

INFLUENCE OF INNOVATIVE EDUCATIONAL PRACTICES ON ADMINISTRATIVE ACHIEVEMENT OF EDUCATIONAL INSTITUTIONS: A CASE STUDY OF ZHANGQIU NO.4 MIDDLE SCHOOL

Mengmeng YANG¹

¹ Faculty of International Program, Thongsook College, Thailand;
Mengmeng.Yang@thongsook.ac.th

ARTICLE HISTORY

Received: 28 April 2025

Revised: 12 May 2025

Published: 29 May 2025

ABSTRACT

This study investigates the influence innovative educational practices have on educational institutions achieving administrative achievement using Zhangqiu No.4 Middle School as a primary case study. In enhancing institutional performance in today's rapidly evolving educational landscape, aspects of curriculum innovation, instructional transformation, course modernization, reform of assessment modules and innovation in management are integral innovation strategies. The research specifically evaluates how resource allocation, adaptability, instructional integration and student learning outcomes are enhanced based on these 5 dimensions and a school's administrative framework. Data was collected using a quantitative method which looked at gathering information using a questionnaire from 396 teachers and staff across three sub district schools. To ensure accurate representation, stratified sampling was applied along with descriptive measures and multiple regression for statistical analysis to evaluate the strength of relationships between variables. The results indicate that innovative practices receive high levels of implementation with a wide consensus achieved. Furthermore, the analysis verified that the implementation of these dimensions positively affected administrative results. This study provides evidence regarding the strategic use of innovation in educational settings based on the 5 dimensions mentioned can inherently improve overall academic performance. Additionally, the study also highlights how crucial it is for such institutions to implement innovation as a central component of their academic management strategies, especially given today's landscape that calls for the need to be adaptable and to modernize teaching. For educational administrators and more, the findings provide useful insights on how to strengthen administrative frameworks to enhance academic performance and results.

Keywords: Innovative Educational Practices, Administrative Achievement, School Management, Zhangqiu No.4 Middle School

CITATION INFORMATION: Yang, M. (2025). Influence of Innovative Educational Practices on Administrative Achievement of Educational Institutions: A Case Study of Zhangqiu No.4 Middle School. *Procedia of Multidisciplinary Research*, 3(5), 96.

INTRODUCTION

Due to technological advancements, the rise of globalization and changing learner needs, the global educational landscape has seen rapid and extensive transformations in the twenty-first century. As these needs change, it has placed educational institutions in a situation where they are required not only to prepare students for academic success but also for the real-world by equipping students with the necessary skills needed to engage in the workplace such as critical thinking, digital fluency and to be adaptable. In this context, it has become essential to innovate existing educational practices with such innovation including curriculum reforms, modernization of instructional approaches, incorporation of digital courseware, reforms to assessment strategies and implementing progressive management techniques. Each of these dimensions can enhance institutional performance while developing effective teaching and learning environments (Phakamach, 2023; Johnson and Lee, 2020; Martinez & Garcia, 2022; Merrill & Reid, 2019).

Innovation plays a key role in improving teaching and learning, but also as noted by scholars helps to enhance how schools function. Strong leadership and sound management working alongside each other to support educational innovation can lead to academic goals being achieved more robustly such as resource allocation, adaptability, enhanced student outcomes and contributes toward long-term academic development (Phakamach, 2023; Li and Wang, 2021; Teece et al., 2016). In this regard, academic performance from an administrative approach refers to the school's ability to effectively manage operations, address and adapt to changes, and continue to enhance and support educators' professional development.

Furthermore, the COVID-19 pandemic brought to light how educational institutions need to become adaptable, especially in responding to unprecedented changes. Institutions that had already begun the process of adoption were able to further accommodate the use of digital technologies, have flexible approaches to instruction and be able to continue to adapt and respond to disruptions. On the contrary, institutions that had not undertaken approaches to adapt and reform prior to the pandemic struggled to continue instruction due to a lack of innovation. These examples highlight how innovation and administrative success are dependent on each other, especially in times of crisis and disruption (Zhou et al., 2023; Kim & Park, 2021).

