Int. j. adv. multidisc. res. stud. 2026; 6(3):987-993

Received: 12-04-2026
Accepted: 22-05-2026

International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

Educational Institutions in the Artificial Intelligence Era: Digital Management and Leadership, Digital Skills and Innovation Systems

[1] Gerasimos Kalogeratos, [2] Eleni Anastasopoulou, [3] Triada Kapota, [4] Ioannis Ntelis-Smyrilios, [5] Theofania Lyrintzi, [6] Athina Spanou

[1] Department of Management Science and Technology, University of Patras, Patras, Greece
[2] Experimental Elementary School of University of Patras, Patras, Greece
[3] Elementary School of Varda, Ileia, Greece
[4] 15th Elementary School of Athens, Athens, Greece
[5] Experimental Elementary School of University of Patras, Patras, Greece
[6] 2nd High School of Patras, Patras, Greece

Corresponding Author: **Gerasimos Kalogeratos**

Abstract

The rapid proliferation of Artificial Intelligence (AI) within educational systems is fundamentally redefining the operational, pedagogical, and strategic dimensions of educational organizations. AI-driven innovations are not only transforming instructional delivery through personalization and advanced analytics but are also reshaping administrative processes, institutional governance, and decision-making mechanisms. Consequently, educational institutions are increasingly required to adapt to complex, technology-driven environments that demand both organizational agility and technological preparedness.

This study presents a systematic literature review examining the interrelationship between AI integration, leadership practices, and educators' digital competencies. It investigates how these interdependent factors collectively influence the successful adoption and implementation of AI in educational contexts. The findings suggest that digital transformation extends beyond technological infrastructure, encompassing human capital, leadership effectiveness, and the cultivation of an innovation-oriented organizational culture.

The analysis highlights the central role of leadership as a driving force in facilitating digital transformation, emphasizing the need for strategic vision, collaborative practices, and continuous professional development. Simultaneously, teachers' digital competencies emerge as a critical determinant of AI effectiveness, influencing both adoption and pedagogical application.

Furthermore, the study underscores the importance of fostering an institutional culture that promotes innovation, adaptability, and knowledge exchange. Leadership, digital competence, and innovation culture are identified as key pillars underpinning successful AI integration. Overall, this research contributes to the theoretical discourse on educational digital transformation while offering practical insights for policymakers, educational leaders, and practitioners.

Keywords: Artificial Intelligence (AI), Educational Institutions, Digital Transformation, Leadership, Digital Competence, Innovation

1. Introduction

The advancement of Artificial Intelligence (AI) is rapidly transforming educational institutions, reshaping both pedagogical practices and organizational structures. From adaptive learning systems to automated administrative functions, AI technologies are redefining the traditional boundaries of education. Educational organizations are evolving into complex, technology-enhanced ecosystems that require continuous innovation, strategic foresight, and organizational flexibility [1-3].

This transformation presents both significant opportunities and substantial challenges. Institutions must integrate AI in ways that enhance learning outcomes while preserving pedagogical integrity and ethical standards. Within this context, leadership emerges as a critical factor. Educational leaders are tasked with navigating uncertainty, managing technological change, and

fostering environments conducive to innovation [1-5].

Effective leadership in the AI era extends beyond conventional administrative roles. It requires digital awareness, strategic thinking, and the ability to inspire educators to embrace technological innovation. Leaders must act as facilitators of change, promoting collaboration, experimentation, and alignment between technological initiatives and institutional objectives [3-5].

Equally, crucial are teachers' digital competencies, which directly influence the successful implementation of AI. Educators must develop not only technical proficiency but also the pedagogical capacity to integrate AI tools effectively into teaching practices [4-8]. Skills such as data literacy, critical evaluation of AI outputs, and adaptive instructional design are increasingly essential [9-11].

Moreover, the development of an innovation-oriented organizational culture is fundamental. Educational institutions must foster environments characterized by flexibility, continuous learning, and openness to change [12-16]. The integration of AI represents a holistic transformation requiring alignment among leadership, human capital, and institutional structures [16-21].

2. Methodology

This study employs a systematic literature review (SLR) methodology to analyze existing research on AI in educational organizations. The SLR approach ensures methodological rigor, transparency, and comprehensive synthesis of findings across diverse studies. The review process followed structured stages: identification, screening, eligibility assessment, and synthesis. This systematic procedure minimizes bias and enhances the reliability of the findings.

