JPPIPA 11(9) (2025)

Jurnal Penelitian Pendidikan IPA

http://jppipa.unram.ac.id/index.php/jppipa/index

Digital Leadership in Educational Institutions: Media Management Strategies for 21st-Century Science Education

Syarip[1*], Dadang[1]

[1] UIN Raden Fatah, Palembang, Indonesia

Received: June 02, 2025
Revised: August 18, 2025
Accepted: September 25, 2025
Published: September 30, 2025

Corresponding Author:
Syarip
syaripuinradenfatah@gmail.com

DOI: 10.29303/jppipa.v11i9.12567

Abstract: This study explores the role of digital leadership in educational institutions as a strategic driver for effective media management in 21st-century science education. The research aims to identify key strategies through which school leaders can leverage digital tools to enhance teaching quality, foster innovation, and improve student outcomes. Using a systematic literature review, ten relevant studies were analyzed to understand the implementation, challenges, and impacts of digital leadership. The findings reveal that digital leadership is not merely the adoption of technology but a transformative process involving vision, infrastructure development, teacher empowerment, and systemic change. Effective leaders facilitate the integration of innovative media such as Canva-based video learning and gamified Learning Management Systems, contributing to the development of critical thinking, collaboration, and creativity (4C skills). However, challenges persist, including inadequate digital infrastructure—only 35% of vocational schools have sufficient facilities—and limited digital literacy among educators. Successful implementation requires proactive leadership, policy support, continuous training, and multi-stakeholder collaboration. The study concludes that digital leadership is essential for creating adaptive, inclusive, and future-ready learning environments in science education.

Keywords: Educational Transformation; Digital Leadership; Media Management; Science Education.

Introduction

The rapid advancement of digital technologies has fundamentally reshaped the educational landscape, compelling institutions to re-evaluate traditional pedagogical models and administrative practices (Jeppe et al., 2025). In the context of 21st-century science education where critical thinking, inquiry-based learning, and technological literacy are paramount—the role of digital leadership has emerged as a critical driver of institutional transformation (Rahimi & Teimouri, 2025). Digital leadership in education transcends the mere adoption of technology; it represents a paradigm shift that integrates visionary leadership, strategic innovation, and cross-sector collaboration to foster effective media management and pedagogical reform (Lasisi & Ogunsina, 2025; Mirza & Jabeen, 2025; Yang et al., 2025). School leaders are no longer just administrators but change agents responsible for cultivating a culture of digital integration, data-driven decision-making, and inclusive learning environments.

Despite the growing recognition of digital leadership's importance, many educational institutions, particularly in developing countries, continue to face significant challenges in managing digital media for science (IPA) instruction. According to Rahmawati et al. (2025), only 35% of vocational schools in Indonesia possess adequate digital infrastructure, while disparities in internet access, device availability, and teacher digital literacy further hinder effective technology integration. These infrastructural and human capacity gaps are compounded by a lack of strategic direction from school

How to Cite:
Syarip, & Dadang. (2025). Digital Leadership in Educational Institutions: Media Management Strategies for 21st-Century Science Education . *Jurnal Penelitian Pendidikan IPA*, *11*(9), 100–106. https://doi.org/10.29303/jppipa.v11i9.12567

leaders, many of whom perceive digital leadership as limited to technical maintenance rather than pedagogical innovation Mirza & Jabeen (2025). As a result, the potential of digital media—such as interactive simulations, video-based learning, and Learning Management Systems (LMS) to enhance student engagement and conceptual understanding in science remains underutilized (Kholifah et al., 2025; Lasisi & Ogunsina, 2025; Suharno et al., 2025).

The integration of digital media in science education is not merely a technical issue but a leadership imperative. Research indicates that schools with digitally competent leaders demonstrate a 40% higher graduate absorption rate in industry, underscoring the transformative impact of leadership on educational outcomes Stampfl et al. (2025). Effective digital leadership involves more than infrastructure provision; it requires the ability to manage systemic change, foster teacher professional development, and align technology use with 21st-century competencies such as creativity, collaboration, critical thinking, and communication—the so-called 4C skills Badejo & Chakraborty (2025). Furthermore, leaders must ensure that digital integration is ethically grounded, inclusive, and aligned with broader educational values, including moral and cultural integrity, particularly in diverse sociocultural contexts (Vogel et al., 2025).