Given these insights, it becomes pertinent to evaluate how new educational techniques can contribute to overall administrative achievement.

The purpose of this study is to investigate how innovative teaching techniques impact administrative achievement at Zhangqiu No.4 Middle School.

LITERATURE REVIEWS

Relationship between Innovative Educational Practices and Administrative Achievement

In improving institutional effectiveness, innovative educational practices such as modernization of teaching and learning strategies along with enhancements in school management have become essential. These practices extend to instructional reform, development of curriculum, the adoption of digital tools, implementation of adaptive assessment measures and modernization of management techniques (Phakamach, 2023). Fullan (2019) has noted that without collaborative leadership and sustained stakeholder engagement, educational reform will not occur in a meaningful manner. In a similar light, research by Hargreaves and Shirley (2020) emphasizes that innovation must align with local needs and be promoted collectively between educators and administrators. When such practices are rooted in the school system, educational institutions see enhanced academic performance across multiple dimensions such as improvements in operational planning, better administrative capacity and professional growth. This idea is further supported by Johnson et al. (2020)'s research which notes that innovative policy design based on data-driven decision-

making can foster an environment for adaptability as institutions are allocating resources strategically and engaging in a flexible and responsive system of governance, which also allows institutions to adapt to external changes while maintaining internal efficiency. Greenwood and Suddaby (2016) assert that significant transformation within institutional contexts frequently arises when innovation is advocated from within established frameworks rather than enforced from outside, indicating that enduring administrative enhancement relies on collective ownership of innovation at all tiers of a school. As a result, we can conclude that innovative educational techniques have a good relationship with administrative achievement.

H1: Innovative educational practices influence administrative achievement. Relationship between Curriculum, Instructional, and Managerial Innovation and Resource Allocation & Adaptability.

Relationship between Curriculum, Instructional, and Managerial Innovation and Resource Allocation & Adaptability

How educational institutions allocate resources and respond to changes can be influenced by institutional development measures undertaken which encompass elements of curriculum design, instructional approaches and management innovation. Curriculum design and innovation entails a framework that is culturally responsive and aligned with learners' changing needs while also focusing on being flexible and interdisciplinary and promotes teaching strategies that have been enhanced by active and reflective approaches rooted in the use of digital technologies (Fullan, 2019; Schön, 2017; Phakamach, 2023). On the other hand, managerial innovation refers to how instructors, administrative leaders and educational leaders adapt and respond to changes by incorporating the use of new administrative models that are based on data-driven decision-making processes. This also entails engaging in collaborative leadership that also aligns with the use of digital technologies and tools to plan better outcomes and enhance responsiveness rates (Huizingh, 2019); Vial, 2019). Research by Li and Wang (2021) emphasizes how financial, human and material resources are properly allocated aligned with an educational institution's various goals when such innovations are strategically applied and distributed. Lu and Ramamurthy (2020) emphasise that cultivating internal competencies for resource allocation improves an institution's strategic agility, hence increasing its resilience and responsiveness in unstable settings.

H2: Curriculum, instructional, and managerial innovation influence resource allocation and adaptability.

Relationship between Courseware and Assessment Innovation and Learning Development

Courseware and assessment technologies contribute significantly to academic growth and research capabilities in educational institutions by promoting personalized, data-driven, and interactive learning opportunities. The integration of adaptive learning systems, gamification, artificial intelligence and virtual and augmented reality are all components of courseware innovation that are utilized and implemented to provide educational content that is also flexible (Garrison and Kanuka, 2014; Chen et al., 2020; Bailenson, 2018). Content is tailored to a learners' individual needs with real-time feedback being acquired with these elements enhancing retention rates and overall comprehension. Aligned with this is assessment innovation with a shift being noted from traditional exams to more authentic and formative measures. Students are being tasked with project-based assessments, digital portfolios and AI-assisted assessments that provide instructors with feedback based on students' individual strengths and weaknesses, thus allowing for courses to be tailored accordingly and appropriately (Wiggins, 2019; Zhao et al., 2020). Phakamach (2023) has stated that institutions are better prepared with understanding student needs and performance trends by using learning analytics and competency-based assessment strategies which also contribute to designing better instructional modules and supporting faculty members' professional development. Patel,

