largely practiced using summative assessment and traditional modes of assessment. Several studies have shown that Assessment for Learning supports students' learning. Lecturers at the university need to reflect on current assessment practices. Assessment and instructions go hand in hand. Helping students meet their learning goals is the primary goal of classroom instruction, and assessment is an integral part of the teaching-learning process (Pejčić, 2025). To foster a more effective assessment for learning culture, pedagogical strategies should integrate both formative and summative assessment approaches, balancing diagnostic feedback with evaluative judgments to optimize student learning outcomes (Schellekens et al., 2023, p. 6). This comprehensive approach necessitates ongoing professional development for educators, particularly in enhancing their competencies in formative assessment, rubric design, and the provision of quality feedback (Letina et al., 2025, p. 1118).

References

- Castillo-Manzano, J. I., Castro-Nuño, M., & López-Valpuesta, L. (2024). Evaluating the design of digital tools for the transition to an e-continuous assessment in higher education. *Journal of Computing in Higher Education*, 36, 875-893. <https://doi.org/10.1007/s12528-023-09381-2>
- DeLuca, C., Coombs, A., LaPointe-McEwan, D., & Chalas, A. (2018). Changing approaches to classroom assessment: An empirical study across teacher career stages. *Teaching and Teacher Education*, 71, 134-144. <https://doi.org/10.1016/j.tate.2017.12.010>
- Fisher, D., & Frey, N. (2013). *Better learning through structured teaching: A framework for the gradual release of responsibility* (2nd ed.). ASCD.

- Fletcher, R., Meyer, L., Anderson, H., Johnston, P., & Rees, M. (2012). Faculty and students' conceptions of assessment in higher education. *Higher Education*, 64(1), 119–133. <https://doi.org/10.1007/s10734-011-9484-1>
- Gaikwad, S., Wadegaonkar, A., Mitra, G., & Chakravarty, D. (2023). Assessment literacy, current assessment practices and future training: Reflections of teachers in higher education. *International Journal of Learning, Teaching and Educational Research*, 22(7), 1–29. <https://doi.org/10.26803/ijlter.22.7.1>
- Gardner, J., & Galanouli, D. (2015). Teachers' perceptions of assessment. In D. Wyse, L. Hayward, & J. Pandya (Eds.), *The SAGE handbook of curriculum, pedagogy and assessment* (pp. 374–390). SAGE Publications.
- Haipinge, S., Likando, G., & Kampata, D. (2022). Technology-enhanced formative assessment in hybrid higher education classrooms after COVID-19. *Education and Information Technologies*, 27, 10473–10492. <https://doi.org/10.1007/s10639-022-11021-3>
- Hussain, I., Suleman, Q., Ud Din, M. N., & Shafique, F. (2021). Effects of information and communication technology on students' academic achievement and motivation in higher education. *Education and Information Technologies*, 26, 593–617. <https://doi.org/10.1007/s10639-019-10084-1>
- Jimaa, S. (2011). The impact of assessment on students' learning. *Procedia - Social and Behavioral Sciences*, 28, 718–721. <https://doi.org/10.1016/j.sbspro.2011.11.133>
- Letina, A., Škugor, A., & Tomaš, S. (2025). Teachers' perceptions and practices of assessment in primary schools. *European Journal of Educational Research*, 14(4), 1105–1121. <https://doi.org/10.12973/eu-jer.14.4.1105>
- Lu, C., & Cutumisu, M. (2022). Online engagement and performance on formative assessments mediate the relationship between attendance and course performance. *International Journal of Educational Technology in Higher Education*, 19(2). <https://doi.org/10.1186/s41239-021-00307-5>
- Maclellan, E. (2001). Assessment for learning: The differing perceptions of tutors and students. *Assessment & Evaluation in Higher Education*, 26(4), 307–318. <https://doi.org/10.1080/02602930120063466>
- Miller, M. D., Linn, R. L., & Gronlund, N. E. (2013). *Measurement and assessment in teaching* (11th ed.). Pearson.
- Parmigiani, D., Nicchia, E., Murgia, E., & Ingersoll, M. (2024). Formative assessment in higher education: An exploratory study within programs for professionals in education. *Frontiers in Education*, 9, Article 1366215. <https://doi.org/10.3389/feduc.2024.1366215>
- Popham, W. J. (2008). *Classroom assessment: What teachers need to know* (5th ed.). Allyn & Bacon.
- Schellekens, L. H., Kremer, W. D. J., Van der Schaaf, M. F., Van der Vleuten, C. P. M., & Bok, H. G. J. (2023). Between theory and practice: Educators' perceptions on assessment quality criteria and its impact on student learning. *Frontiers in Education*, 8, Article 1147213. <https://doi.org/10.3389/feduc.2023.1147213>

- Sedrakyan, G., Malmberg, J., Verbert, K., Järvelä, S., & Kirschner, P. A. (2023). Linking learning behavior analytics and learning science concepts: Designing formative assessment support for learning regulation. *Computers and Education: Artificial Intelligence*, 4, Article 100115. <https://doi.org/10.1016/j.caeai.2023.100115>
- Segers, M., Gijbels, D., & Thurlings, M. (2008). The relationship between students' perceptions of portfolio assessment practice and their approaches to learning. *Educational Studies*, 34(1), 35-44. <https://doi.org/10.1080/03055690701785269>
- Sembey, R., Hoda, R., & Grundy, J. (2024). Emerging technologies in higher education assessment and feedback practices: A systematic literature review. *Journal of Systems and Software*, 209, Article 111988. <https://doi.org/10.1016/j.jss.2024.111988>
- Simms, M., & George, B. (2014). Approaching assessment from a learning perspective: Elevating assessment beyond technique. *Educational Assessment, Evaluation and Accountability*, 26(1), 95-104. <https://doi.org/10.1007/s11092-013-9176-8>
- Stiggins, R. J., Arter, J. A., Chappuis, J., & Chappuis, S. (2006). *Classroom assessment for student learning: Doing it right—Using it well*. Educational Testing Service.
- Sujinah, Isnah, E. S., Jalis, F. M. M., & Kharis, M. (2024). Utilizing cognitive diagnostic assessments to identify and address student needs in differentiated classrooms. *Journal of Higher Education Theory and Practice*, 24(1). <https://doi.org/10.33423/jhetp.v24i1.6763>
- Treve, M. (2021). Teacher authority and classroom culture in Southeast Asian higher education contexts. *Asian Education Studies*, 6(2), 45-57.
- Watkins, D., Dahlin, B., & Ekholm, M. (2005). Awareness of the backwash effect of assessment: A phenomenographic study of the views of Hong Kong and Swedish lecturers. *Instructional Science*, 33(4), 283-309. <https://doi.org/10.1007/s11251-005-3002-8>

A phenomenological management model for design basic education at universities in Zhuhai, Guangdong Province

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ABSTRACT

This study developed a phenomenological management model for Design Basic Education in universities in Zhuhai, Guangdong Province. Using a mixed-methods design, the researcher reviewed relevant literature, interviewed 15 administrators and teachers from three universities, surveyed 389 teachers and administrators from a population of 3,390, and validated the proposed model through a focus group with 11 experts. Quantitative data were analyzed using frequency, percentage, mean, and standard deviation, while qualitative data were analyzed through content analysis. Findings revealed challenges including insufficient teacher competencies, low student motivation, limited administrative effectiveness, inflexible curriculum objectives, inadequate evaluation systems, and insufficient teaching resources. Six essential management components were identified: teacher management, student management, administrator management, curriculum management, teaching evaluation management, and teaching resource management. The phenomenological management model emphasizes teacher professional development, student-centered learning, collaborative administration, meaningful curriculum design, diversified evaluation, and adequate resource provision. The model offers practical guidance for improving the quality and effectiveness of Design Basic Education management and may support educational policy and institutional development.

KEYWORDS: Management Model, Design Basic Education, Phenomenology, Universities in Zhuhai, Guangdong Province.

Introduction

Design Basic Education serves as the foundation for cultivating students' creativity, aesthetic perception, critical thinking, and problem-solving abilities, which are essential competencies for future designers in a rapidly changing global society. As higher education institutions increasingly face challenges arising from technological innovation, globalization, interdisciplinary collaboration, and changing industry expectations, the

management of Design Basic Education has become a critical issue for educational quality and sustainable institutional development. Effective educational management is not only concerned with curriculum delivery but also with the development of teachers, students, learning resources, assessment systems, and organizational leadership that collectively influence educational outcomes.

The development of art and design education has undergone significant

transformation over time. According to Li and Lu (2021), art and design education has evolved from traditional apprenticeship and mentoring models toward more comprehensive and diversified educational systems influenced by social change, technological advancement, and economic development. As design disciplines continue to expand their scope and complexity, universities are required to provide learning environments that support creativity, innovation, interdisciplinary thinking, and authentic learning experiences.

However, previous studies have identified several challenges affecting the quality of Design Basic Education. Zhu (2008) argued that the rapid expansion of higher education has resulted in various educational management problems, including inadequate teaching resources, imbalanced teacher-student ratios, insufficient professional development opportunities for teachers, declining teaching quality, and increasing difficulties in graduate employability. Similarly, Shilin et al. (2018) pointed out that Design Basic Education in universities often remains confined within disciplinary boundaries, emphasizing technical skills and knowledge transmission while neglecting interdisciplinary learning, real-world problem-solving, and broader social engagement. Furthermore, the integration of information technology into design education remains limited due to insufficient understanding and application by educators.

These challenges are particularly relevant to universities in Zhuhai, Guangdong Province. As one of the important innovation-driven cities within the Guangdong-Hong Kong-Macao Greater Bay Area, Zhuhai is experiencing rapid economic, technological, and cultural development. Universities in Zhuhai are expected to cultivate graduates who possess

not only professional design competencies but also creativity, innovation capabilities, cross-cultural understanding, and adaptability to emerging industries. Consequently, improving the management of Design Basic Education has become increasingly important for enhancing educational quality and preparing students to meet contemporary social and industrial demands.

From an educational management perspective, previous studies have emphasized that educational quality is influenced by multiple interconnected factors. Teacher development plays a central role in educational effectiveness because teachers' professional competence, subject knowledge, reflective practice, creativity, ethical values, and continuous professional development directly affect student learning outcomes (Hu, 2005; Schön, 1987; Dall'Alba & Sandberg, 2006). In addition, student-related factors, including learning motivation, learning attitudes, learning interests, and learning strategies, significantly influence academic achievement and engagement in educational activities (Biesta, 2010).

Administrative leadership is another critical component affecting educational quality. Educational administrators are responsible for creating supportive learning environments, coordinating educational resources, promoting collaboration among stakeholders, and facilitating curriculum implementation. Effective leadership contributes to organizational development and educational improvement through communication, decision-making, and resource management.

Curriculum management is equally important in Design Basic Education. Contemporary curriculum development emphasizes meaningful learning experiences, authentic learning contexts, and learner-centered approaches rather than

merely transmitting disciplinary knowledge. Curriculum objectives, content organization, course sequencing, and learning experiences should be designed to support students' intellectual and professional growth. Furthermore, effective teaching evaluation systems are necessary for assessing both learning processes and learning outcomes while providing meaningful feedback for continuous improvement. The availability and management of teaching resources, including physical facilities, learning materials, digital technologies, and online resource systems, also contribute significantly to the effectiveness of educational management.