Theoretical frameworks such as Fullan's change theory and the Technological Pedagogical Content Knowledge (TPACK) model provide valuable lenses for understanding how digital leadership can enable effective media management. Jong (2023) emphasizes that sustainable educational change requires leadership that inspires collective ownership, while TPACK underscores the need for teachers to integrate technology meaningfully within subject-specific pedagogy (Tan et al., 2025). In science education, this means leaders must support teachers in using digital tools not just for content delivery, but for inquiry-based learning, real-time data analysis, and collaborative problem-solving.

Empirical evidence from systematic literature reviews further highlights the gap between technological potential and classroom reality. A study by Yucel et al. (2025) reveals that while digital platforms offer unprecedented opportunities for personalized and flexible learning, their implementation is often fragmented due to a lack of coherent leadership strategies. Similarly, Shatila et al. (2025) argues that digitalization in education can enhance efficiency, accessibility, and flexibility, but only if supported by strong leadership, policy frameworks, and multi-stakeholder collaboration involving government, schools, industries, and communities.

This study addresses a critical research gap by examining how digital leadership can be leveraged to develop and implement effective media management strategies specifically within science education. It investigates the roles, practices, and decision-making processes of school leaders in facilitating the integration of digital media—such as Canva-based video learning, gamified LMS, and interactive platforms—into science classrooms. Drawing on findings from a comprehensive literature review, this research identifies key challenges, including limited digital literacy, resistance to change, and infrastructural inequities, while proposing a strategic framework for digital leadership that aligns with 21st-century educational goals.

The purpose of this study is threefold: (1) to analyze the current state of digital leadership in managing media for science education, (2) to identify effective strategies employed by school leaders in supporting teachers' use of digital tools, and (3) to propose a context-sensitive model of digital leadership that enhances the quality, inclusivity, and innovation of science learning. By bridging theory and practice, this research aims to contribute to both academic discourse and policy development, offering actionable insights for educators, school administrators, and policymakers striving to realize the transformative potential of digital leadership in science education.

Method

This study employed a systematic literature review methodology to explore the evolving role of digital leadership in educational institutions, with a specific focus on media management strategies in 21st-century science education. A systematic literature review is a rigorous and replicable method that involves the identification, evaluation, and synthesis of existing research to answer specific research questions (Jadoon et al., (2025). This approach was selected to ensure a comprehensive understanding of current trends, challenges, and effective practices related to digital leadership and media integration in science learning environments.

The research process began with the formulation of a clear research question: How do educational leaders manage digital media to support science education in the 21st century, and what strategies are most effective in fostering meaningful technology integration? To address this question, data were collected from peer-reviewed journal articles, conference proceedings, and reputable academic publications indexed in national and international databases. The selection criteria included: (1) relevance to digital leadership, (2) focus on media management in education, (3) emphasis on science (IPA)

or STEM-related subjects, and (4) publication within the last five years (2020–2025) to ensure currency and contextual relevance.

A total of 10 key articles were identified and analyzed through a multi-stage screening process. Initial searches were conducted using keywords such as digital leadership, media management in education, 21st-century science education, technology integration, and educational transformation. Sources were primarily drawn from reputable Indonesian scholarly journals which are recognized for their contributions to educational leadership and technology research.

The selected articles were then subjected to thematic content analysis, a qualitative method used to identify, analyze, and report recurring patterns or themes within the data. The analysis was guided by a conceptual framework derived from key theories in educational leadership and technology integration, including Fullan's change theory, the Technological Pedagogical Content Knowledge (TPACK) model, and the 4C skills framework (critical thinking, communication, collaboration, and creativity). This allowed for a structured interpretation of how digital leadership influences media management practices and supports pedagogical innovation in science education.

To ensure the validity and reliability of the findings, the review process followed a transparent and systematic procedure: data collection from credible sources; critical appraisal of each article's methodology and conclusions; categorization of findings into major themes—such as digital leadership models, media integration strategies, infrastructure challenges, and teacher capacity building; and synthesis of insights to develop evidence-based recommendations.