Kumar, and Nguyen (2023) further assert that creative assessment frameworks are essential for aligning evaluations with varied learning styles and promoting deeper cognitive engagement. H3: Courseware and assessment innovation influence learning development and research.

Relationship among Innovative Educational Practices and Student Learning & Instructional Integration

Innovative methods of teaching have a significant impact on student learning outcomes and the integration of instructional strategies within educational institutions. These methods, which include blended learning, multidisciplinary projects, competency-based instruction, and technology integration, seek to boost student engagement, skill development, and academic accomplishment (Phakamach, 2023; Tytler, 2019). Instructional integration is the seamless coordination of teaching methods, digital tools, and collaborative approaches that promote deeper learning and information transfer across disciplines. According to Ertmer and Ottenbreit-Leftwich (2018), implementation of these approaches are highly dependent on an instructor's level of digital competence and their beliefs along with the level of institutional support they are receiving. This is further highlighted by research by Koehler and Mishra (2022) who note that to foster meaningful learning environments, context expertise and technological goals need to be aligned with the right level of technological awareness and knowledge. García and Torres (2022) further assert that learner-centred assessment, in conjunction with self-regulated learning, enhances instructional coherence, particularly when digital resources are employed to customize material delivery. Integrated approaches facilitate the accommodation of varied student requirements while enabling educators to foster an environment conducive to critical thinking and self-regulated learning.

H4: Innovative educational practices influence student learning and instructional integration.

Figure 1.

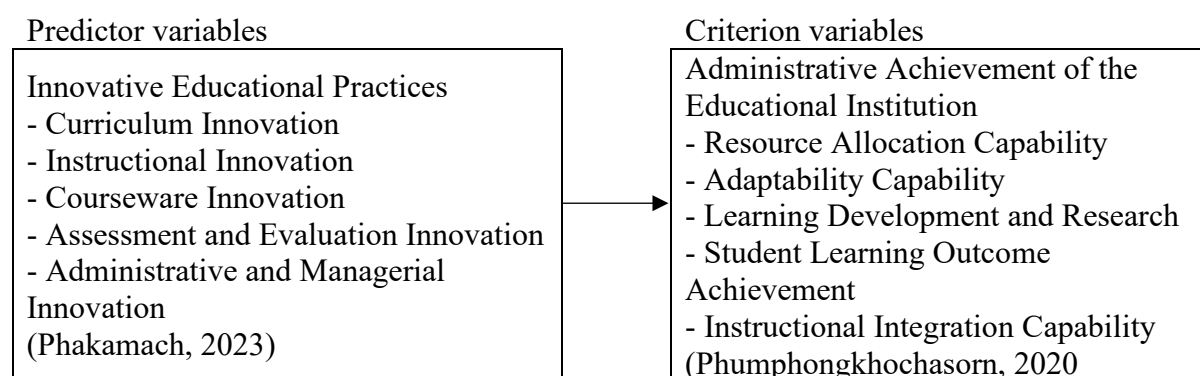


Figure 1 Conceptual Framework

RESEARCH METHODOLOGY

A quantitative survey research design was adopted to examine Zhangqiu No.4 Middle School's administrative achievement based on the influence of innovative educational practices implemented. 35,345 teachers and staff members across three subdistrict middle schools of Longshan Subdistrict No.4 Middle School with 11,420 individuals, Bucun Subdistrict No.4 Middle School with 5,627 individuals and Shengjing Subdistrict No.4 Middle School with 18,298 individuals were chosen as the population of this study. The appropriate sample size of 396 individuals was calculated using Yamane's formula (1967) with a 95% confidence level and 5% margin of error. A proportional stratified sampling method was applied to ensure balanced representation, with resulting yielding 128 participants from Longshan, 63 from Bucun and 205 from Shengjing. To accurately gather, a structured questionnaire with 3 parts was used with parts being as follows: part 1 detailed demographic information such as age, gender, educational level, monthly income and work experience, part 2 consisted of evaluating