To better understand these educational issues, this study adopts a phenomenological perspective. Phenomenology seeks to return “to the things themselves” and explore the essence of lived experiences through the perceptions, meanings, and interpretations of individuals (Husserl, 1913; Husserl, 1950; Moran, 2000; Zahavi, 2003). In educational research, phenomenology provides a valuable approach for understanding how participants experience educational phenomena and how meaning is constructed within educational contexts (Smith, 2009; Lai, 2017). Rather than focusing solely on observable educational structures, phenomenology enables researchers to explore the experiences of teachers, students, and administrators who directly participate in Design Basic Education.

Although previous studies have discussed specific issues related to design education, teacher development, curriculum innovation, and educational management, limited research has systematically investigated the current situation and management components of Design Basic Education from a phenomenological perspective within the context of universities in Zhuhai,

Guangdong Province. Furthermore, few studies have integrated the perspectives of teachers, administrators, and educational experts to develop a comprehensive management model that addresses contemporary educational challenges in design education.

Therefore, this study was conducted to investigate the current situation of Design Basic Education, identify the essential components influencing its management, and develop a phenomenological management model for Design Basic Education in universities in Zhuhai, Guangdong Province. The findings are expected to contribute both theoretically and practically by providing a comprehensive framework for improving educational management, enhancing teaching quality, promoting student development, and supporting the sustainable advancement of design education in higher education institutions.

Purpose

To propose an effective management model of design basic education using phenomenology in the universities of Zhuhai under Guangdong province.

Literature Review

1. Phenomenological Theory and Educational Management

Phenomenology is a philosophical and research approach that seeks to understand the essence of human experience by returning “to the things themselves” and exploring how individuals perceive, interpret, and construct meaning from their lived experiences (Husserl, 1913; Husserl, 1950). Rather than focusing solely on external behaviors or observable phenomena, phenomenology emphasizes subjective experience, reflection, and consciousness. In educational research, phenomenology provides an important perspective for understanding teaching, learning, curriculum experiences, and

educational management through the viewpoints of participants directly involved in educational processes (Moran, 2000; Smith, 2009; Lai, 2017). Therefore, phenomenology provides an appropriate theoretical foundation for exploring the management of Design Basic Education and developing a management model based on the experiences of teachers, students, and administrators.

2. Teacher Management in Design Basic Education

Teacher management is a critical factor influencing educational quality and student development. Effective teacher management emphasizes professional competence, subject knowledge, teaching skills, creativity, ethical responsibility, and continuous professional development. Hu (2005) suggested that teachers' self-development abilities are essential for enhancing educational effectiveness, while Schön (1987) highlighted the importance of reflective practice in improving professional performance. Furthermore, Dall-Alba and Sandberg (2006) emphasized that professional development should be viewed as a continuous process of expanding professional understanding and capability. Therefore, teacher management should support both professional growth and reflective learning to enhance teaching quality and educational outcomes.

3. Student Management in Design Basic Education

Student management focuses on creating conditions that support students' learning interests, motivation, attitudes, and learning experiences. According to Biesta (2010), education should promote not only academic achievement but also personal growth and meaningful participation in society. From a phenomenological perspective, students construct meaning through their experiences and interactions within educational environments (Smith, 2009). In Design Basic Education, students'

motivation, creativity, autonomy, and engagement play important roles in learning success. Consequently, educational management should provide supportive learning environments that encourage active participation, reflection, and meaningful learning experiences.

4. Management Administrator in Design Basic Education

Educational administrators play a significant role in creating conditions that support effective teaching and learning. Their responsibilities include leadership, communication, collaboration, decision-making, and resource coordination. Effective educational management requires administrators to understand the needs of teachers and students while fostering a positive organizational culture that promotes educational quality. From a phenomenological perspective, administrators should consider the experiences and perspectives of stakeholders in order to create responsive and supportive educational environments (Lai, 2017). Therefore, leadership and collaborative management are essential components of Design Basic Education management.

5. Curriculum Management in Design Basic Education

Curriculum management is fundamental to ensuring that educational objectives, learning experiences, and instructional activities are aligned with students' developmental needs. Shilin et al. (2018) argued that Design Basic Education should move beyond traditional knowledge transmission and promote interdisciplinary learning, creativity, and real-world applications. Similarly, Wang (2001) emphasized that design education should continuously adapt to social and technological changes. Effective curriculum management therefore involves establishing appropriate learning objectives, organizing meaningful learning

experiences, and developing curriculum content that supports creativity, innovation, and practical problem-solving.

6. Teaching Evaluation Management

Teaching evaluation is an essential mechanism for monitoring and improving educational quality. Effective evaluation should consider both learning processes and learning outcomes while incorporating multiple perspectives and assessment methods. Biesta (2010) emphasized that educational evaluation should extend beyond measurable outcomes and consider broader educational purposes and learning experiences. Consequently, teaching evaluation should include formative and summative approaches, provide constructive feedback, and support continuous improvement in teaching and learning practices.

7. Teaching Resource Management

Teaching resources are important factors that support the effectiveness of educational management and learning activities. These resources include physical facilities, instructional materials, technological infrastructure, digital learning platforms, and online educational resources. Zhu (2008) identified inadequate educational resources as a significant challenge affecting educational quality, while Li and Lu (2021) and Shilin et al. (2018) highlighted the growing importance of technology and diversified learning resources in contemporary design education. Therefore, effective resource management should ensure the availability, accessibility, and appropriate utilization of both physical and digital learning resources to support high-quality educational experiences.

Research Process

This study employed a mixed-methods research design based on phenomenological principles and was

conducted in three phases included population, sample, key informants, and experts.

Phase 1: Relevant literature was reviewed, and semi-structured in-depth interviews were conducted with 15 administrators and teachers from three universities in Zhuhai to explore the current situation and identify key components of Design Basic Education management. The qualitative data were analyzed using content analysis, and the findings were used to develop the questionnaire.

Phase 2: A questionnaire was developed based on the findings from Phase 1 and administered to 389 teachers and administrators selected from a population of 3,390 individuals. The questionnaire examined six dimensions of Design Basic Education management. Quantitative data were analyzed using frequency, percentage, mean, and standard deviation.

Phase 3: A preliminary management model was developed from the qualitative and quantitative findings and subsequently reviewed through a focus group discussion with 11 experts in design education and educational administration. The discussion data were analyzed using content analysis and used to refine and validate the final management model.

Three research instruments were employed in this study. First, semi-structured in-depth interviews were conducted with administrators and teachers to explore the current situation and identify key components of Design Basic Education management. Second, a questionnaire survey was developed based on the interview findings and literature review to examine the importance of the identified components among teachers and administrators. Third, a focus group discussion was conducted with experts in design education and educational administration to review, validate, and refine the proposed phenomenological management model.

Data Analysis

The qualitative data obtained from the in-depth interviews and focus group discussions were analyzed using content analysis to identify key themes, components, and recommendations for the development of the management model. Quantitative data collected through the questionnaire survey were analyzed using descriptive statistics, including frequency, percentage, mean, and standard deviation, to determine the importance of each component of Design Basic Education management.

Conclusion and Discussion

Conclusion

The literature review and analysis of 104 related studies indicated that six dimensions are essential for the effective management of Design Basic Education: teacher management, student management, administrator management, curriculum management, teaching evaluation management, and teaching resource management. These dimensions are interrelated and collectively contribute to educational quality, student development, and institutional effectiveness.

The findings from the in-depth interviews with 15 teachers and administrators revealed that effective Design Basic Education management requires: (1) professionally competent teachers with strong subject knowledge, ethical values, and continuous professional development; (2) students with positive learning attitudes, strong motivation, and effective learning strategies; (3) administrators who demonstrate effective leadership and management philosophy; (4) curricula with clear objectives, relevant content, and appropriate course structures; (5) diversified, objective, and timely teaching evaluation; and (6) sufficient teaching resources to support learning and teaching activities.

Based on the findings from the literature review, in-depth interviews, questionnaire survey, and focus group discussions, a phenomenological management model for Design Basic Education was developed.

Development of the Phenomenological Management Model

The phenomenological management model for Design Basic Education was developed through the integration of findings from the literature review, in-depth interviews, questionnaire survey, and focus group discussions. The model consists of six interrelated dimensions that collectively support the effective management of Design Basic Education in universities in Zhuhai, Guangdong Province.

The first dimension, Teacher Management, emphasizes professional competence, pedagogical skills, reflective practice, ethical values, creativity, and continuous professional development.

The second dimension, Student Management, focuses on students' learning interests, motivation, attitudes, learning strategies, and meaningful learning experiences.

The third dimension, Administrator Management, highlights instructional leadership, communication, collaboration, decision-making, and support for curriculum development and educational quality improvement.

The fourth dimension, Curriculum Management, addresses curriculum objectives, content design, course structure, and learning experiences that promote creativity, innovation, and practical application.

The fifth dimension, Teaching Evaluation Management, emphasizes diversified assessment methods, continuous feedback, process evaluation, and the comprehensive evaluation of learning outcomes.

Finally, the sixth. Teaching Resource Management focuses on the provision and effective utilization of physical and digital learning resources to support teaching and learning activities.

These six dimensions are interconnected and collectively contribute to improving educational quality, enhancing student learning experiences, strengthening institutional effectiveness, and supporting the sustainable development of Design Basic Education in universities.

The questionnaire survey further confirmed the importance of these six dimensions. In teacher management, respondents emphasized cross-cultural knowledge, reflective practice, effective teaching strategies, and professional ethics. In student management, learning attitudes, intrinsic motivation, and meaningful learning experiences were identified as the most important factors. For administrator management, instructional leadership, collaboration, communication, and curriculum leadership were highly valued. Curriculum management highlighted the importance of meaningful learning experiences, practical activities, and curriculum relevance. Teaching evaluation emphasized comprehensive and diversified assessment approaches, while teaching resource management focused on the provision of high-quality physical and digital learning resources.

Based on the integration of the qualitative and quantitative findings, six interrelated dimensions were synthesized to develop a phenomenological management model for Design Basic Education in universities in Zhuhai, Guangdong Province, comprising Teacher Management, Student Management, Administrator Management, Curriculum Management, Teaching Evaluation Management, and Teaching Resource Management. These dimensions collectively provide a comprehensive framework for improving educational

quality and management effectiveness. The resulting model is presented in Figure 1

A key finding of this study is that the effective management of Design Basic Education cannot be achieved through a single factor but requires the integration of six interrelated dimensions: teacher management, student management, administrator management, curriculum management, teaching evaluation management, and teaching resource management. The findings indicate that teachers play a central role in promoting meaningful learning experiences through professional competence, reflective practice, and ethical responsibility. At the same time, student motivation, learning attitudes, and active engagement are essential for successful learning outcomes.

The study revealed that effective educational management depends on supportive leadership, relevant and experience-based curricula, diversified assessment practices, and adequate learning resources. These dimensions do not function independently; rather, they interact and complement one another to enhance educational quality and institutional effectiveness. Based on the integration of qualitative and quantitative findings, these six dimensions were synthesized into a phenomenological management model for Design Basic Education in universities in Zhuhai, Guangdong Province, as illustrated in Figure 1

Furthermore, the proposed phenomenological management model provides practical guidance for improving the quality of Design Basic Education in universities. The six dimensions can be applied as an integrated management framework to support educational planning, implementation, monitoring, and continuous improvement. Teacher management promotes professional growth and reflective practice, while student management enhances learning motivation and meaningful learning experiences.