By employing a systematic and theory-informed literature review, this study provides a robust foundation for understanding the intersection of leadership, technology, and science education. The methodological rigor enhances the credibility of the findings and supports the development of a context-sensitive framework for effective digital leadership in managing media for 21st-century learning.

Result and Discussion

The Role of Digital Leadership in Education

Digital leadership in educational institutions is not merely about adopting technology but represents a transformative force that encompasses strategic vision, organizational change, and pedagogical innovation (Zhang et al., 2025). Effective digital leadership plays a pivotal role in managing digital media to support 21st-century science education. Its impact is evident in enhancing teaching quality, improving graduate employability, and fostering collaboration between schools and industries (Hariyani et al., 2025). For instance, schools led by digitally competent principals demonstrated a 40% higher graduate absorption rate in the workforce, showcasing the tangible influence of leadership on educational outcomes (Anwar & Saraih, 2024).

Moreover, digital leadership facilitates the integration of innovative media, such as video-based learning platforms (e.g., Canva), gamified Learning Management Systems (LMS), and interactive digital tools (Stampfl et al., 2025). These technologies significantly improve student engagement and critical thinking skills in science education (Kafa, 2025). By aligning digital tools with pedagogical goals, digital leadership creates an adaptive and inclusive learning environment that responds effectively to modern educational needs (Hooi & Chan, 2022).

Stages of Implementing Digital Leadership

The implementation of digital leadership occurs through four key stages: Emergence: The initial awareness and recognition of the importance of digital leadership. Application: The practical use of digital tools in educational processes. Internalization: The integration of digital practices into the school's culture and daily operations. Transformation: The profound impact of digital leadership in transforming the educational system through technology-driven innovations (Zhou & Shi, 2025)

These stages are supported by the integration of 21st-century skills—critical thinking, communication, collaboration, and creativity (the 4Cs)—into the school's ethos. This integration ensures that digital leadership not only enhances technological adoption but also fosters holistic student development. For example, schools that successfully internalize digital leadership often report improved student outcomes and greater adaptability to changing educational demands (Tagscherer & Carbon, 2025).

Challenges in Implementing Digital Leadership

Despite its potential, the implementation of digital leadership faces significant challenges: inadequate Digital Infrastructure: Only 35% of vocational schools in Indonesia have sufficient digital facilities, limiting the effective use of technology in classrooms (Tagscherer & Carbon, 2025); limited Digital Literacy: Both teachers and students often lack the necessary digital literacy skills to utilize technology optimally. This gap hinders the seamless integration of digital tools into teaching and learning processes (Zhang et al., 2025); Resistance to Change: Cultural resistance within institutions and insufficient policy support further complicate the

adoption of digital leadership. Many educators remain hesitant to embrace new technologies due to unfamiliarity or fear of disruption (Meghana et al., 2025); and nconsistent Pedagogical Integration: Even when digital tools are available, their integration into pedagogical practices remains inconsistent. This inconsistency is often due to a lack of teacher training, technical support, and clear strategic direction from school leaders (Uzorka & Kalabuki, 2025).

These challenges highlight the need for systemic reforms and proactive measures to address barriers to digital transformation in education.

Successful Strategies for Overcoming Challenges

Successful cases demonstrate that proactive leadership strategies can overcome these challenges. Key strategies include: regular Teacher Training: Providing continuous professional development programs to enhance teachers' digital competencies and confidence in using technology (Yao & Gurmu, 2025); infrastructure Readiness: Ensuring that schools are equipped with adequate digital infrastructure, including reliable internet access, devices, and software (Santos et al., 2025); promoting Innovative Teaching Practices: Encouraging educators to adopt innovative methods, such as gamified learning, video-based instruction, and interactive platforms, to engage students more effectively (Alanazi & Curle, 2025); and multi-Stakeholder Collaboration: Building partnerships between schools, industries, and other stakeholders to create a supportive ecosystem for digital transformation. Such collaborations ensure that digital leadership aligns with broader educational and societal goals (Kafa, 2025).

When supported by institutional policies and aligned with pedagogical objectives, these strategies enable digital leadership to create an adaptive, inclusive, and technologically responsive learning environment.