Data were collected from three major academic databases: Scopus, Web of Science, and Google Scholar. These sources were selected for their extensive coverage of peer-reviewed and interdisciplinary research. Keywords such as "Artificial Intelligence in education," "digital leadership," "digital managemen," "teachers' digital skills," and "innovation" guided the search process. The timeframe was limited to publications between 2015 and 2026 to capture recent developments.

A rigorous screening process was applied using predefined inclusion and exclusion criteria. Studies were selected based on relevance to AI in education, leadership, and digital competencies. Duplicate entries were removed, and both abstracts and full texts were evaluated to ensure quality and relevance. The selected studies were analyzed through thematic synthesis, involving coding, categorization, and interpretation. Key themes identified included leadership practices, digital competence, and innovation culture. These themes were integrated to generate comprehensive insights into AI integration in educational organizations.

3. Artificial Intelligence in Education

Artificial Intelligence (AI) has emerged as a transformative force in education, fundamentally reshaping both instructional practices and administrative processes. Its rapid development and increasing accessibility have enabled educational institutions to adopt more data-driven, efficient, and personalized approaches to teaching and management. However, this transformation extends beyond technological enhancement; it represents a shift toward more adaptive, responsive, and learner-centered educational systems [22-28].

One of the most significant contributions of AI in education is the development of adaptive learning systems. These systems tailor educational experiences to individual learners by analyzing their needs, preferences, prior knowledge, and performance patterns. Through continuous data collection and analysis, adaptive platforms dynamically adjust content, pacing, and instructional strategies, allowing students to progress at their own speed. This personalized approach not only improves comprehension but also increases motivation and engagement, as learners interact with materials that are aligned with their unique learning profiles [29-35].

AI achieves this level of personalization through machine learning algorithms and advanced data analytics. These technologies enable systems to provide real-time feedback, identify specific learning gaps, and recommend targeted interventions. As a result, students receive immediate support, which enhances their ability to overcome difficulties and reinforces their understanding of key concepts. Moreover, by accommodating diverse learning styles such as visual, auditory, or kinesthetic preferences AI-driven systems contribute to more inclusive and effective learning environments [36-41].

In addition to adaptive learning, AI supports the development of intelligent tutoring systems (ITS), which simulate one-on-one instruction. These systems provide guidance, hints, and feedback in a manner similar to human tutors, enabling learners to receive individualized support outside traditional classroom settings. At the same time, automated assessment tools have significantly improved the efficiency and consistency of evaluating student performance. AI can assist in grading not only objective assessments but also more complex tasks, such as essays and open-ended responses, using natural language processing techniques. This reduces the workload of educators while maintaining reliable and scalable evaluation processes [42-47].

Beyond its pedagogical applications, AI also plays a crucial role in institutional management. Through predictive analytics and decision support systems, educational organizations can analyze large volumes of data to inform strategic planning and operational decisions. These tools enable institutions to identify students at risk of underperformance or dropout, optimize the allocation of resources, and enhance overall institutional effectiveness. By leveraging data insights, administrators can make more informed, proactive, and evidence-based decisions that improve both academic and organizational outcomes [48-54].

Despite its numerous advantages, the integration of AI in education raises important ethical concerns. Issues such as data privacy, algorithmic bias, and lack of transparency present significant challenges that must be carefully addressed. Without appropriate safeguards, AI systems may inadvertently reinforce existing inequalities or produce unfair outcomes, particularly for marginalized groups. Therefore, the implementation of AI requires robust ethical governance frameworks, clear policies, and a commitment to responsible use. Ensuring fairness, accountability, and transparency is essential for building trust and maximizing the benefits of AI in education while minimizing potential risks [55-59].

4. Teachers' Digital Skills

Teachers' digital competencies are fundamental to the effective integration of Artificial Intelligence (AI) in

education. In contemporary learning environments, educators are expected to possess a comprehensive set of skills that go well beyond basic technical knowledge. These competencies include not only the ability to use digital tools, but also the capacity to integrate them meaningfully into pedagogical practices and to address the ethical implications associated with their use. As such, digital competence is a multidimensional construct that plays a central role in bridging technology and education [60-61].