Administrator management strengthens leadership and collaboration, curriculum management supports relevant and experience-based learning, teaching evaluation facilitates continuous feedback and quality assurance, and teaching resource management ensures the availability of appropriate learning environments and educational resources. Together, these dimensions enable universities to develop a more student-

centered, experience-oriented, and sustainable approach to Design Basic Education. Together, these dimensions support a student-centered, experience-oriented approach to Design Basic Education, enhancing students' creativity, critical thinking, and professional competencies while improving educational quality.

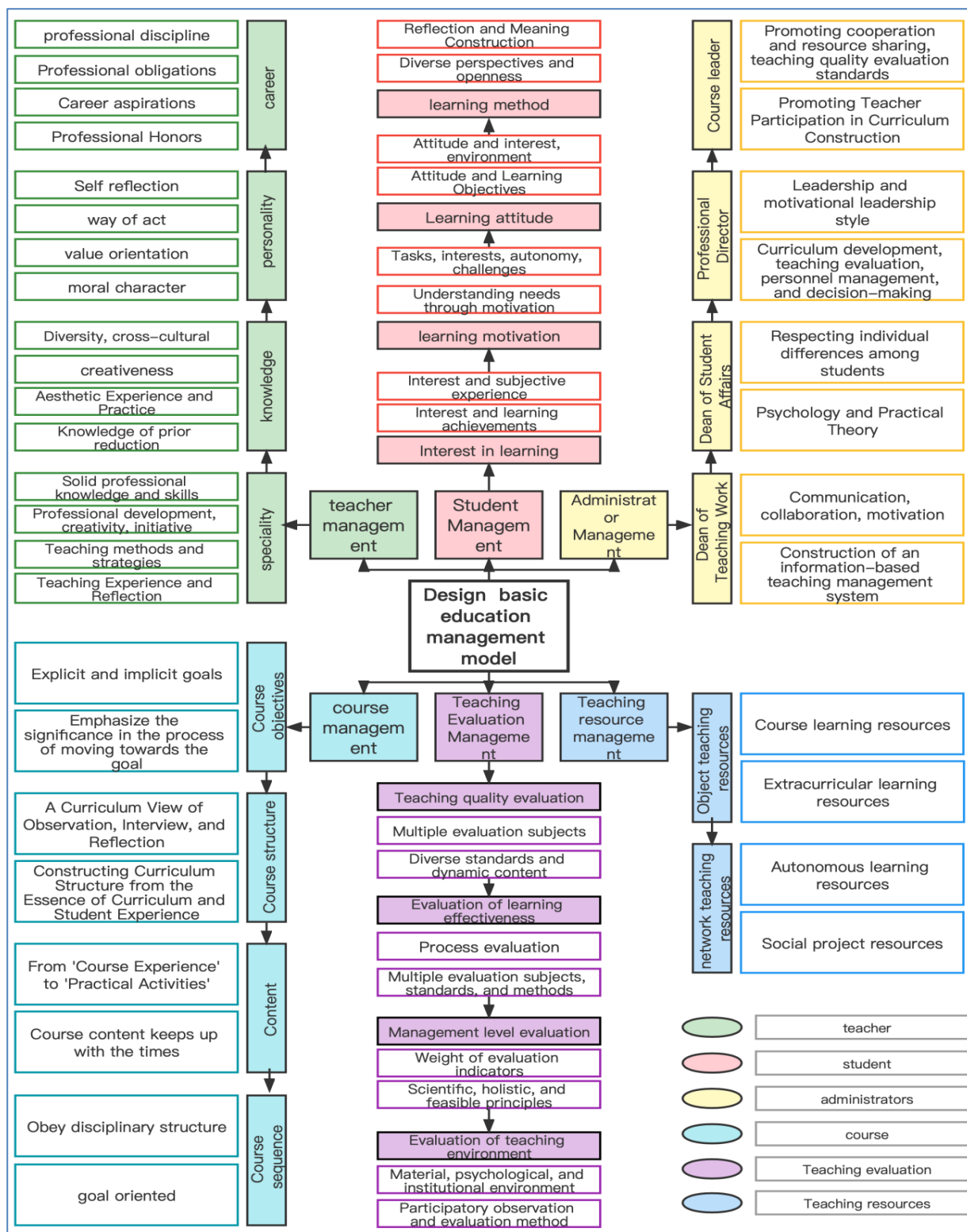


Figure 1 Design Basic Education Management Model for Universities in Zhuhai City

Discussion

The findings revealed that the management of Design Basic Education in universities in Zhuhai, Guangdong

Province is a multidimensional process involving six interrelated dimensions: teacher management, student management, administrator management, curri-

culum management, teaching evaluation management, and teaching resource management. This finding suggests that educational quality cannot be achieved through the improvement of a single component but requires the integration of all dimensions within a comprehensive management system.

The findings regarding teacher management highlight the importance of professional competence, reflective practice, ethical responsibility, and continuous professional development. This is consistent with Hu (2005), who emphasized the importance of teachers' self-development, and Schön (1987), who proposed that professional growth occurs through reflective practice. The findings also support the perspective of Dall'Alba and Sandberg (2006), who argued that professional development should be viewed as a continuous process of expanding professional understanding and capability. From a phenomenological perspective, teachers' experiences, reflections, and interpretations directly influence their teaching practices and students' learning experiences.

Regarding student management, the study found that learning motivation, learning attitudes, meaningful learning experiences, and active participation are essential factors contributing to effective learning. This finding is consistent with Biesta (2010), who emphasized that education should focus not only on measurable outcomes but also on students' personal development and meaningful participation in learning. The findings also support Smith (2009), who suggested that learning is closely related to the ways individuals construct meaning from their experiences. Therefore, Design Basic Education should promote learning environments

that encourage creativity, reflection, and active engagement.

The findings also revealed that administrator management plays a significant role in supporting educational quality through leadership, communication, collaboration, and curriculum development. Effective administrators create educational environments that facilitate cooperation among teachers and support continuous improvement. This finding is consistent with Lai (2017), who emphasized that educational management should consider the experiences and perspectives of stakeholders when developing educational systems and practices.

Furthermore, the results highlighted the importance of curriculum management, teaching evaluation management, and teaching resource management. The emphasis on meaningful learning experiences, practical activities, and curriculum relevance supports the argument of Shilin et al. (2018), who advocated for interdisciplinary and experience-based approaches in Design Basic Education. Likewise, diversified assessment and continuous feedback were identified as essential mechanisms for improving teaching and learning quality, while adequate physical and digital resources were recognized as necessary conditions for effective educational management. These findings are also consistent with Li and Lu (2021), who noted that contemporary design education requires more comprehensive and diversified educational systems to respond to social and technological changes.

Most importantly, the study demonstrates the value of phenomenology as a framework for educational management. Consistent with the ideas of Husserl (1913, 1950),

Moran (2000), and Zahavi (2003), the findings indicate that effective educational management should not focus solely on administrative structures or procedures but should also consider the lived experiences, perceptions, and meanings constructed by teachers, students, and administrators. The six dimensions identified in this study therefore provide a phenomenological management framework that integrates human experience with educational practice, contributing to the improvement of educational quality and the sustainable development of Design Basic Education in universities.

Recommendation

Recommendations for Practice

Based on the findings of this study, the following recommendations are proposed for the management of Design Basic Education in universities.

1) Strengthen teacher development through reflective practice and professional learning. Universities should provide continuous professional development opportunities that enhance teachers' subject knowledge, pedagogical competence, creativity, and reflective practice to support meaningful learning experiences for students.

2) Promote student-centered and experience-based learning. Educational activities should encourage students' learning motivation, active participation, creativity, and critical thinking through authentic learning experiences and practical design projects.

3) Enhance educational leadership and collaborative management. Administrators should foster effective communication, collaboration, and shared decision-making among stakeholders while supporting

curriculum innovation and quality improvement initiatives.

4) Develop curricula that integrate theory, practice, and real-world experiences. Curriculum design should emphasize meaningful learning experiences, interdisciplinary perspectives, and the practical application of knowledge to meet contemporary educational and industry needs.

5) Implement diversified and continuous assessment practices. Teaching evaluation should incorporate multiple assessment methods, continuous feedback, and process-oriented evaluation to support student learning and educational quality improvement.

6) Improve the accessibility and utilization of learning resources. Universities should provide adequate physical and digital learning resources and encourage the effective use of technology to support teaching, learning, and innovation in Design Basic Education.

The proposed phenomenological management model may serve as a practical framework for universities seeking to improve educational quality, enhance student learning experiences, and support the sustainable development of Design Basic Education.

Recommendations for Future Research

Future studies may examine the implementation and effectiveness of the proposed phenomenological management model in different institutional contexts and explore its impact on student learning outcomes, teaching quality, and organizational development.

References

- Biesta, G. (2010). Good education in an age of measurement: On the need to reconnect with the question of purpose in education. *Educational Assessment, Evaluation and Accountability*, 21(1), 33-46.
- Dall'Alba, G., & Sandberg, J. (2006). Unveiling professional development: A critical review of stage models. *Review of Educational Research*, 76(3), 383-412.
- Editorial Committee of the Dictionary of Foreign Philosophy. (2008). *Dictionary of foreign philosophy*. Shanghai Dictionary Publishing House.
- Hu, Q. (2005). *Training and improvement of teacher self-development ability*. Hualing Publishing House.
- Husserl, E. (1913). *Ideas: General introduction to pure phenomenology*. Routledge.
- Husserl, E. (1950). *Cartesian meditations: An introduction to phenomenology*. Martinus Nijhoff Publishers.
- Husserl, E. (1952). *Ideas: General introduction to pure phenomenology* (W. R. Boyce Gibson, Trans.). Collier Books.
- Husserl, E. (1986). *The concept of phenomenology* (L. Ni, Trans.). Shanghai Translation Publishing House.
- Husserl, E. (2001). *The crisis of European sciences and transcendental phenomenology: An introduction to phenomenological philosophy* (D. Carr, Trans.). Northwestern University Press.
- Lai, M. F. (2017). Phenomenology as a research methodology in educational research: The potential and limitations. *Educational Review*, 69(6), 686-702.
- Li, F., & Lu, L. (2021). An analysis of the development history and training mode of art design education. *Popular Literature and Art*, (20).
- Moran, D. (2000). *Introduction to phenomenology*. Routledge.
- Schön, D. A. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*. Jossey-Bass.
- Shilin, L., Taifeng, L., Moufeng, M., & Le, W. (2018). Using cross-disciplinary thinking to promote innovation in basic design education in universities. *Modern University Education*, (5).
- Smith, R. (2009). Phenomenology and education: Self-consciousness and its development. *Educational Philosophy and Theory*, 41(1), 42-51.
- Wang, S. (2001). *World modern design history*. New Century Press.
- Zahavi, D. (2003). Husserl's phenomenology. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy*. Stanford University.