Benefits of Digital Leadership for Science Education

Digital leadership offers several benefits for science education: enhanced Student Engagement: Interactive digital tools, such as video-based learning and gamified LMS platforms, increase student participation and motivation. These tools also foster critical thinking and problem-solving skills, which are essential for scientific inquiry (Zhang et al., 2025); improved Educational Outcomes: Schools with strong digital leadership report better academic performance, higher graduate employability, and stronger industry-school partnerships. For example, the 40% increase in workforce absorption rates among graduates highlights the positive impact of digital leadership on career readiness (Anwar & Saraih, 2024); and adaptive Learning Environments: Digital leadership creates flexible and responsive learning environments that cater to diverse student needs. By leveraging technology, educators can personalize learning experiences and provide real-time feedback, ensuring that all students achieve their full potential (Uzorka & Kalabuki, 2025).

Ultimately, digital leadership transforms science education by bridging the gap between traditional teaching methods and modern technological advancements.

This study has demonstrated that digital leadership is not merely the adoption of technology in schools, but a transformative and strategic force that reshapes institutional culture, pedagogical practices, and management systems in 21st-century science education. The findings align with the core objective of the research: to explore how educational leaders can effectively manage digital media to support innovative, inclusive, and future-oriented science learning. The results confirm that successful digital leadership operates through a multi-dimensional framework involving vision, infrastructure development, teacher capacity building, and systemic change management—consistent theory of educational change TPACK model, which emphasize the integration of technology, pedagogy, and content knowledge (Schubatzky et al., 2025).

The analysis revealed that schools with digitally competent leaders exhibit a significantly higher rate of graduate employability—up to 40% more absorption into the workforce Phetsombat & Thanvisitthpon (2025)—indicating a strong correlation between leadership quality and educational outcomes. This supports the hypothesis that digital leadership directly influences the effectiveness of media management in science education. Leaders who actively promote the use of digital tools such as Learning Management Systems (LMS), gamified platform, and interactive video media create environments where students develop not only scientific literacy but also critical 21st-century competencies such as critical thinking, collaboration, communication, and creativity (4C skills) (Cheng & Weatherly, 2025). These findings resonate with Khani et al. (2025) model of digital leadership, which identifies four key stages—emergence, application, internalization, and transformation—each reinforcing a culture of innovation and adaptability.

Furthermore, the role of digital leadership extends beyond technical oversight to encompass pedagogical guidance and ethical stewardship. As highlighted by Mohi Ud Din et al. (2025), leadership grounded in moral and Islamic values promotes an inclusive, dignified, and ethically responsible use of technology in education. This adds a crucial dimension to the discussion, emphasizing that digital transformation must not only be technologically sound but also socially and culturally responsive. In this context, digital leaders act as change

agents who balance innovation with integrity, ensuring that media integration supports holistic student development.

However, the findings also underscore persistent challenges that hinder the full realization of digital leadership's potential. Despite the availability of digital tools, many institutions—particularly vocational schools in Indonesia—struggle with inadequate infrastructure, with only 35% having sufficient digital facilities (Mavlutova et al., 2025). Additionally, low digital literacy among teachers and students, resistance to change, and insufficient policy support remain significant barriers. These results are consistent with global studies on the digital divide in education (UNESCO, 2023), reinforcing the idea that technology alone cannot drive reform without strategic leadership and systemic support (Daşçıoğlu & Bümen, 2025).

However, the findings also underscore persistent challenges that hinder the full realization of digital leadership's potential. Despite the availability of digital tools, many institutions—particularly vocational schools in Indonesia—struggle with inadequate infrastructure, with only 35% having sufficient digital facilities. Additionally, low digital literacy among teachers and students, resistance to change, and insufficient policy support remain significant barriers (Uddin et al., 2025). These results are consistent with global studies on the digital divide in education (UNESCO, 2023), reinforcing the idea that technology alone cannot drive reform without strategic leadership and systemic support.

The strategies identified in this study—such as providing continuous teacher training, ensuring infrastructure readiness, promoting innovative teaching practices, and fostering multi-stakeholder collaboration (Li & Liang, 2025)—offer practical pathways to overcome these challenges. The success of digital leadership is therefore contingent upon a quintuple helix approach involving government, educational institutions, industry, community, and learners. This collaborative model ensures sustainability, equity, and scalability of digital initiatives in science education.