innovative educational practices with 20 items across give observed variables such as instructional innovation, curriculum innovation, courseware innovation, assessment and evaluation innovation and administrative and managerial innovation, while part 2 comprised of 20 items with five observed variables measuring administrative achievement based on institutions resource allocation capability, adaptability capability, learning development and research, student learning outcome achievement and instructional integration capability. A five-point Likert scale with a range of 1 (strongly disagree) to 5 (strongly agree) was used for all items in the questionnaire. Prior to data collection, validity and reliability testing using Cronach's alpha was used to assess internal consistency for the questionnaire with reliability values exceeding 0.96 for the tools main constructs and subdimensions reaffirming its reliability. The researcher distributed 396 surveys online and in person, then validated and checked the data for completeness. Responses were analyzed using descriptive statistics such as frequency, percentage, mean, and standard deviation. To test the main hypothesis, multiple regression analysis was used to assess the association between innovative educational practices and administrative achievement, and the results are presented in both narrative and tabular form in the following section.

RESEARCH RESULTS

Implementation of Innovative Educational Practices

The findings revealed that the majority of personnel at Zhangqiu No.4 Middle School strongly held the view that innovative educational approaches had been effectively implemented throughout the institution. The overall mean score was 4.34, with all five aspects falling in the "strongly agree" category. Assessment and evaluation innovation received the highest rating (4.35), followed by courseware innovation and administrative and management innovation, both of which had a mean of 4.34. Instructional innovation obtained a 4.33, while curriculum innovation received the lowest mean of 4.31, suggesting substantial agreement. These findings indicate a broad and positive perception of innovation activities in teaching, management, and assessment fields.

The level of agreement indicates that the school's staff actively implements and values innovative tactics such as digital tools, learner-centered design, and flexible assessment. The modest rating disparity across dimensions suggests a balanced approach to innovation, with no one area falling behind. Overall, the school's innovation framework looks to be consistent and institutional-wide, rather than limited to individual initiatives or departments.

Table 1 Show mean, standard deviation Opinions about implementation of innovative education practices in Zhangqiu No.4 Middle School

Opinions about implementation innovative education practices in Zhangqiu No.4 Middle School	\bar{X}	S.D.	mean
1) Curriculum Innovation	4.31	0.94	strongly agree
2) Instructional Innovation	4.33	0.94	strongly agree
3) Courseware Innovation	4.34	0.92	strongly agree
4) Assessment and Evaluation Innovation	4.35	0.89	strongly agree
5) Administrative and Managerial Innovation	4.34	0.93	strongly agree
Total	4.34	0.89	strongly agree

Note: Table 1 includes opinions on five dimensions of administrative achievement. Each response has been evaluated on a 5-point Likert scale, with 1 representing strong disagreement and 5 representing strong agreement. The consistently strong rankings suggest that respondents believe the institution's administration is effective, adaptive, and in line with its academic objectives.

Administrative Achievement within the Institution

The results indicated that respondents strongly agreed with Zhangqiu No.4 Middle School's administration achievement, as shown in Table 2. The overall mean score was 4.38, with all five aspects falling into the "strongly agree" category. Instructional integration competence obtained the highest average score of 4.51, followed by student learning result attainment (4.41). Learning development and research, and adaptation capability, obtained a score of 4.33, with resource allocation capability receiving the lowest rating of 4.32. These findings point to a widespread view of strong institutional support and good administration in key operational areas.