The 21st century leadership components for administrators of universities in Taian City under Shandong Province

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ABSTRACT

This study aimed to propose guidelines for developing the 21st-century leadership components for university administrators in Taian City, Shandong Province, China. A qualitative approach was used, including document analysis and a focus group discussion with nine purposively selected administrators from Shandong Agricultural University and Taishan University. Data were analyzed through content analysis and thematic synthesis. The findings identified three major leadership components: leadership skills, leadership styles, and leadership behaviors. Leadership skills included social skills, teamwork, innovation, critical thinking, lifelong learning, strategic thinking, cross-cultural adaptability, self-management, decision-making, and digital competency. Leadership styles included autocratic, democratic, laissez-faire, situational, paternalistic, transactional, and transformational leadership. Leadership behaviors included goal setting and tracking, employee motivation, teamwork, decision-making, and problem-solving. In total, 49 development guidelines were proposed to strengthen leadership competencies through collaboration among government agencies, universities, society, and administrators. The guidelines provide a practical framework for enhancing leadership capacity and supporting the modernization and sustainable development of higher education institutions in China.

KEYWORDS: 21st-century leadership, University administrators, Leadership development, Higher education, Shandong Province

Introduction

The rapid transformation of higher education in the 21st century has created unprecedented challenges and opportunities for university administrators. Globalization, digital transformation, international competition, technological innovation, and the increasing demand for high-quality education have significantly

changed the role of university leaders. Higher education institutions are no longer responsible only for teaching and research but are also expected to drive innovation, strengthen international collaboration, respond to societal needs, and contribute to sustainable national development. As a result, university administrators must possess leadership competencies that

enable them to navigate complex and rapidly changing environments.

The concept of 21st-century leadership emphasizes the ability of leaders to adapt to change, promote innovation, manage diversity, encourage collaboration, utilize digital technologies, and develop organizational sustainability. Contemporary leadership studies have highlighted the importance of communication skills, teamwork, strategic thinking, innovation, critical thinking, and digital competence as essential leadership capabilities in modern organizations (Katz, 1955; Adair, 2005; Ehlers, 2020). Furthermore, leadership effectiveness is influenced not only by leadership skills but also by leadership styles and leadership behaviors that shape organizational culture and performance (Burns, 1985; Witt & Stahl, 2016; Noorderhaven et al., 2016).

In China, higher education has undergone substantial reform and expansion during the past decades. The Chinese Ministry of Education has continuously emphasized the importance of strengthening leadership capacity among university administrators. The Interim Measures for the Management of University Leaders issued by the Ministry of Education in 2017 stated that university leaders should possess strategic vision, educational expertise, management capability, moral integrity, and the ability to guide institutional development in a rapidly changing society. These requirements reflect the growing expectation that university administrators must demonstrate competencies beyond traditional administrative management.

As an important educational center in Shandong Province, Taian City is home to several higher education institutions that play a significant role in regional

development and talent cultivation. However, the changing higher education landscape requires university administrators to respond effectively to challenges such as digital transformation, internationalization, organizational innovation, stakeholder expectations, and increasing competition among universities. Previous observations indicate that although many university administrators possess strong academic qualifications and professional expertise, there remains a need to strengthen leadership competencies that support strategic management, innovation, organizational development, and effective decision-making.

Previous studies have examined various aspects of leadership in educational organizations, including transformational leadership (Burns, 1985), team-building and collaborative leadership (Noorderhaven et al., 2016), innovation-oriented leadership (Çekmecelioğlu & Özbağ, 2016), digital-age leadership (Su & Liu, 2022), future skills for educational leaders (Ehlers, 2020), and inclusive leadership (van Knippenberg & van Ginkel, 2022). While these studies provide valuable insights into leadership theories and practices, most focus on specific leadership styles, leadership characteristics, or leadership behaviors. Limited research has attempted to develop a comprehensive framework that integrates leadership skills, leadership styles, and leadership behaviors specifically for university administrators within the context of Chinese higher education.

Furthermore, there is a lack of empirical studies focusing on university administrators in Taian City under Shandong Province. The unique social, educational, and policy contexts of the region may require leadership

competencies that differ from those identified in other settings. Therefore, a systematic investigation is needed to identify the essential components of 21st-century leadership and develop practical guidelines that can support leadership development among university administrators in the region.

The findings of this study are expected to contribute both theoretically and practically. Theoretically, the study expands the understanding of 21st-century leadership in higher education by integrating leadership skills, leadership styles, and leadership behaviors into a comprehensive framework. Practically, the proposed leadership development guidelines can assist government agencies, universities, and university administrators in designing leadership development programs, strengthening institutional effectiveness, enhancing organizational competitiveness, and supporting the modernization of higher education in Taian City and other regions of China.

Purposes

To propose guidelines for the 21st century leadership components development for administrators of university in Taian City under Shandong Province.

Literature review

1. Concept of 21st- Century Leadership

Leadership in the 21st century has evolved from traditional command- and-control approaches to more adaptive, collaborative, and innovation- oriented practices. Contemporary leaders are expected to respond effectively to rapid technological changes, globalization, digital transformation, workforce diversity,

and increasing organizational complexity. Therefore, leadership is no longer limited to directing organizational activities but involves inspiring people, promoting innovation, facilitating collaboration, and creating sustainable organizational development.

According to Ehlers (2020), future-oriented leaders must possess a broad range of competencies, including lifelong learning, adaptability, digital literacy, critical thinking, and innovation capabilities. Similarly, Schüller et al. (2019) emphasized that digital competence and data literacy have become essential skills for leaders in modern organizations. In higher education institutions, university administrators are required to lead organizational transformation while simultaneously maintaining academic excellence and institutional competitiveness.

2. Leadership Skills in the 21st Century

Leadership skills refer to the capabilities that enable leaders to effectively perform managerial functions and achieve organizational goals. Katz (1955) proposed that effective administrators require a combination of technical, human, and conceptual skills. Although developed several decades ago, Katz's framework remains highly relevant in explaining the competencies needed by contemporary leaders.

Adair (2005) further argued that effective leadership requires the ability to balance task achievement, team maintenance, and individual development. In educational organizations, leadership skills involve communication, teamwork, decision- making, strategic thinking, and problem-solving abilities.

Innovation has become another critical leadership competency. Çekmecelioğlu and Özbağ (2016) found that leadership significantly influences creativity and innovation within organizations. Likewise, Driscoll (2022) suggested that innovative leaders are more capable of responding to environmental uncertainty and organizational change.

Strategic thinking is also considered a crucial competency for educational leaders. Fulmer et al. (2000) emphasized that leaders should possess the ability to formulate long-term visions, anticipate future challenges, and guide organizations toward sustainable success. Petriglieri and Peshkam (2022) similarly highlighted the importance of reflective learning and strategic adaptation in leadership development.

In addition, contemporary leaders must demonstrate strong interpersonal and teamwork capabilities. Knippenberg and van Ginkel (2022) argued that inclusive leadership enhances collaboration and organizational effectiveness in diverse work environments. Gerpott et al. (2019) also found that effective communication and interaction among team members contribute significantly to leadership emergence and team performance.

3. Leadership Styles

Leadership style refers to the pattern of behaviors leaders use when interacting with followers and influencing organizational performance. Different leadership styles may be appropriate under different organizational circumstances.

Transformational leadership is one of the most influential leadership theories in modern organizations. Burns (1985) described transformational leaders as individuals who inspire followers through vision, motivation, and personal

development. Such leaders encourage innovation, organizational commitment, and continuous improvement.

Situational leadership emphasizes the leader's ability to adjust leadership approaches according to the readiness and competence of followers. Garavan (2016) suggested that leadership effectiveness depends largely on the alignment between leadership behaviors and situational requirements.

Democratic leadership encourages participation, shared decision-making, and open communication among organizational members. Noorderhaven et al. (2016) reported that collaborative leadership enhances team effectiveness and project success.

Paternalistic leadership, which is widely observed in many Asian contexts, emphasizes care, guidance, and moral responsibility toward followers. Silin (1976) and Redding (1990) argued that paternalistic leadership strengthens trust, loyalty, and organizational harmony.

Transactional leadership focuses on performance management through rewards, accountability, and clearly defined expectations. In contrast, laissez-faire leadership provides followers with greater autonomy and independence while maintaining supportive supervision.

4. Leadership Behaviors

Leadership behavior refers to the observable actions and practices demonstrated by leaders when managing organizational activities and interacting with employees. Effective leadership behavior directly influences employee motivation, organizational commitment, and institutional performance.

Adair (2005) emphasized that leaders must demonstrate behaviors that support goal achievement, team cohesion,

and individual growth. Similarly, Singfield (2020) highlighted the importance of goal setting and performance monitoring in achieving organizational transformation.

Motivating employees is another critical leadership behavior. Obama (2014) suggested that leaders should inspire individuals to contribute their best efforts by creating meaningful purposes and opportunities for development. Effective leaders also provide recognition, support, and encouragement to improve employee engagement.

Decision-making and problem-solving behaviors are essential in higher education administration. Witt and Stahl (2016) argued that responsible leaders should consider multiple stakeholder perspectives when making decisions. Huang Meng (2015) and Megheirkouni (2020) further emphasized that effective problem-solving behaviors contribute to organizational resilience and sustainable development.

Team-building behavior also plays a significant role in leadership effectiveness. According to Xiong et al. (2011) and Shen (2022), leaders who foster collaboration, trust, and communication are more successful in developing high-performing organizational teams.

Research Process

Phase 1: Document Analysis. Relevant literature, theories, policy documents, books, academic journals, and previous studies related to leadership and higher education administration were reviewed and analyzed using content analysis. The purpose of this phase was to identify the essential components of 21st-century leadership for university administrators and to develop a preliminary framework of leadership components.

Phase 2: Focus Group Discussion. The preliminary framework derived from the document analysis was further examined through a focus group discussion. The discussion aimed to validate the identified leadership components and generate practical guidelines for the development of 21st-century leadership among university administrators in Taian City under Shandong Province. The findings from both phases were synthesized to formulate the final leadership development framework.

Population and Key Informants

The population of the study consisted of approximately 730 administrators from Shandong Agricultural University and Taishan University in Taian City, Shandong Province, China. The key informants were selected using purposive sampling. A total of nine participants were invited to participate in the focus group discussion, including administrators and academic personnel with at least ten years of experience in higher education administration. The participants consisted of five representatives from Shandong Agricultural University and four representatives from Taishan University. Selection criteria included administrative position, professional experience, educational background, and recognized contributions to university management.

Research Instruments

Two research instruments were employed in this study including (1) Document Analysis Form. A document analysis form was developed to collect and synthesize information from academic literature, policy documents, books, and previous research related to leadership components and leadership development in

higher education. (2) Focus Group Discussion Guide. A semi-structured focus group discussion guide was developed based on the preliminary findings from the document analysis. The guide consisted of open- ended questions concerning leadership skills, leadership styles, leadership behaviors, and strategies for developing leadership competencies among university administrators.

Data Analysis

Data were analyzed using content analysis. Relevant concepts and themes were identified and synthesized from the document review, while focus group data were coded and categorized to identify key themes and recommendations. The findings from both phases were then integrated to develop the framework of 21st- century leadership components for university administrators in Taian City under Shandong Province.

Conclusion and Discussion

Conclusion

1. Literature Research

From review of literature, the researcher has studied variables from related concepts, principles, theories, and related research. Findings from the Literature Review

The review of related literature, theories, and previous studies revealed that 21st- century leadership for university administrators extends beyond traditional administrative functions and requires a comprehensive set of competencies that enable leaders to respond effectively to dynamic educational, technological, and societal changes.

The findings indicated that leadership in the 21st century can be categorized into three major dimensions:

leadership skills, leadership styles, and leadership behaviors.