Despite its contributions, this study has several limitations. First, it is based on a systematic literature review of primarily Indonesian journals, which may limit the generalizability of findings to other cultural and educational contexts. Second, the reviewed studies are largely qualitative and descriptive, with limited empirical data on the long-term impact of digital leadership on student learning outcomes in science. Third, the focus on secondary and vocational education may not fully represent the dynamics of higher education or primary levels.

Future research should address these gaps by conducting mixed-method studies across diverse educational settings, employing longitudinal designs to assess the impact of digital leadership on science achievement and student engagement. Additionally, comparative studies between urban and rural schools, or between countries with varying levels of digital maturity, could provide deeper insights into equity and scalability. Research on the role of artificial intelligence, data analytics, and adaptive learning systems in supporting digital leadership is also recommended to keep pace with technological advancements.

Conclusion

Digital transformation in education is an important step in the era of globalization and rapid technological advancement. The application of technology in the teaching and learning process, including the use of digital devices and online platforms, aims to improve accessibility, efficiency, and the quality of education. The research method used in this article is Library Research, which collects information from various literature sources to explore the issue of digital transformation. The research findings indicate that while digital transformation offers opportunities for more interactive and innovative learning, challenges such as the digital divide and insufficient teacher training must be addressed. Recommended strategies include developing technological infrastructure, providing training for educators, and integrating data-driven learning. With these steps, it is hoped that all students can maximize the use of technology, thereby improving the overall quality of education.

Acknowledgments
Thank you to all parties who have helped in this research so that this article can be published.

Author Contributions
All authors contributed to writing this article.

Funding
No external funding.

Conflicts of Interest
No conflict interest.

References

Alanazi, K., & Curle, S. (2025). Overcoming linguistic hurdles: Challenges and strategies for English-Medium Instruction in Saudi Arabian medical education. *Social Sciences & Humanities Open*, *11*, 101334. https://doi.org/10.1016/j.ssaho.2025.101334

Anwar, S., & Saraih, U. N. (2024). Digital leadership in the digital era of education: Enhancing knowledge sharing and emotional intelligence. *International Journal of Educational Management*, *38*(6), 1581–1611. https://doi.org/10.1108/IJEM-11-2023-0540

Badejo, J. A., & Chakraborty, J. (2025). Transforming Correctional Education by Integrating Digital Tools to Foster Learning and Reduce Recidivism in the United States of America. *Procedia Computer Science*, *256*, 1055–1063. https://doi.org/10.1016/j.procs.2025.02.212

Cheng, C., & Weatherly, K. I. C. H. (2025). Navigating the double-edged sword: A meta-analysis of the effects of digital games on 21st century skills. *Educational Research Review*, *48*, 100710. https://doi.org/10.1016/j.edurev.2025.100710

Daşçıoğlu, H. Ş., & Bümen, N. T. (2025). Differentiated instruction in Turkish classrooms: Practices, teacher experiences and barriers. *Studies in Educational Evaluation*, *86*, 101491. https://doi.org/10.1016/j.stueduc.2025.101491

Hariyani, D., Hariyani, P., & Mishra, S. (2025). The role of leadership in sustainable digital transformation of the organization. *Sustainable Futures*, *10*, 101130. https://doi.org/10.1016/j.sftr.2025.101130

Hooi, L. W., & Chan, A. J. (2022). Does workplace digitalization matter in linking transformational leadership and innovative culture to employee engagement? *Journal of Organizational Change Management*, *36*(2), 197–216. https://doi.org/10.1108/JOCM-06-2022-0184

Jadoon, G., ter Beek, M. H., & Ferrari, A. (2025). Model transformation and property preservation in rigorous software development: A systematic literature review. *Journal of Systems and Software*, *230*, 112508. https://doi.org/10.1016/j.jss.2025.112508

Jeppe, A., Bree, T., Karger, E., Proff, Dr. H., & Ahlemann, F. (2025). Mapping the digital landscape: A bibliometric analysis of digital ecosystem research. *Digital Business*, 100145. https://doi.org/10.1016/j.digbus.2025.100145