Digital competence can be broadly understood across three interconnected domains. First, technical skills refer to the ability to operate digital platforms, AI-based applications, and data-driven tools effectively. This includes familiarity with learning management systems, adaptive learning technologies, and analytics tools that support instruction and assessment. However, technical proficiency alone is not sufficient [60-61].

Second, pedagogical skills are essential for the meaningful integration of AI into teaching and learning processes. Educators must be able to design learning activities that leverage AI capabilities, such as personalization, real-time feedback, and data-informed instruction. This requires an understanding of how technology can enhance student engagement, support differentiated instruction, and improve learning outcomes. Teachers must also be able to critically evaluate when and how AI tools should be used to align with specific learning objectives [60-61].

Third, ethical awareness is increasingly important in the context of AI integration. Educators need to understand issues related to data privacy, algorithmic bias, transparency, and the responsible use of technology. They play a key role in ensuring that AI is used in ways that are fair, inclusive, and aligned with educational values. Promoting digital citizenship among students is also part of this responsibility, as learners must be guided to use technology safely and ethically [60-61].

The development of these competencies requires continuous professional development that evolves alongside technological advancements. Effective training programs should not only focus on skill acquisition but also foster critical thinking, problem-solving, and collaboration among educators. Opportunities for hands-on experience, peer learning, and reflective practice are particularly valuable in helping teachers build confidence and adaptability in using AI tools [60-63].

Institutional support is equally crucial in this process. Educational organizations must create environments that encourage innovation, experimentation, and ongoing learning. This includes providing access to appropriate resources, offering structured training opportunities, and fostering a culture that values professional growth and technological exploration. Leadership plays a key role in facilitating these conditions and ensuring that teachers feel supported throughout the process of digital transformation [60-63].

Ultimately, enhancing teachers' digital competencies serves as a critical link between technological potential and educational practice. Without adequately trained and confident educators, the integration of AI remains superficial and limited in its impact. Therefore, sustained investment in teacher development is essential for realizing the full benefits of AI in education and for ensuring meaningful, effective, and responsible implementation [62-64].

5. Leadership in Educational Organizations

Leadership is a decisive factor in the successful implementation of artificial intelligence (AI) in education, particularly within rapidly evolving technological landscapes characterized by constant innovation and change. In such dynamic environments, leaders are required to move beyond traditional administrative functions and adopt strategic, visionary, and transformational roles that enable institutions to respond effectively to emerging challenges and opportunities. Their capacity to guide organizational change, manage complexity, and foster adaptability becomes essential for the sustainable integration of AI technologies [56-62].

Transformational leadership is especially effective in supporting digital transformation in education. Leaders who adopt this approach articulate a clear, compelling vision for AI integration, inspiring and motivating stakeholders to actively engage in the change process. By cultivating trust, encouraging creativity, and promoting a shared sense of purpose, they create conditions that support innovation in teaching and learning practices. Furthermore, transformational leaders emphasize collaboration among educators, empower teachers to take initiative, and support continuous professional development, ensuring that staff are equipped with the necessary skills and competencies to effectively use AI tools in pedagogical contexts [56-62].

In addition, leaders play a critical role in aligning technological initiatives with the broader strategic goals of the institution. This involves the development and implementation of coherent policies governing AI use, the effective allocation of financial, technological, and human resources, and the establishment of structures that support long-term sustainability. Importantly, leaders must also ensure that AI applications adhere to ethical standards, including transparency, accountability, data privacy, and pedagogical appropriateness. Addressing issues such as algorithmic bias, equitable access to technology, and the protection of student data is fundamental to maintaining trust and integrity in AI-driven educational systems [62-64].

Moreover, supporting educators throughout the transition process is a central responsibility of educational leadership. Leaders must facilitate collaboration among teachers by fostering professional learning communities and encouraging the exchange of knowledge, experiences, and best practices. At the same time, they need to recognize and address resistance to change, which may arise from uncertainty, lack of digital competence, or concerns about the implications of AI for teaching roles. Through targeted training, ongoing support, and the creation of a safe environment for experimentation and learning, leaders can help educators build confidence and embrace innovation [62-64].

Ultimately, effective leadership acts as a catalyst for sustainable and meaningful innovation in education. By combining strategic direction with inspirational guidance and organizational support, leaders enable institutions to successfully integrate AI technologies while enhancing the quality of teaching and learning. Their role is not only to manage change but to shape a forward-looking educational culture that values continuous improvement, adaptability, and innovation [62-64].