The first dimension, leadership skills, represents the core competencies required by university administrators to manage educational institutions effectively. The literature emphasized the importance of communication skills, decision-making ability, teamwork, innovation capability, social competence, adaptability, strategic thinking, self- management, and professional knowledge. In addition, recent studies highlighted the growing importance of digital competence, lifelong learning, critical thinking, and cross- cultural adaptability as essential competencies for leaders operating in increasingly complex and globalized environments. These competencies enable university administrators to cope with organizational change, promote innovation, and enhance institutional competitiveness.

The second dimension, leadership styles, focuses on the approaches leaders use to influence and guide organizational members. The literature identified several leadership styles relevant to higher education administration, including situational leadership, democratic leadership, laissez- faire leadership, paternalistic leadership, transactional leadership, and transformational leadership. The review suggested that effective university administrators should be capable of applying different leadership styles according to organizational circumstances, staff characteristics, and institutional goals. Among these styles, transformational leadership was frequently emphasized as an important approach for inspiring organizational change, innovation, and long-term development.

The third dimension, leadership behaviors, refers to the observable actions

performed by leaders in managing organizations and interacting with employees. The literature consistently identified employee motivation, goal setting and monitoring, decision-making, problem-solving, and team building as critical leadership behaviors contributing to organizational effectiveness. These behaviors support the achievement of institutional objectives while fostering employee engagement, collaboration, and continuous improvement.

Furthermore, the literature review revealed that leadership development does not occur solely at the individual level. External factors, including government policies, technological support, organizational resources, and the broader social environment, also play significant roles in shaping leadership effectiveness. Therefore, leadership development should be viewed as a collaborative process involving universities, administrators, government agencies, and society.

Based on the synthesis of the literature and related studies, the researcher concluded that 21st-century leadership for university administrators is a multidimensional construct comprising leadership skills, leadership styles, and leadership behaviors. These three dimensions served as the conceptual framework for the subsequent focus group discussion and the development of leadership guidelines for university administrators in Taian City under Shandong Province.

2. Findings from Focus Group Discussion

The focus group discussion involved nine experts, including university administrators and academic personnel from Shandong Agricultural University and Taishan University, all of whom possessed

extensive experience in higher education administration. The discussion aimed to validate the preliminary leadership components identified from the literature review and to formulate practical guidelines for leadership development among university administrators in Taian City under Shandong Province.

The findings confirmed that 21st-century leadership for university administrators consists of three interrelated dimensions: leadership skills, leadership styles, and leadership behaviors. The experts agreed that these dimensions collectively contribute to leadership effectiveness and institutional development in the contemporary higher education environment.

Regarding leadership skills, the participants emphasized that university administrators should possess competencies beyond traditional management capabilities. The most frequently mentioned competencies included innovation, decision-making, digital literacy, communication, teamwork, strategic thinking, lifelong learning, cross-cultural adaptability, and self-management. The experts highlighted that digital transformation, international collaboration, and increasing organizational complexity require administrators to continuously update their knowledge and develop adaptive leadership capabilities.

With respect to leadership styles, the experts indicated that no single leadership style is sufficient for all situations. Effective university administrators should demonstrate flexibility in applying different leadership approaches according to organizational contexts and stakeholder needs. Democratic leadership, transformational leadership, and situational leadership were

identified as particularly important for promoting participation, organizational innovation, and institutional change. In addition, paternalistic leadership was considered relevant within the Chinese cultural context because it promotes trust, responsibility, and supportive relationships between leaders and staff.

Concerning leadership behaviors, the experts emphasized the importance of establishing clear organizational goals, encouraging participation in decision-making, motivating employees, fostering teamwork, and strengthening problem-solving capabilities. The participants agreed that effective leadership behaviors directly influence organizational performance, employee engagement, and institutional success.

The discussion also revealed that leadership development should not be viewed solely as an individual responsibility. Universities, government agencies, and society all play important roles in supporting leadership development through policy support, professional development opportunities, resource allocation, mentoring systems, and collaborative networks. Therefore, enhancing leadership effectiveness requires coordinated efforts among multiple stakeholders.

Based on the consensus of the experts, a total of 49 practical guidelines were synthesized and organized under the three dimensions of leadership skills, leadership styles, and leadership behaviors. These guidelines formed the foundation of the proposed framework for developing 21st-century leadership among university administrators in Taian City under Shandong Province.

Following the literature review and the focus group discussion, the findings

from both phases were synthesized to develop a comprehensive framework of 21st-century leadership for university administrators in Taian City under Shandong Province. The integrated analysis revealed that leadership development is a multidimensional process involving leadership competencies, leadership styles, leadership behaviors, organizational support, and external environmental factors. The key findings are presented as follows.

Development of the 21 st- Century

Leadership Framework for University Administrators

The synthesis of findings from the literature review and focus group discussion revealed that the development of 21 st-century leadership among university administrators is a multidimensional process involving leadership competencies, organizational support, and external environmental factors. The findings suggest that leadership effectiveness is not solely determined by individual capabilities but is influenced by the interaction between leadership skills, leadership styles, leadership behaviors, institutional resources, organizational policies, and external support systems.

The analysis indicated that leadership development begins with several key inputs, including leadership competencies, organizational resources, policy support, and external environmental factors. These inputs provide the foundation for strengthening the leadership capacity of university administrators. The literature review highlighted the importance of leadership skills, leadership styles, and leadership behaviors, while the focus group discussion further emphasized

the role of resource allocation, organizational support, and policy implementation in facilitating leadership development.

The process of leadership development involves three major mechanisms. First, university administrators need to continuously enhance their leadership skills, particularly in communication, teamwork, innovation, strategic thinking, decision-making, self-management, cross-cultural adaptability, and digital competence. Second, administrators should adopt flexible leadership styles that are appropriate to different organizational contexts and challenges. Third, effective leadership behaviors, including goal setting, employee motivation, teamwork promotion, participative decision-making, and problem-solving, should be consistently practiced improving organizational performance.

The findings further revealed that leadership development requires collaborative support from multiple stakeholders. Universities play an important role in providing organizational resources, learning opportunities, and supportive policies. Government agencies contribute through policy formulation, leadership development programs, and institutional support. Society and external organizations facilitate leadership growth through partnerships, resource sharing, and professional collaboration. At the individual level, university administrators

are responsible for continuous learning, self-reflection, and professional development.

As a result of these interconnected processes, the proposed framework is expected to enhance leadership effectiveness, strengthen managerial competencies, improve institutional competitiveness, and support the modernization of higher education. Ultimately, the framework contributes to the development of capable university administrators who are prepared to lead higher education institutions in responding to the challenges and opportunities of the 21st century.

Based on these findings, the study concludes that 21st-century leadership for university administrators consists of three interrelated dimensions including leadership skills, leadership styles, and leadership behaviors, supported by institutional, governmental, and societal mechanisms that collectively promote sustainable leadership development and organizational excellence. Based on the synthesis of findings from the literature review and focus group discussion, a comprehensive framework for developing 21st-century leadership among university administrators in Taian City under Shandong Province was established. The framework illustrates the relationships among leadership skills, leadership styles, leadership behaviors, supporting factors, and expected outcomes. The proposed framework is presented in Figure 1.

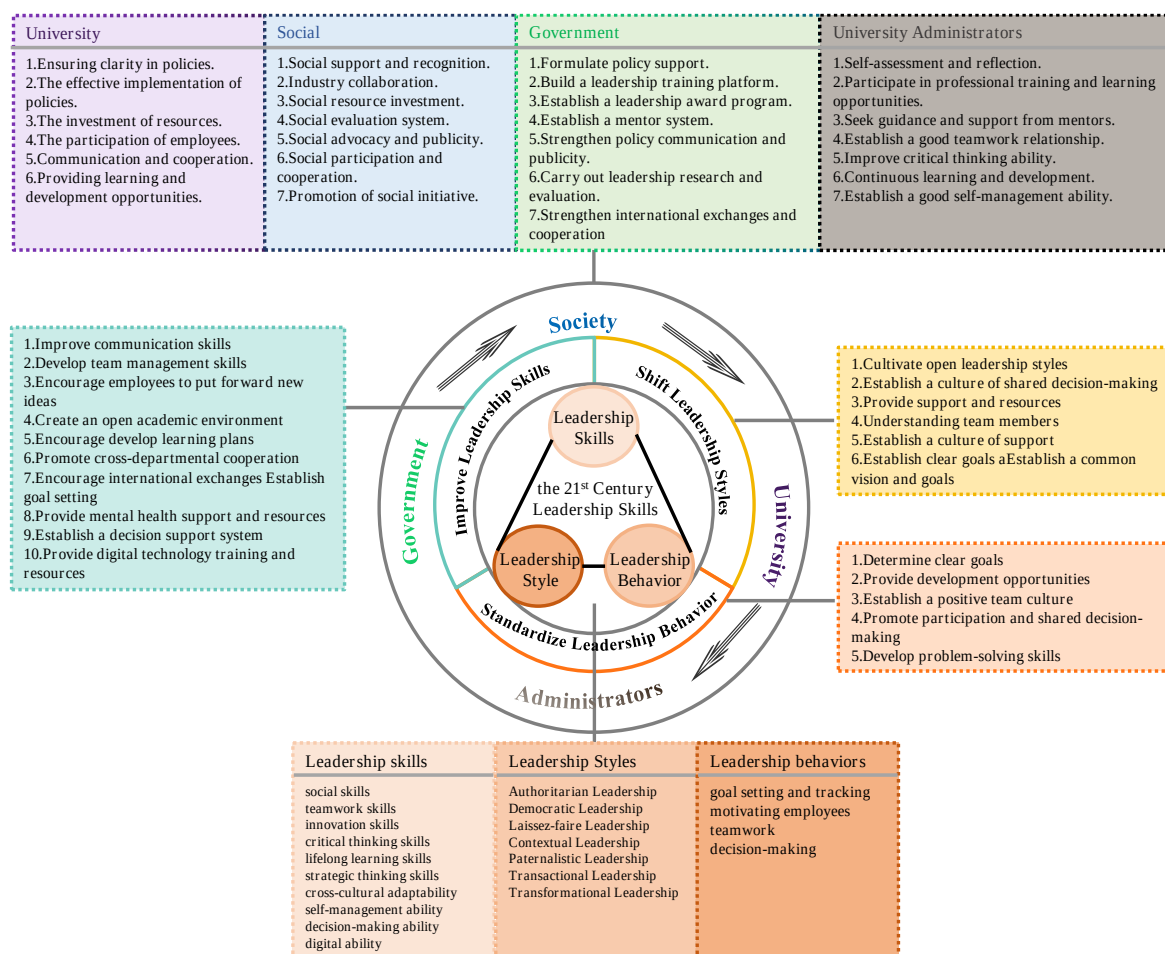


Figure 1 Model for improving the 21st leadership skills of university administrators in Taian City under Shandong Province

Figure 1 presents the proposed framework for developing 21st-century leadership among university administrators in Taian City under Shandong Province. The framework was developed through the synthesis of findings from the literature review and focus group discussion.

The framework consists of three interrelated components. The first component, 21st-century leadership components, comprises leadership skills, leadership styles, and leadership behaviors. Leadership skills include communication, teamwork, innovation, critical thinking, lifelong learning, strategic thinking, cross-cultural adaptability, self-management, decision-making, and digital competency.

Leadership styles encompass democratic, transformational, situational, paternalistic, transactional, autocratic, and laissez-faire leadership. Leadership behaviors focus on goal setting and monitoring, employee motivation, teamwork, decision-making, and problem-solving.