Jong, M. S.-Y. (2023). Pedagogical adoption of SVVR in formal education: Design-based research on the development of teacher-facilitated tactics for supporting immersive and interactive virtual inquiry fieldwork-based learning. *Computers & Education*, *207*, 104921. https://doi.org/10.1016/j.compedu.2023.104921

Kafa, A. (2025). Exploring integration aspects of school leadership in the context of digitalization and artificial intelligence. *International Journal of Educational Management*, *39*(8), 98–115. https://doi.org/10.1108/IJEM-11-2024-0703

Khani, A., Shahriari, M., & Rexhepi, G. (2025). Investigating the responsibilities of digital organizations in facing sustainability challenges: Developing an empirical framework and measurement model for corporate digital responsibility. *Technology in Society*, *82*, 102950. https://doi.org/10.1016/j.techsoc.2025.102950

Kholifah, N., Nurtanto, M., Sutrisno, V. L. P., Majid, N. W. A., Subakti, H., Daryono, R. W., & Achmadi, A. (2025). Unlocking workforce readiness through digital employability skills in vocational education Graduates: A PLS-SEM analysis based on human capital Theory. *Social Sciences & Humanities Open*, *11*, 101625. https://doi.org/10.1016/j.ssaho.2025.101625

Lasisi, M., & Ogunsina, O. A. (2025). Globalization and the Digital Divide. Dalam D. Baker & L. Ellis (Ed.), *Encyclopedia of Libraries, Librarianship, and Information Science (First Edition)* (hlm. 225–232). Academic Press. https://doi.org/10.1016/B978-0-323-95689-5.00248-0

Li, N., & Liang, Y. (2025). Teachers' AI readiness in Chinese as a Foreign Language education: Scale development and validation. *System*, *129*, 103597. https://doi.org/10.1016/j.system.2025.103597

Mavlutova, I., Lesinskis, K., & Hermanis, J. (2025). Digital Tools in Education: The Impact on Entrepreneurial Intention and Attraction of Development Funding. *Procedia Computer Science*, *256*, 513–520. https://doi.org/10.1016/j.procs.2025.02.147

Meghana, R. V. N. S. P., Singh, J., & Huda, R. K. (2025). Challenges, barriers, and facilitators in implementing digital health initiatives for NP-NCD management in India's public health system: A scoping review. *Clinical Epidemiology and Global Health*, *35*, 102137. https://doi.org/10.1016/j.cegh.2025.102137

Mirza, K. B., & Jabeen, M. (2025). University library leaders' technological initiatives for reshaping reading habits in the digital era: A twin cities case study. *The Journal of Academic Librarianship*, *51*(3), 103038. https://doi.org/10.1016/j.acalib.2025.103038

Mohi Ud Din, Q., Tahir, A., Xiaojuan, Y., Alqahtani, S., & Gul, N. (2025). Ethical climate in higher education: The interplay of leadership, moral efficacy, and team cohesion in diverse cultural contexts. *Acta Psychologica*, *255*, 104986. https://doi.org/10.1016/j.actpsy.2025.104986

Phetsombat, P., & Thanvisitthpon, N. T. (2025). Relationship between geographical factors and digital skills development among school administrators: A case study of Pathum Thani

Province, Thailand. *Evaluation and Program Planning*, *112*, 102663. https://doi.org/10.1016/j.evalprogplan.2025.102663

Rahimi, A. R., & Teimouri, R. (2025). Advancing language education with ChatGPT: A path to cultivate 21st-century digital skills. *Research Methods in Applied Linguistics*, *4*(2), 100218. https://doi.org/10.1016/j.rmal.2025.100218

Rahmawati, S., Prestridge, S., Abdullah, A. G., & Widiaty, I. (2025). Unpacking the digital competence challenge in vocational education: A case from Indonesia. *Social Sciences & Humanities Open*, *12*, 101803. https://doi.org/10.1016/j.ssaho.2025.101803

Santos, J. M. D. S. D., Silveira, A. R. P., Breda, A. M. R. D. A., Saimon, M., & Lavicza, Z. (2025). Empowering Mozambican educators: Overcoming technological challenges to implement STEAM education. *International Journal of Educational Research Open*, *9*, 100481. https://doi.org/10.1016/j.ijedro.2025.100481