6. Innovation and Organizational Transformation

Innovation in educational organizations emerges from the dynamic interaction between technology, human capital, and institutional structures. The integration of artificial intelligence (AI) is not limited to the mere adoption of advanced technological tools; rather, it necessitates a comprehensive transformation of teaching practices, learning processes, and organizational strategies. Educational institutions must rethink traditional pedagogical models and adapt their operational frameworks to fully leverage the potential of AI, ensuring that technological advancements translate into meaningful educational outcomes [61-63].

The synergy between AI, leadership, and digital competencies constitutes a fundamental driver of innovation. AI introduces powerful technological capabilities that can enhance personalization, data-driven decision-making, and instructional efficiency. At the same time, leadership provides the strategic vision and direction required to guide the adoption and effective use of these technologies. Leaders establish priorities, shape institutional goals, and create the conditions necessary for innovation to flourish. Meanwhile, educators play a pivotal role as the primary agents of implementation, translating technological potential into practical applications within the classroom. Their digital skills, pedagogical expertise, and willingness to experiment are essential for the successful integration of AI into everyday teaching and learning practices [64].

Innovative educational organizations tend to adopt flexible, adaptive, and forward-looking approaches. They encourage experimentation, support risk-taking, and promote interdisciplinary collaboration, recognizing that innovation often arises from the intersection of diverse perspectives and areas of expertise. Such organizations invest in continuous professional development, enabling educators and staff to keep pace with technological advancements and evolving pedagogical methods. Additionally, they implement feedback mechanisms and reflective practices that allow for ongoing evaluation and improvement of AI-driven initiatives [64].

Organizational culture plays a critical role in enabling or constraining innovation. Environments that foster creativity, openness, and collaboration are more likely to support the successful integration of AI and other emerging technologies. A culture that values learning, trust, and shared responsibility empowers educators to explore new approaches without fear of failure, thereby enhancing the institution's capacity for innovation [63-65]. In contrast, rigid hierarchical structures, resistance to change, and a lack of strategic alignment can significantly hinder transformation efforts. Such barriers may limit communication, reduce flexibility, and discourage experimentation, ultimately impeding progress [64].

Therefore, cultivating a supportive and innovation-oriented organizational culture is essential for sustaining long-term transformation in education. This involves not only structural adjustments but also a shift in mindset, where continuous improvement, adaptability, and collaboration are embedded into the institutional identity. By aligning technological capabilities with human potential and organizational vision, educational institutions can create resilient systems capable of responding effectively to future challenges and opportunities [64].

7. Discussion

The findings underscore that digital transformation in education is fundamentally human-centered. Although artificial intelligence (AI) offers substantial opportunities to enhance teaching, learning, and administrative processes, its overall effectiveness is largely determined by human factors, particularly leadership and digital competence. Technology alone cannot drive meaningful change; rather, it is the way individuals understand, adopt, and apply these tools that ultimately shapes educational outcomes [64].

Leadership and teachers' digital skills emerge as key enablers in this process. Their interaction is critical, as leaders establish the strategic vision, provide direction, and create supportive conditions, while educators operationalize this vision through their pedagogical practices. Teachers' ability to effectively integrate AI into instruction depends not only on their technical proficiency but also on their pedagogical adaptability and willingness to innovate. At the same time, leaders must ensure that appropriate training, resources, and institutional support are in place to empower educators and sustain engagement with new technologies [64].

Equally important is the alignment between policy, leadership, and classroom practice. Coherence across these levels ensures that digital transformation efforts are consistent, strategic, and impactful. When policies are disconnected from institutional leadership or when leadership initiatives are not reflected in everyday teaching practices, implementation becomes fragmented and less effective. Therefore, establishing clear communication channels, shared goals, and coordinated actions is essential to bridge the gap between vision and practice [65].

Furthermore, a holistic approach to digital transformation is necessary—one that integrates technological, social, and ethical dimensions. Educational institutions must go beyond technical implementation and address broader concerns such as equity in access to digital resources, inclusivity in AI-driven systems, and the protection of personal data. Ethical considerations, including transparency, accountability, and the mitigation of algorithmic bias, are fundamental to building trust and ensuring responsible AI use. At the same time, institutions should continue to foster a culture of innovation, encouraging experimentation and continuous improvement while maintaining a strong commitment to educational values and social responsibility [65].