The second component involves leadership development strategies, which focus on strengthening leadership competencies, promoting appropriate leadership styles, and enhancing effective leadership behaviors. Key strategies include improving communication and team management skills, fostering innovation and lifelong learning, encouraging collaboration and international

engagement, strengthening decision-making capabilities, promoting shared decision-making, establishing a common vision, and developing problem-solving and team-building practices.

The third component highlights key stakeholders in leadership development, including universities, government agencies, society, and university administrators themselves. Universities contribute through policy implementation, resource allocation, and professional development opportunities. Government agencies support leadership development through policy initiatives, training programs, mentoring systems, and international collaboration. Society contributes through partnerships, recognition, and resource support, while university administrators play a central role through self-reflection, continuous learning, professional development, and self-management.

Collectively, these components contribute to enhanced leadership effectiveness, stronger managerial competencies, improved institutional performance, and the sustainable development of higher education institutions in the 21st century.

Discussion

The findings revealed that 21st-century leadership for university administrators in Taian City under Shandong Province consists of three major dimensions: leadership skills, leadership styles, and leadership behaviors. This finding suggests that effective leadership in contemporary higher education extends beyond traditional administrative functions and requires a comprehensive integration of competencies, leadership approaches, and leadership practices.

First, the study found that leadership skills constitute a fundamental dimension of 21st-century leadership. The identified competencies include communication, teamwork, innovation, critical thinking, lifelong learning, strategic thinking, cross-cultural adaptability, self-management, decision-making, and digital capability. This finding is consistent with Katz (1955), who emphasized that effective administrators require a combination of human, technical, and conceptual skills. It also supports the views of Adair (2005), who argued that successful leadership requires balancing organizational goals, team development, and individual growth. Furthermore, the emphasis on innovation, lifelong learning, and digital capability is consistent with Ehlers (2020) and Schüller et al. (2019), who highlighted the importance of future skills and digital competencies in responding to rapid technological and societal changes. The researcher believes that these competencies are particularly important for university administrators because higher education institutions are increasingly expected to adapt to digital transformation, internationalization, and organizational innovation.

Second, the findings identified leadership styles as an essential component of leadership development. The study revealed that effective university administrators should be capable of applying various leadership styles, including democratic, transformational, situational, paternalistic, transactional, autocratic, and laissez-faire leadership, depending on organizational circumstances. This finding is consistent with Burns (1985), who emphasized the importance of transformational leadership in inspiring organizational change and

development. It also supports the work of Noorderhaven et al. (2016), who found that participative and collaborative leadership contributes to team effectiveness and organizational success. The prominence of paternalistic leadership in this study may reflect the cultural characteristics of Chinese organizations, where trust, guidance, and supportive relationships between leaders and followers are highly valued. The researcher therefore argues that leadership flexibility is a critical characteristic of university administrators in the 21st century.

Third, leadership behaviors emerged as a key dimension influencing organizational effectiveness. The findings highlighted goal setting and tracking, employee motivation, teamwork, decision-making, and problem-solving as essential leadership behaviors. These findings are consistent with Adair (2005), who emphasized the importance of task achievement, team maintenance, and individual development in leadership practice. Similarly, Singfield (2020) stressed that goal setting and performance monitoring are crucial for organizational improvement, while Witt and Stahl (2016) emphasized responsible decision-making and stakeholder engagement. The researcher believes that these leadership behaviors provide a practical mechanism through which leadership competencies and leadership styles can be translated into effective organizational outcomes.

In addition, the findings demonstrated that leadership development is not solely the responsibility of individual administrators. Universities, government agencies, and society also play important roles in supporting leadership development through policy support, resource allocation, professional development opportunities,

mentoring systems, and collaborative networks. This finding supports the perspectives of Strielkowski and Chigisheva (2018), who emphasized that leadership development requires cooperation among educational institutions, policymakers, and external stakeholders. Therefore, leadership development should be viewed as a systemic process involving multiple actors rather than as an individual endeavor.

Overall, the study contributes to the understanding of 21st-century leadership in higher education by integrating leadership skills, leadership styles, and leadership behaviors into a comprehensive framework. The proposed framework provides practical guidance for strengthening leadership capacity among university administrators and supports the modernization and sustainable development of higher education institutions in Taian City under Shandong Province.

Recommendation Recommendations for Practical Application

The findings of this study indicate that 21st-century leadership for university administrators consists of leadership skills, leadership styles, and leadership behaviors. Therefore, universities should utilize the proposed framework as a guideline for leadership development programs and professional training activities.

1) Universities should strengthen leadership skills by promoting communication, innovation, strategic thinking, decision-making, digital competency, and lifelong learning among university administrators. These competencies are essential for responding to rapid changes in higher education and enhancing institutional competitiveness.

2) Universities should encourage administrators to adopt flexible leadership styles that are appropriate to different organizational contexts. Particular emphasis should be placed on transformational, democratic, and situational leadership styles to promote participation, innovation, collaboration, and organizational effectiveness.

3) Universities should foster leadership behaviors that contribute to organizational success, including goal setting and monitoring, employee motivation, teamwork, participative decision-making, and problem-solving. These behaviors should be incorporated into leadership evaluation and professional development systems.

4) Government agencies should provide policy support, leadership training opportunities, mentoring systems, and collaborative platforms to strengthen leadership development in higher education institutions. Universities should also establish partnerships with external organizations and communities to enhance leadership learning and knowledge exchange.

5) Recommendations for Policy Development. Government agencies and higher education authorities should develop policies that support systematic leadership development for university administrators. Such policies should emphasize digital transformation, innovation capability, international collaboration, and continuous professional development. Furthermore, leadership development programs should be integrated into institutional strategic planning to ensure sustainable leadership growth and organizational excellence.

Recommendations for Future Research

Future studies should examine the applicability of the proposed leadership framework in different higher education contexts across China. Quantitative research is recommended to validate the relationships among leadership skills, leadership styles, leadership behaviors, and organizational effectiveness. Comparative studies across provinces or institutional types may also enhance the generalizability of the findings.

References

- Adair, J. (2005). *How to grow leaders*. Kogan Page.
- Aga, D. A., Noorderhaven, N., & Vallejo, B. (2016). Transformational leadership and project success: The mediating role of team-building. *International Journal of Project Management*, 34(5), 806–818. <https://doi.org/10.1016/j.ijproman.2016.02.012>
- Barbaroux, P. (2022). Developing leadership skills through simulation-based training: A research framework and interpretive case study. *Management International*, 26(1), 192–208. <https://doi.org/10.7202/1088443ar>
- Bennis, W. G., & Goldsmith, J. (1997). *Learning to lead: A workbook on becoming a leader*. Perseus Books.
- Ciulla, J. B., Knights, D., Mabey, C., & Tomkins, L. (2018). Guest editors' introduction: Philosophical approaches to leadership ethics II: Perspectives on the self and responsibility to others. *Business Ethics Quarterly*, 28(3) , 245– 250. <https://doi.org/10.1017/beq.2018.16>

- Ehlers, U. D. (2020). *Future skills: The future of learning and higher education*. BoD-Books on Demand.
- Fulmer, R. M., Gibbs, P. A., & Goldsmith, M. (2000). Developing leaders: How winning companies keep on winning. *Sloan Management Review*, 42(1), 49-59.
- Gerpott, F. H., Lehmann-Willenbrock, N., Voelpel, S. C., & van Vugt, M. (2019). It's not just what is said, but when it's said: A temporal account of verbal behaviors and emergent leadership in self-managed teams. *Academy of Management Journal*, 62(3), 717-738. <https://doi.org/10.5465/amj.2017.0149>
- Gündüz Çekmecelioğlu, H., & Özbağ, G. K. (2016). Leadership and creativity: The impact of transformational leadership on individual creativity. *Procedia - Social and Behavioral Sciences*, 232, 243-249. <https://doi.org/10.1016/j.sbspro.2016.11.020>
- Katz, R. L. (1955). Skills of an effective administrator. *Harvard Business Review*, 33(1), 33-42.
- Knights, D. (2020). Critical perspectives on leadership: The language of corporate power. *Academy of Management Learning & Education*, 19(4) , 600- 602. <https://doi.org/10.5465/amle.2020.0003>
- Knippenberg, D. van, & van Ginkel, W. P. (2022). A diversity mindset perspective on inclusive leadership. *Group & Organization Management*, 47(4) , 779- 797. <https://doi.org/10.1177/1059601121997229>
- Munby, S. (2020). The development of school leadership practices for 21st century schools. *European Journal of Education*, 55(2), 146-150. <https://doi.org/10.1111/ejed.12394>
- Murnieks, C. Y., Cardon, M. S., Sudek, R., White, T. D., & Brooks, W. T. (2016). Drawn to the fire: The role of passion, tenacity and inspirational leadership in angel investing. *Journal of Business Venturing*, 31(4) , 468- 484. <https://doi.org/10.1016/j.jbusvent.2016.05.002>
- Petriglieri, G., & Peshkam, A. (2022). Stranger leaders: A theory of marginal leaders' conception of learning in organizations. *Academy of Management Journal*, 65(4), 1240-1273. <https://doi.org/10.5465/amj.2019.0162>
- Rauf, F. H. A., Khalid, F. M., Rahman, M. S. A., & Ghani, M. K. I. C. (2020). Leadership and communication skills towards emotional intelligence: A case of a Malaysian private university. *Global Business & Management Research*, 12(4), 647-654.
- Schüller, K., Busch, P., & Hindinger, C. (2019). *Future skills: Ein framework für data literacy*. Hochschulforum Digitalisierung.
- Shen, M. (2022). On the principal's leadership: Team building and characteristic development. *Fujian Research on Basic Education*, (8), 23-25.
- Singfield, A. K. (2020). *Transformational change in the NHS: Using action research to improve the way change leadership skills are developed*.
- Strielkowski, W., & Chigisheva, O. (2018). Leadership for the future sustainable development of business and education. In *Proceedings of the International Conference (PRIZK & IRC)*. Springer.
- Su, X., & Liu, S. (2022). Leadership and human resource management in the digital age. *China Market*, (27), 112-114.
- Witt, M. A., & Stahl, G. K. (2016). Foundations of responsible leadership: Asian versus Western executive responsibility orientations toward key stakeholders. *Journal of Business Ethics*, 136(4), 623-638. <https://doi.org/10.1007/s10551-014-2534-8>

- Xiong, Z., Qian, Y., & Chen, X. (2011). Problems and countermeasures of middle-level cadre assessment in colleges and universities. *School Party Building and Ideological Education*, (4), 37-38.
- Yang, F. (2022). The essence, development and application of character leadership in organizational management. *Leadership Science*, (9), 103-106.
- Zhang, C., Wu, B., & Zhou, L. (2020). Taian City: Multiple measures to eradicate unpaid wages. *Shandong Human Resources and Social Security*, (8), 48-49.