The consistently favorable outcomes across all categories demonstrate that the school's administrative framework is well-structured and mindful toward the demands of its faculty and students. The top-rated dimension, instructional integration, demonstrates how administrative operations directly support modern, interdisciplinary teaching approaches. Meanwhile, the school's strong adaptability and resource allocation scores show that it is well-positioned to respond to change, manage resources effectively, and sustain operational quality.

Table 2 Show mean, standard deviation Opinions about the administrative achievement of educational institutions in Zhangqiu No.4 Middle School

Opinions about the administrative achievement of educational institutions in Zhangqiu No.4 Middle School.	\bar{X}	S.D.	mean
1) Resource Allocation Capability	4.32	0.92	strongly agree
2) Adaptability Capability	4.33	0.89	strongly agree
3) Learning Development and Research	4.33	0.90	strongly agree
4) Student Learning Outcome Achievement	4.41	0.65	strongly agree
5) Instructional Integration Capability	4.51	0.95	strongly agree
Total	4.38	0.65	strongly agree

Note: Table 2 indicates how respondents evaluated five aspects of administrative achievement. Ratings were based on a 5-point Likert scale, with 1 indicating strong disagreement and 5 indicating strong agreement. The findings support the general consensus that the institution operates with effective planning, responsiveness, and instructional alignment.

Relationship between Innovative Practices and Administrative Achievement

The study's final section examined whether there was a correlation between the implementation of innovative teaching techniques and the administrative success of Zhangqiu No.4 Middle School. As shown in Table 3, the research found a statistically significant positive relationship at the 0.01 level across all important dimensions. Instructional innovation had the highest correlation with administrative achievement ($r = 0.928$), followed by courseware innovation ($r = 0.897$) and assessment and evaluation innovation ($r = 0.873$). Administrative and management innovation exhibited a significant correlation ($r = 0.863$). The overall relationship between creative practices and administrative achievement was computed as $r = 0.890$, indicating a very strong link.

These findings indicate that innovation is not only well-integrated within the educational system, but also directly linked to effective administrative performance. High correlation values across each category demonstrate that teaching methods, digital learning tools, evaluation systems, and management practices are all aligned and mutually reinforcing. The tight link between innovation and administration represents a school culture in which innovative ideas and operational efficiency coexist to serve long-term objectives.

Table 3 Innovative educational practices have a statistically significant positive influence on the administrative achievement of the educational institution at Zhangqiu No.4 Middle School

Innovative Educational Practices	r	Sig.	Relationship level
Instructional Innovation	0.928**	.000	Very high
Courseware Innovation	0.897**	.000	Very high
Assessment and Evaluation Innovation	0.873**	.000	Very high
Administrative and Managerial Innovation	0.863**	.000	Very high
Total	0.890**	.000	Very high

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Note: Table 3 illustrates the Pearson correlation coefficients for each innovation factor and administrative achievement. A double asterisk (**) indicates a statistically significant relationship at the 0.01 level (two-tailed). The findings indicate robust, positive connections across all variables, supporting the integrated role of innovation in improving institutional performance.

DISCUSSION & CONCLUSION

This study was designed to investigate how schools like Zhangqiu No.4 Middle School can achieve administrative success based on the influence received from innovative educational practices. The findings reaffirm the hypothesis that each dimension of innovative educational practice has had a positive correlation with achieving academic success, of which the strongest correlation was for instructional innovation. Aside from this, courseware innovation and assessment and evaluation innovation proved to also have relatively strong and positive correlations. The results support the main hypothesis and indicate that a strong educational environment is one that encompasses elements of modern, adaptive and learner-centric approaches.