In sum, successful digital transformation in education requires a balanced and integrated approach, where human capacity, organizational alignment, and ethical awareness work together to fully realize the potential of AI [65].

8. Conclusion

The integration of artificial intelligence (AI) into educational organizations represents a profound and multifaceted transformation that requires strategic, coordinated, and comprehensive approaches. It is not simply a matter of introducing new technologies, but of reshaping educational systems, practices, and mindsets to fully harness the potential of AI in enhancing teaching, learning, and institutional effectiveness [61-65].

This study demonstrates that successful digital transformation is strongly dependent on three interrelated factors: leadership, teachers' digital competencies, and organizational culture. These elements must not operate in

isolation; rather, they need to be aligned within a cohesive and well-structured framework that supports continuous innovation and sustainable development. Leadership provides direction and vision, teachers bring implementation and pedagogical adaptation, and organizational culture creates the environment in which innovation can either thrive or be constrained [61-65].

Educational leaders play a central role in guiding this transformation. Through the articulation of a clear strategic vision, they set priorities and establish a shared sense of purpose across the institution. By fostering collaboration, encouraging participation, and supporting ongoing professional development, leaders create the conditions necessary for meaningful and lasting change. Their role also includes ensuring that innovation is aligned with educational goals and values, as well as addressing potential challenges related to ethics, equity, and implementation [61-65].

At the same time, investment in teachers' digital skills is essential. Educators must be equipped not only with technical knowledge but also with the pedagogical competence required to effectively integrate AI into teaching and learning processes. Continuous professional development, access to resources, and opportunities for experimentation are critical in enabling teachers to adapt to evolving technological demands and to confidently apply innovative practices in their classrooms [61-65].

Furthermore, fostering a culture oriented toward innovation is key to ensuring the long-term sustainability of digital transformation efforts. Such a culture encourages openness to change, supports creative problem-solving, and values collaboration and shared learning. Institutions that actively promote trust, flexibility, and continuous improvement are better positioned to adapt to emerging challenges and to sustain innovation over time [66-67].

Future research should further explore the long-term impacts of AI on educational outcomes, including its effects on student learning, equity, and overall institutional effectiveness. Empirical and longitudinal studies are particularly important for providing deeper insights into how AI-driven transformations evolve over time and how they can be optimized to serve diverse educational contexts [66-67].