Managerial guidelines of landscape architecture education in higher education under Henan Province

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ABSTRACT

This study aimed to identify the components of landscape architecture education management in higher education institutions in Henan Province, China, and to propose managerial guidelines for improving its quality and effectiveness. A mixed-methods design was used. In the quantitative phase, 364 instructors and administrators were selected through stratified random sampling from 7,066 personnel at 10 higher education institutions offering landscape architecture programs. Data were collected using a five-point rating-scale questionnaire and analyzed with descriptive statistics and exploratory factor analysis. In the qualitative phase, data from in-depth interviews with 16 key informants and a focus group discussion with 11 experts were analyzed using content analysis. The findings identified seven components of landscape architecture education management: 1) teaching theory requirements, 2) teaching practice and application, 3) teaching objectives and social needs, 4) learning atmosphere, 5) evaluation criteria, 6) resource development, and 7) innovation and development. Based on these components, 16 managerial guidelines were developed to strengthen curriculum relevance, practical learning, supportive learning environments, assessment systems, resource development, and educational innovation in higher education institutions in Henan Province.

KEYWORDS: Landscape Architecture Education, Educational Management, Higher Education, Managerial Guidelines, Henan Province

Introduction

Higher education plays a crucial role in developing human resources capable of responding to economic, social, and environmental changes. In China, higher vocational and higher education institutions have been recognized as important mechanisms for implementing national strategies related to scientific development,

innovation, and talent cultivation. As China continues to advance urbanization and sustainable development initiatives, the demand for qualified professionals in landscape architecture has increased significantly. Consequently, landscape architecture education has become an important field for preparing graduates with the knowledge, skills, and competencies

required to address contemporary environmental and urban development challenges.

The rapid development of urban and rural construction has led to increasing public concern regarding environmental quality, ecological sustainability, and landscape improvement (Wang, 2017). As a result, landscape architecture has become a key discipline supporting urban planning, ecological conservation, and community development. The growing demand for highly competent landscape professionals has encouraged higher education institutions to strengthen their educational programs and enhance the quality of teaching and learning in this field (Chen, 2019).

Despite these developments, several challenges remain in landscape architecture education. Existing educational practices often face difficulties in aligning curriculum design, teaching methods, practical training, and graduate competencies with the rapidly changing needs of industry and society. Xing (2020) emphasized that landscape architecture programs should continuously adapt their professional structures, curriculum content, and educational processes to meet labor market demands and social expectations. Similarly, Pang (2018) noted that research related to landscape architecture education remains fragmented and lacks a systematic framework that integrates educational theories with professional practice.

Previous studies have contributed valuable knowledge regarding specific aspects of landscape architecture education, including teaching theories (Li, 2020; Li, 2022; Lin, 2014; Jia, 2017), practical and

applied learning approaches (Liu, 2021a; Liu, 2022), educational objectives and professional development (Liu, 2021b), learning environments (Li, 2017), assessment systems (Song, 2018), resource development (McGraw, 2022), and innovation in landscape architecture education (Kingsbury, 2019). However, these studies have primarily focused on individual dimensions of teaching and learning rather than providing a comprehensive educational management framework that integrates these dimensions into a coherent system for higher education institutions.

Particularly in Henan Province, where higher education institutions are expanding their role in supporting regional development and professional workforce preparation, there remains limited empirical evidence regarding the essential components of landscape architecture education management and the managerial guidelines necessary for improving educational effectiveness. The absence of a comprehensive management framework may hinder the ability of institutions to systematically enhance curriculum quality, teaching effectiveness, resource utilization, innovation capacity, and student learning outcomes.

Therefore, this study seeks to identify the key components of landscape architecture education management and develop managerial guidelines for higher education institutions under Henan Province. The findings are expected to provide a systematic framework for educational administrators, instructors, and policymakers to improve the quality and effectiveness of landscape architecture education. Furthermore, the proposed

guidelines may serve as a practical reference for curriculum development, educational management improvement, and future policy formulation aimed at strengthening landscape architecture education in China.

Purposes

1. To explore the components of managerial guidelines of landscape architecture education in higher education Under Henan Province.

2. To propose the managerial guidelines of landscape architecture education in higher education under Henan province.

Literature Review

Landscape Architecture Education in Higher Education

1) Landscape architecture education plays a significant role in preparing graduates with professional competencies that integrate environmental knowledge, design thinking, ecological sustainability, and practical problem-solving skills. As urbanization and environmental challenges continue to increase, higher education institutions are expected to develop educational systems that produce graduates capable of responding to social and professional demands. According to Xing (2020), landscape architecture education should be continuously adjusted to align with industry requirements, employment trends, and societal needs. Similarly, Pang (2018) emphasized that landscape architecture education requires a more systematic educational framework integrating professional knowledge with educational theory.

2) Teaching Theory Requirements.

Teaching theory serves as the foundation for effective learning and educational quality. Li (2020) stated that landscape architecture education should emphasize conceptual understanding and the integration of theoretical knowledge with professional practice. Li (2022) further highlighted the importance of adopting learner-centered and blended teaching approaches to improve student engagement and learning outcomes. Lin (2014) suggested that landscape architecture education should promote research-based learning and innovative teaching models, while Jia (2017) emphasized the importance of integrating professional design principles into teaching processes. These perspectives indicate that effective educational management should ensure the systematic development and implementation of sound teaching theories.

3) Teaching Practice and Application. Practical learning is an essential component of landscape architecture education because students must apply theoretical knowledge in real-world contexts. Liu (2021a) explained that landscape engineering education should strengthen practical experiences to enhance professional competencies. Furthermore, Liu (2022) argued that the discipline of landscape architecture requires educational systems that emphasize application-oriented learning, project-based activities, and professional practice. Therefore, educational management should support opportunities for experiential learning and practical skill development.

4) Teaching Objectives and Social Needs. Educational objectives should be aligned with national development priorities, labor market demands, and societal expectations. Liu (2021b) emphasized that landscape architecture education must cultivate graduates who can contribute to environmental sustainability, urban development, and community well-being. Effective educational management should therefore ensure that curriculum goals and learning outcomes remain relevant to contemporary social and professional requirements.

5) Learning Atmosphere. A positive learning atmosphere significantly influences students' academic achievement and professional development. Li (2017) suggested that learning environments should encourage interaction, creativity, collaboration, and active participation. Supportive relationships between instructors and students contribute to effective learning and improve students' motivation and engagement. Therefore, educational administrators should promote learning environments that foster academic growth and professional competence.

6) Evaluation Criteria. Assessment and evaluation systems are important mechanisms for monitoring educational quality and student achievement. Song (2018) emphasized that effective evaluation should measure both theoretical understanding and practical performance. Comprehensive assessment systems provide valuable information for continuous improvement of teaching and learning processes. Consequently, educational management should establish clear, reliable, and systematic evaluation

criteria that reflect program objectives and professional standards.

7) Resource Development. Essential for supporting effective teaching and learning. McGraw (2022) highlighted the importance of developing educational facilities, digital learning resources, and technological support systems to enhance educational quality. In contemporary higher education, resource development extends beyond physical infrastructure to include information technology, online learning platforms, and professional learning networks. Effective management therefore requires strategic planning and investment in educational resources.

8) Innovation and Development. Innovation is a critical factor in maintaining educational quality and responding to changing professional environments. Kingsbury (2019) emphasized that landscape architecture education should encourage creativity, interdisciplinary collaboration, and sustainable design practices. Educational institutions should continuously improve teaching methods, curriculum structures, and professional development opportunities to remain responsive to emerging trends and future challenges. Consequently, educational management should support innovation as an integral component of institutional development.

Research Process

The research process was conducted in three phases.

In the first phase, relevant literature, theories, and previous studies related to landscape architecture education and educational management were reviewed to

identify the preliminary components and indicators of landscape architecture education management. The synthesized components were used to construct the conceptual framework and research instruments.

In the second phase, quantitative data were collected from instructors and administrators working in landscape architecture programs at higher education institutions under Henan Province. The questionnaire was developed based on the identified components and validated by experts prior to data collection. The collected data were analyzed using descriptive statistics and Exploratory Factor Analysis (EFA) to identify the underlying components of landscape architecture education management.

In the third phase, qualitative data were collected through in-depth interviews with 16 key informants and a focus group discussion involving 11 experts. The purpose of this phase was to validate, refine, and develop practical managerial guidelines based on the findings obtained from the quantitative analysis. The qualitative data were analyzed using content analysis.

Finally, the findings from both quantitative and qualitative phases were integrated to formulate comprehensive managerial guidelines for landscape architecture education in higher education institutions under Henan Province. The proposed guidelines were intended to support educational administrators, instructors, and policymakers in enhancing educational quality, professional development, and institutional effectiveness.

Population and Sample

The population of this study consisted of 7,066 instructors and administrators involved in landscape architecture education management from 10 higher education institutions under Henan Province, China. These institutions were selected based on their educational provision in landscape architecture and represented different institutional characteristics and scales.

The sample for the quantitative phase comprised 364 instructors and administrators. The sample size was determined using Krejcie and Morgan's (1970) sample size table and selected through stratified random sampling to ensure adequate representation of the target population.

For the qualitative phase, 16 key informants were purposively selected from experienced administrators, academic leaders, and experts in landscape architecture education management from outstanding higher education institutions in Henan Province. Their expertise and professional experience provided in-depth insights into the essential components and effective practices of landscape architecture education management.

In addition, a focus group discussion was conducted with 11 experts specializing in educational management, landscape architecture education, and higher education administration. The focus group was organized to verify, refine, and validate the managerial guidelines developed from the quantitative and qualitative findings.

Instruments

Three research instruments were employed for data collection. First, semi-structured interviews were conducted with key informants to obtain in-depth information regarding the components and management practices of landscape architecture education. Second, a questionnaire was developed based on the reviewed literature and conceptual framework to collect quantitative data from instructors and administrators. Third, a focus group discussion was conducted with experts to validate, refine, and confirm the proposed managerial guidelines for landscape architecture education in higher education institutions under Henan Province.

Data Analysis

Quantitative data obtained from the questionnaires were analyzed using descriptive statistics, including frequency, percentage, mean, and standard deviation. Exploratory Factor Analysis (EFA) was employed to identify the underlying components of landscape architecture education management. Qualitative data collected from the semi-structured interviews and focus group discussion were analyzed using content analysis to validate and refine the proposed managerial guidelines.

Conclusion and Discussion

Conclusion

Managerial Guideline of Landscape Architecture Education in higher education under Henan Province has seven components:

- 1) Teaching theory requirements
- 2) Teaching practice and application

3) Teaching objectives and social needs

4) Learning atmosphere

5) Evaluation criteria

6) Resource development

7) Innovation and development

There are 16 total management guidelines:

(1) In the teaching of landscape design, the principle of "application as the purpose and necessity as the degree" should be earnestly implemented, and the teaching focus is on "mastering the concept, strengthening the application, cultivating the ability and improving the quality".

(2) In teaching, we should combine the teaching content and the characteristics of students, choose appropriate teaching methods and teaching means, consciously create, purposefully and focused atmosphere conducive to the development of students' ability, inspire students' thinking, and promote the improvement of students' ability.

(3) Carry forward democratic teaching.

(4) Using the new teaching mode, we need to pay attention to the differentiated needs of students.

(5) Strengthen the improvement of students' internal thinking.

(6) Talent training goals follow the pace of the times.

(7) Talent training objectives closely follow the national construction.

(8) Must have a good class atmosphere.

(9) Strive to maintain a high degree of consistency between teachers and students.

(10) Must guide students from the study method, so that they master good learning methods.

(11) Practical teaching is incorporated into the assessment system.

(12) Establish a scientific practice teaching evaluation system.

(13) Actively carry out the construction of digital teaching resources and platforms.

(14) Actively carry out research related to educational information.