It can also be interpreted that schools are more able to manage resources effectively, adapt to changes and support teaching development while also improving student learning outcomes when various innovative teaching techniques are applied effectively that also encompass the use of digital tools and flexible administrative systems. Chen, Liu, and Zhao (2023) assert that the strategic alignment of digital infrastructure and organisational capabilities is essential for the sustainable management of such transformations. Instructional integration capability and student learning outcome achievement were the two highest-rated outcomes which indicate that an overall institution's success is capable of improving based on the institution's capability to integrate instruction alongside student learning outcomes based on their current needs. Phakamach's framework is found to align with the study's findings, along with Phumphongkochasorn's theory which both emphasize the relationship between educational impact and innovation. This also further stresses the point that successful educational administration can be measured by key indicators such as the strategic use of resources, ability to adapt and also level of internal research carried out.

The findings also support prior research that has highlighted the benefits of data-driven teaching, integrated technologies, and democratic leadership in schools. Kietzmann et al. (2011) observed that digital platforms provide a fundamental function in facilitating integration among communication, collaboration, and assessment technologies. Behn (2001) contends that for schools undergoing reform, democratic accountability is vital, particularly when innovation directly impacts students and staff. Lindstedt and Naurin (2010) warn that openness alone does not ensure enhancement unless it is accompanied with institutional structures for accountability and strategic response.

Managerial and academic interpretations and implications can also be seen from this study. On one hand, the findings of this study can provide school administrators with insights on how to

enhance curriculum design, instructional methods and administrative processes based on the premise of innovation practices to achieve tangible results, especially in improving an institution's outcomes. Furthermore, instructors and leaders engaging in collaboration to prioritize training for professional and personal development can also enhance performance, supporting the integration of technology and utilizing feedback-driven planning. Birkinshaw, Bouquet, and Barsoux (2016) assert that for organisations, particularly in the education sector, innovation is not a singular alteration but an ongoing process of renewal necessitating leadership endorsement and cultural transformation. As for the theoretical side, the study can add to the ongoing discussion on how innovation acts as a key driver for many educational institutions achieving administrative success, while also supporting the model that systematic progress can contribute to change in classrooms.

However, there are also limitations to be noted such as with the use of quantitative methods which doesn't provide personal insights from the study as opposed to if a qualitative approach was also implemented. To further evaluate the hypothesis and the issue at hand, it would be essential for the study to incorporate interviews or focus groups with school personnel as this would provide a deeper and more comprehensive understanding based on personal experiences and interpretations of innovative practices. Furthermore, the study was undertaken in a particular school setting, which may restrict its generalizability. Comparative studies across regions or educational systems may provide further insights. Finally, while the study focused on five distinct types of innovation, future research might broaden the framework to incorporate emerging factors like emotional intelligence in leadership or environmental sustainability in school planning.

In conclusion, the study confirms the hypothesis that innovative educational practices are not merely theoretical goals, but actual drivers of institutional success. Schools such as Zhangqiu No.4 Middle School are more effectively equipped to meet the changing demands of modern education by incorporating innovation into teaching, administration, and evaluation.

REFERENCES

- Argyris, C., & Schön, D. (2014). *Organizational Learning: A Theory of Action Perspective*. Sage Publications.
- Bailenson, J. N. (2018). *Experience on Demand: What Virtual Reality Is, How It Works, and What It Can Do*. Harvard University Press.
- Birkinshaw, J., Bouquet, C., & Barsoux, J. L. (2016). *The Restart-up: Why New Businesses Fail and How to Avoid It*. Harvard Business Review.
- Chen, X., Wang, Y., & Li, Y. (2020). Artificial Intelligence in Education: Recent Advances and Future Perspectives. *IEEE Transactions on Learning Technologies*, 13(2), 201-213.
- Chen, Y., & Zhang, H. (2022). Digital transformation and school leadership: Impact on administrative effectiveness. *Journal of Educational Management*, 36(2), 115-130.
- Chen, X., et al. (2020). *Motivation in Online Learning*. Computers in Human Behavior.
- Chen, Y., Liu, X., & Zhao, W. (2023). Digital transformation and resource allocation in organizations: A capability perspective. *Journal of Business Research*, 148, 123-134.
- Dicheva, D., Dichev, C., Agre, G., & Angelova, G. (2015). Gamification in education: A systematic mapping review. *Journal of Educational Technology & Society*, 18(3), 75-88.
- Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2018). Improving Students' Learning with Effective Learning Techniques: Promising Directions from Cognitive and Educational Psychology. *Psychological Science in the Public Interest*, 19(1), 4-65.
- Fullan, M. (2019). *The New Meaning of Educational Change*. Teachers College Press.