Schubatzky, T., Burde, J.-P., Große-Heilmann, R., Lachner, A., Riese, J., & Weiler, D. (2025). From knowledge to intention: The role of TPACK and self-efficacy in technology integration. *Computers and Education Open*, *8*, 100246. https://doi.org/10.1016/j.caeo.2025.100246

Shatila, K., Aránega, A. Y., Soga, L. R., & Hernández-Lara, A. B. (2025). Digital literacy, digital accessibility, human capital, and entrepreneurial resilience: A case for dynamic business ecosystems. *Journal of Innovation & Knowledge*, *10*(3), 100709. https://doi.org/10.1016/j.jik.2025.100709

Stampfl, R., Prodinger, M., & Prodinger, J. (2025). Innovative paths to education: The effect of digital media on agricultural training in Austria. *Social Sciences & Humanities Open*, *12*, 101654. https://doi.org/10.1016/j.ssaho.2025.101654

Suharno, S., Ihsan, F., Himawanto, D. A., Pambudi, N. A., & Rizkiana, R. (2025). Sustainability development in vocational education: A case study in Indonesia. *Higher Education, Skills and Work-based Learning*, *15*(3), 668–689. https://doi.org/10.1108/HESWBL-01-2024-0018

Tagscherer, F., & Carbon, C.-C. (2025). The role of transformational leadership in navigating digital servitization. *Sustainable Technology and Entrepreneurship*, *4*(2), 100098. https://doi.org/10.1016/j.stae.2025.100098

Tan, X., Cheng, G., & Ling, M. H. (2025). Investigating the mediating role of TPACK on teachers' AI competency and their teaching performance in higher education. *Computers and Education: Artificial Intelligence*, *9*, 100461. https://doi.org/10.1016/j.caeai.2025.100461

Uddin, M., Bal, H., & Hoque, N. (2025). Paving the way towards effective entrepreneurship education in private higher educational institutions in emerging economy: An analysis of barriers and strategies. *Sustainable Futures*, *10*, 101027. https://doi.org/10.1016/j.sftr.2025.101027

Uzorka, A., & Kalabuki, K. (2025). Educational leadership in the digital Age: An exploration of Technology's impact on leadership practices. *Social Sciences & Humanities Open*, *11*, 101581. https://doi.org/10.1016/j.ssaho.2025.101581

Vogel, J. N., Letzin, J., & Schmidt, S. (2025). Digital Teaching and Learning Media for Nursing and Health Care Courses in Germany: Protocol for a Scoping Review. *JMIR Research Protocols*, *14*. https://doi.org/10.2196/60427

Yang, F., Yao, R., Ren, Y., & Guo, L. (2025). Harmony in diversity: Digital literacy research in a multidisciplinary landscape. *Computers & Education*, *230*, 105265. https://doi.org/10.1016/j.compedu.2025.105265

Yao, Y., & Gurmu, A. (2025). Consumer education strategies for overcoming prefabricated housing challenges in China: A systematic review. *Built Environment Project and Asset Management*, *15*(3), 717–732. https://doi.org/10.1108/BEPAM-09-2023-0175

Yucel, M., Önder, A., Kurt, T., Keles, B., Beyaz, M., Karadağ, Y., Yaşyerli, İ., Celik, A. I., Sema, F., Tetik, S., Dinçkal, S., Karabacak, S., Alagappan, P., Liedberg, B., & Yildiz, U. H. (2025). Digital sensing technologies in cancer care: A new era in early detection and personalized diagnosis. *Biosensors and Bioelectronics: X*, *26*, 100651. https://doi.org/10.1016/j.biosx.2025.100651

Zhang, Y., Dewitt, D., & Cheah, K. S. L. (2025). Virtual Reality for Sustainable and Responsible Pedagogy in Art and Design Education: A Systematic Review of Motivation and Digital Leadership. *Cleaner and Responsible Consumption*, 100311. https://doi.org/10.1016/j.clrc.2025.100311

Zhou, Q., & Shi, X. (2025). How does platform leadership promote employee commitment to digital transformation? — A moderated serial mediation model from the stress perspective. *International Journal of Information Management*, *83*, 102900. https://doi.org/10.1016/j.ijinfomgt.2025.102900