(15) Strengthen the understanding of the connotation of teaching quality, and further improve the teaching art level of teachers.

(16) Training courses are offered for new teachers and graduate teaching assistants to further improve their educational and teaching ability.



Figure 1. Managerial guidelines of landscape architecture education in higher education under Henan Province

This study aimed to identify the components of landscape architecture education management and develop managerial guidelines for higher education institutions under Henan Province, China. The findings revealed from figure 1 that effective landscape architecture education management consists of seven interrelated

components: teaching theory requirements, teaching practice and application, teaching objectives and social needs, learning atmosphere, evaluation criteria, resource development, and innovation and development.

The results indicate that landscape architecture education management requires a comprehensive and integrated approach that balances theoretical knowledge, practical learning experiences, responsiveness to social and professional needs, supportive learning environments, systematic assessment, adequate educational resources, and continuous innovation. These components collectively contribute to improving educational quality and enhancing students' professional competencies in landscape architecture.

Based on the identified components, sixteen managerial guidelines were developed to support educational administrators and instructors in strengthening the effectiveness of landscape architecture education. The proposed guidelines provide a systematic framework for improving curriculum implementation, teaching and learning processes, resource utilization, educational quality assurance, and institutional development.

Furthermore, the findings suggest that successful management of landscape architecture education should not focus on a single aspect of educational provision but rather on the integration of all seven components as a coherent management system. Such an approach can enhance the quality of graduates, strengthen institutional performance, and better respond to the changing demands of society, industry, and sustainable development. Therefore, the proposed managerial guidelines may serve as a practical reference for higher education institutions seeking to improve landscape architecture education in Henan Province and other similar educational contexts.

Conclusion and Discussion

The findings revealed that landscape architecture education management in higher education institutions under Henan Province consists of seven interrelated components: teaching theory requirements, teaching practice and application, teaching objectives and social needs, learning atmosphere, evaluation criteria, resource development, and innovation and development. These findings suggest that effective educational management in landscape architecture requires a holistic approach that integrates academic, practical, organizational, and developmental dimensions.

The first component, teaching theory requirements, was identified as a fundamental element of educational management. This finding is consistent with the studies of Li (2020), Li (2022), Lin (2014), and Jia (2017), who emphasized that a strong theoretical foundation supports meaningful learning, professional understanding, and the development of design competencies. The result indicates that educational management should not only focus on administrative processes but also ensure the quality and relevance of teaching theories that guide instructional practices. In the researcher's view, theoretical knowledge remains the cornerstone of professional education because it provides the conceptual framework through which students can understand and apply landscape architecture principles in diverse contexts.

The second component, teaching practice and application, highlights the importance of experiential and practice-based learning. This finding supports the work of Liu (2021a) and Liu (2022), who

emphasized the significance of integrating practical experiences into landscape architecture education. The result reflects the nature of the discipline, which requires students to apply theoretical knowledge to real-world environmental and design challenges. The researcher believes that strengthening practical learning opportunities can reduce the gap between academic preparation and professional expectations, thereby enhancing graduate employability and professional competence.

The third component, teaching objectives and social needs, demonstrates the necessity of aligning educational goals with societal demands and national development priorities. This finding is consistent with Liu (2021b), who suggested that landscape architecture education should respond to changing environmental, economic, and social conditions. The result indicates that educational management should continuously review and adjust program objectives to ensure their relevance. From the researcher's perspective, responsiveness to social needs is essential for maintaining the sustainability and competitiveness of academic programs in an increasingly dynamic environment.

The fourth component, learning atmosphere, emphasizes the role of supportive educational environments in promoting student engagement and achievement. This finding corresponds with Li (2017), who highlighted the importance of positive interactions, collaboration, and active learning. The result suggests that effective educational management extends beyond curriculum administration to include the cultivation of an environment

that encourages creativity, communication, and professional growth. The researcher views the learning atmosphere as a critical factor that influences not only academic performance but also students' attitudes toward lifelong learning and professional development.

The fifth component, evaluation criteria, reflects the importance of systematic assessment in ensuring educational quality. This finding is consistent with Song (2018), who emphasized the need for comprehensive evaluation systems that assess both theoretical knowledge and practical competencies. The result suggests that assessment should serve not only as a measurement tool but also as a mechanism for continuous improvement. In the researcher's opinion, effective evaluation systems provide valuable feedback for students, instructors, and institutions, thereby contributing to the enhancement of educational outcomes.

The sixth component, resource development, highlights the significance of educational resources in supporting teaching and learning effectiveness. This finding is aligned with McGraw (2022), who emphasized the importance of developing educational facilities, digital resources, and technological infrastructure. The result indicates that educational quality depends not only on human resources but also on the availability and accessibility of learning support systems. The researcher believes that investment in educational resources is particularly important in contemporary higher education, where digital technologies increasingly influence

learning experiences and educational management practices.

The seventh component, innovation and development, demonstrates the necessity of continuous improvement and adaptation in landscape architecture education. This finding supports Kingsbury (2019), who emphasized creativity, sustainability, and innovation as essential characteristics of contemporary landscape architecture. The result suggests that educational institutions should continuously revise teaching approaches, curriculum structures, and management practices to remain responsive to emerging trends and future challenges. The researcher considers innovation to be a driving force that enables educational institutions to maintain relevance and achieve long-term development.

Overall, the findings indicate that landscape architecture education management should be viewed as an integrated system in which all seven components interact to influence educational quality and institutional effectiveness. Rather than focusing on individual aspects in isolation, higher education institutions should adopt a comprehensive management approach that balances theoretical learning, practical application, social relevance, supportive learning environments, effective assessment, resource development, and innovation. Such integration can contribute to the development of highly competent graduates capable of meeting the demands of the landscape architecture profession and supporting sustainable societal development.

Recommendations

1. Recommendations for Policy and Practical Application

1) Higher education institutions offering landscape architecture programs should establish educational management policies that promote the integration of the seven key components identified in this study, namely teaching theory requirements, teaching practice and application, teaching objectives and social needs, learning atmosphere, evaluation criteria, resource development, and innovation and development. Such integration will contribute to a more comprehensive and effective educational management system.

2) Educational administrators should strengthen the alignment between curriculum implementation and social needs by regularly reviewing program objectives, learning outcomes, and professional competencies to ensure their relevance to contemporary environmental, urban development, and industry requirements.

3) Universities should expand opportunities for practical learning and industry engagement through project-based learning, fieldwork, internships, and collaboration with professional organizations. These initiatives can enhance students' practical competencies and better prepare graduates for professional practice.

4) Institutions should develop supportive learning environments that encourage creativity, collaboration, critical thinking, and active student participation. A positive learning atmosphere can improve both academic achievement and professional development.

5) Educational quality assurance systems should incorporate comprehensive

evaluation criteria that assess both theoretical knowledge and practical competencies. Continuous assessment and feedback mechanisms should be utilized to support curriculum improvement and enhance learning effectiveness.

6) Universities should invest in educational resources, including digital learning platforms, instructional technologies, learning facilities, and professional development opportunities for academic staff. Resource development can strengthen teaching effectiveness and support educational innovation.

7) Higher education institutions should promote a culture of innovation and continuous improvement by encouraging the adoption of innovative teaching approaches, interdisciplinary collaboration, and the

integration of emerging technologies into landscape architecture education.

2. Recommendations for Future Research

1) Future studies should examine the applicability of the proposed managerial guidelines in other provinces of China to determine their generalizability across different institutional and regional contexts.

2) Further research should employ Confirmatory Factor Analysis (CFA) to validate the seven-component structure identified in this study and strengthen the empirical foundation of the proposed educational management framework.

3) Future studies may investigate the relationships among the seven components and their influence on educational outcomes, student competencies, graduate employability, and institutional effectiveness.

References

- Chen, Y. (2019). *Research on the development of modern landscape design development*. Publisher.
- Jia, S. (2017). *Landscape design*. Publisher.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610.
<https://doi.org/10.1177/001316447003000308>
- Kingsbury, N. (2019). *Integration of landscape design education management and nature*. Publisher.
- Li, J. (2020). *Opportunities and misunderstandings of urban landscaping construction in China*. Publisher.
- Li, Q. (2017). *An analysis of Chinese classical landscape architecture*. Publisher.
- Li, R. (2022). *Explored the reform of blended teaching model based on humanistic teaching concept: Taking the course of landscape architecture design*. Publisher.
- Lin, G. (2014). *Landscape architecture design research teaching model*. Publisher.
- Liu, B. (2021a). *Landscape engineering system*. Publisher.
- Liu, B. (2021b). *Modern landscape planning and design*. Publisher.

- Liu, B. (2022). *Major changes and countermeasures of the discipline of Chinese landscape architecture planning and design*. Publisher.
- McGraw, P. (2022). *New York's storefront for art and architecture's 40th birthday*. Publisher.
- Pang, W. (2018). *The development history of the world landscape design*. Publisher.
- Song, S. (2018). *External space design*. Publisher.
- Wang, X. (2017). *Innovation in teaching management goals*. Publisher.
- Xing, L. (2020). *The diversity of educational models of landscape design*. Publisher.

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4. Article content should contain the following topics
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 - 3.4 Headings are flush left and typed in bold 12-point font size.
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5. Figures should be placed near the referred text and numbered in sequence. Position figure heading and numbers (bold) beneath the figures.
6. Divide the text into two columns, tables and figures should be incorporated into writing, in a single-column text.
7. Article's Sections should be divided as follows:

Research Article	Academic Article
- article's title in Thai and in English - author's CV (name-surname/affiliation/E-mail address) - abstract - keywords - introduction - objectives - hypotheses (if any) - research benefits - research methodology (samples/research instruments/analysis) - research results and discussions - recommendations - acknowledgement (if any) - references	- article's title in Thai and in English - author's CV (name-surname/affiliation/E-mail address) - abstract - keywords - introduction - conclusion - recommendations - references

8. Use author-date in-text citations, either placed before or after the referred text.
9. Format the paper (including tables and figures) in APA style. For articles written in Thai, references are sequenced by authors' names.

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The abstract is a single paragraph, typically 200 to 300 words in length and should not include any citations. It outlines the aim(s), scope, method(s), results and conclusion of the paper.

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Figures should be placed near the referred text and numbered in sequence. Position figure heading and numbers (bold), including captions and appropriate citations are below the figures.



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(Smith & Wexwood, 2010)

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List all the authors in the signal phrase or in parentheses the first time you cite the source. Use the word "and" between the authors' names within the text and use the ampersand in parentheses.

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(Martin-Consuegra, Molina, & Esteban, 2007)

In subsequent citations, only use the first author's last name followed by "et al." in the signal phrase or in parentheses.

Martin-Consuegra et al. (2007)

(Martin-Consuegra et al., 2007)

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Use the first author's name followed by “et al.” in the signal phrase or in parentheses.

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Example: Lilienfeld, S. O., & Lynn, S. J. 2003. Dissociative identity disorder: Multiple personalities, multiple controversies. In S. O. Lilienfeld, S. J. Lynn, & J. M. Lohr (Eds.), *Science and pseudoscience in clinical psychology* (pp. 109–142). New York, NY: Guilford Press.

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Example: Shobhadevi, Y. J., & Bidarakoppa, G. S. 1994. Possession phenomena: As a coping behaviour. In G. Davidson (Ed.), *Applying psychology: Lessons from Asia-Oceania* (pp. 83-95). Carlton, Australia: Australian Psychological Society.