- García, P., & Torres, A. (2022). Learner-centered assessment and self-regulated learning. *Learning and Instruction*, 75, 101512.
- Garrison, D. R., & Kanuka, H. (2014). Blended learning: Uncovering its transformative potential in higher education. *Internet and Higher Education*, 27, 60-69.
- Greenwood, R., & Suddaby, R. (2016). Institutional Entrepreneurship in Mature Fields: The Big Five Accounting Firms. *Academy of Management Journal*, 59(3), 1026-1059.
- Hargreaves, A., & Shirley, D. (2020). *The Global Fourth Way: The Quest for Educational Excellence*. Corwin.
- Hattie, J., & Timperley, H. (2020). The Power of Feedback. *Review of Educational Research*, 87(2), 245-278.
- Huang, R. H., & Hew, K. F. (2018). Implementing innovative technology in higher education: Challenges and solutions. *Computers & Education*, 125, 1-4.
- Huizingh, E. K. (2019). Open Innovation: State of the Art and Future Perspectives. *Technovation*, 87, 102-107.
- Johnson, H., Smith, L., & Williams, P. (2021). Environmental Factors Affecting Student Achievement in Higher Education. *Journal of Educational Research*, 114(3), 321-338.
- Johnson, L., Adams Becker, S., Estrada, V., & Freeman, A. (2020). *The NMC horizon report: 2020 higher education edition*. EDUCAUSE. [Discusses emerging technologies and innovation adoption]
- Johnson, P., & Carter, S. (2020). Leadership and organizational agility: Building adaptive capacity. *Leadership Quarterly*, 31(4), 101-112.
- Johnson, R., & Lee, M. (2021). Data-driven assessment practices in modern education. *International Journal of Educational Management*, 35(4), 747-762.
- Kim, M., & Lee, S. (2022). Teachers' perceptions and practices of instructional innovation in online education during COVID-19. *International Journal of Educational Technology*, 8(2), 45-63.
- Kim, S., & Lee, H. (2023). Digital transformation and organizational adaptability: A dynamic capabilities perspective. *Journal of Business Research*, 152, 113-124.
- Kim, S., & Park, H. (2021). Flexibility in resource deployment and organizational resilience. *International Journal of Management Reviews*, 23(2), 245-263.
- Koehler, M. J., Mishra, P., & Yahya, U. (2014). TPACK in education: Enabling innovative teaching with technology. *Educational Technology*, 54(4), 5-15.
- Ladson-Billings, G. (2021). *The Dreamkeepers: Successful Teachers of African American Children*. Jossey-Bass (Updated editions relevant to curriculum relevance).
- Li, J., & Wang, X. (2021). Innovative pedagogies and school administration in the digital age. *International Journal of Educational Innovation*, 8(4), 45-60.
- Li, X., & Wang, Y. (2019). Goal-setting interventions and their impact on student performance. *Educational Psychology Review*, 31(4), 947-968.
- Li, X., & Wang, Y. (2022). Cultivating adaptability through organizational learning in uncertain environments. *Management Learning*, 53(2), 165-183.
- Liu, X., et al. (2021). *Digital Constructivism in Higher Education*. Journal of Educational Technology & Society.
- Lu, V., & Ramamurthy, K. (2020). Building resource allocation capabilities for strategic agility. *Strategic Management Journal*, 41(9), 1548-1570.
- Martinez, S., & Garcia, R. (2022). Virtual Reality and Experiential Learning. *International Journal of Educational Technology*.
- Merrill, R., & Reid, H. (2019). Developing learning agility for organizational adaptability. *Human Resource Development Quarterly*, 30(2), 157-173.
- Nguyen, T., et al. (2019). Growth Mindset Interventions in STEM. *Review of Educational Research*.

- Patel, R., Kumar, S., & Nguyen, T. (2023). Innovative evaluation frameworks for diverse learning environments. *Educational Research Review*, 38, 100778.
- Pinar, W. F. (2018). *Curriculum Theory: Conflicting Visions and Enduring Concerns*. Routledge.
- Phumphongkhochasorn, P. (2020). Innovative learning styles that affect administrative achievement educational institutions to learning in the 21th century. *Journal of MCU Peace Studies*, 8(2), 689-710.
- Phakamach, P. (2023). Educational innovation: Elements and mechanisms for the development of Thai educational institutions towards internationalization. *Journal of Education and Innovative Learning*, 3(2), 161-179.
- Schön, D. A. (2017). *The reflective practitioner: How professionals think in action*. Routledge.
- Schunk, D. H., & DiBenedetto, M. K. (2018). Motivation and social-cognitive theory. *Contemporary Educational Psychology*, 60, 118-125.
- Singh, R., & Kaur, P. (2020). Resource management and innovation performance: A capability approach. *Journal of Business & Industrial Marketing*, 35(10), 1631-1642.
- Sirmon, D. G., Hitt, M. A., & Ireland, R. D. (2019). Strategic flexibility: Creating adaptive organizations. *Academy of Management Journal*, 62(4), 1032-1054.
- Smith, J., & Lee, A. (2023). *Advances in Educational Data Analytics*. Educational Research Review.
- Teece, D. J., Peteraf, M. A., & Leih, S. (2016). Dynamic Capabilities and Organizational Agility. *California Management Review*, 58(4), 13-35.
- Tytler, R. (2019). *Curriculum Innovation in STEM Education*. Springer.
- Vial, G. (2019). Understanding Digital Transformation: A Review and a Research Agenda. *Journal of Strategic Information Systems*, 28(2), 118-144.
- Wang, Q., & Liu, S. (2023). Technology integration and administrative performance in middle schools. *Educational Review*, 75(1), 78-95.
- Walker, A., & Leary, H. (2019). Developing innovative instructional practices: The role of professional learning communities. *Journal of Educational Change*, 20(3), 285-312.
- Wiggins, G. (2019). Authentic assessment: Moving beyond traditional testing. *Assessment & Evaluation in Higher Education*, 44(7), 1019-1029.
- Zhang, T., Chen, J., & Zhou, L. (2022). Organizational agility and resource reallocation in volatile environments. *Management Decision*, 60(4), 987-1004.
- Zhou, P., et al. (2021). Strategic flexibility and firm performance in turbulent markets. *International Journal of Business and Management*, 16(3), 45-60.
- Zhou, L., Tan, H., & Xu, Y. (2023). Resilience and innovation in school management during COVID-19. *Asia-Pacific Journal of Education*, 43(2), 200-215.
- Zhou, M., Zhang, X., & Liu, H. (2022). Strategic resource allocation in dynamic markets: A capability perspective. *Journal of Strategic Information Systems*, 31(3), 101808.
- Zhao, Y., & Li, J. (2020). *Self-efficacy and student engagement in online learning*. Computers & Education.
- Zhao, Y., Wang, S., & Liu, X. (2020). Digital transformation of assessment: Opportunities and challenges in education. *Journal of Educational Technology & Society*, 23(1), 45-58.

Data Availability Statement: The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Conflicts of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.



Copyright: © 2025 by the authors. This is a fully open-access article distributed under the terms of the Attribution-NonCommercial-NoDerivatives 4.0 International (CC BY-NC-ND 4.0).