9. References

1. Alajmi M. The impact of digital leadership on teachers' technology integration. International Journal of Educational Research. 2022; 112:101928.
2. Antonopoulou H. Neuroleadership and its Role in Educational Settings: A Review of Current Practices. Technium Education and Humanities. 2024; 10:143-154. Doi: https://doi.org/10.47577/teh.v10i.11976
3. Antonopoulou H. The Role of Gamification in Enhancing Cognitive and Neuropsychological Learning: A Review. Tech. BioChemMed. 2024; 11:45-46.
4. Black P, Wiliam D. Developing the theory of formative assessment. Educational Assessment, Evaluation and Accountability. 2009; 21(1):5-31. Doi: https://doi.org/10.1007/s11092-008-9068-5
5. Bond M, Zawacki-Richter O, Nichols M. Revisiting five decades of educational technology research. British Journal of Educational Technology. 2020; 51(4):1131-1148. Doi: https://doi.org/10.1111/bjet.12921
6. Dede C, Richards J, Saxberg B. Learning engineering for online education. Educational Technology. 2019; 59(2):13-21. Doi: https://doi.org/10.1007/978-3-030-11212-1
7. Ertmer PA, Ottenbreit-Leftwich AT. Teacher technology change. Journal of Research on Technology in Education. 2013; 45(3):255-284. Doi: https://doi.org/10.1080/15391523.2012.10782536
8. Florian L, Black-Hawkins K. Exploring inclusive pedagogy. Cambridge Journal of Education. 2011; 41(4):441-459. Doi: https://doi.org/10.1080/0305764X.2011.618205
9. Gee JP. What video games have to teach us about learning and literacy. Palgrave Macmillan, 2007. Doi: https://doi.org/10.1057/9780230601994
10. Ghamrawi N, Tamim R. A typology for digital leadership in higher education. Education and Information Technologies. 2023; 28:7089-7110.
11. Hamari J, Koivisto J, Sarsa H. Does gamification work? Computers in Human Behavior. 2016; 54:170-179. Doi: https://doi.org/10.1016/j.chb.2015.07.047
12. Hattie J. Visible learning. Routledge, 2017. Doi: https://doi.org/10.4324/9781315709133
13. Holmes W, Bialik M, Fadel C. Artificial intelligence in education. OECD Publishing, 2019. Doi: https://doi.org/10.1787/9789264316149-en
14. Kalliampakou I, Antonopoulou H. Behavioral Insights into Shopping Addiction: Emotional and Cognitive Drivers. Technium: Romanian Journal of Applied Sciences and Technology. 2024; 24:103-120. Doi: https://doi.org/10.47577/technium.v24i.11972
15. Kalliampakou I, Antonopoulou H. The influence of emotional intelligence on consumer decision-making: Insights from recent studies. Technium Soc. Sci. J. 2025; 67:451.
16. Kalogeratos G. Innovative educational technologies in primary education: Advancing learning, equity and teacher-led transformation. Asian Journal of Education and Social Studies. 2026; 52(2):54-66.
17. Kalogeratos G, Alexopoulos C. The digital gender gap: A sociological review of research and evidence. British Journal of Contemporary Education. 2026; 6(1):103-118.
18. Kalogeratos G, Pierrakeas C. The COVID-19 pandemic as a reason for accelerating the transformation of the Greek primary school into a learning organization. In EDULEARN21 Proceedings. IATED, 2021, 10333-10340.
19. Kalogeratos G, Pierrakeas C. Use of learning theories and visual programming (scratch) in education. Technium Education and Humanities. 2024; 10:41-54. Doi: https://doi.org/10.47577/teh.v10i.11688
20. Kalogeratos G, Alexandropoulou A, Pierrakeas C. Digital and socio-emotional benefits of the students and the teachers from the implementation of a STEAM education project. In 2023 14th International Conference on Information, Intelligence, Systems & Applications (IISA). IEEE, July 2023, 1-8.
21. Kalogeratos G, Anastasopoulou E, Pierrakeas C. Myschool: The key role of the information system in the Greek public school. A case study on the prefecture of Achaia. In EDULEARN24 Proceedings. IATED, 2024, 9700-9706.
22. Kalogeratos G, Anastasopoulou E, Pierrakeas C. Novel technologies using educational scenarios for elementary school and kindergarten students. EDULEARN24

Proceedings, 2024, 9682-9693.
23. Kalogeratos G, Anastasopoulou E, Pierrakeas C. Integrating cognitive science into educational leadership: Implications for practice. In INTED2026 Proceedings (20th International Technology, Education and Development Conference). IATED, 2026. Doi: https://doi.org/10.21125/inted.2026
24. Kalogeratos G, Anastasopoulou E, Gkika K, Spanou A, Kapota T. From policy intentions to classroom realities: Teachers' readiness for deep learning pedagogy in the Greek educational context: A critical literature review. In Proceedings of the XVIII International Scientific and Practical Conference "Questions, Hypotheses, Answers: Science XXI Century". SC Scientific Conferences, 2026, 29-34. Doi: https://doi.org/10.5281/zenodo.18201393
25. Kalogeratos G, Anastasopoulou E, Gkika K, Spanou A, Kapota T. Reconceptualizing teachers' digital competence in AI-enhanced educational ecosystems: A narrative literature review. In Proceedings of the XVIII International Scientific and Practical Conference "Questions, Hypotheses, Answers: Science XXI Century". SC Scientific Conferences, 2026, 35-40. Doi: https://doi.org/10.5281/zenodo.18201393
26. Kalogeratos G, Anastasopoulou E, Gkika K, Spanou A, Kapota T. Transforming educational units in the AI era: A systematic review and integrative perspective on AI integration, teachers' digital competence, and transformational leadership. In INTED2026 Proceedings (20th International Technology, Education and Development Conference, Article 1314). IATED, 2026. Doi: https://doi.org/10.21125/inted.2026
27. Kalogeratos G, Anastasopoulou E, Stavrogiannopoulos A, Tsagri A, Tsogka D, Lourida K. Enhancing emotional intelligence in pervasive developmental disorders: The autism paradigm. Technium Education and Humanities. 2023; 6:61-69.
28. Kalogeratos G, Anastasopoulou E, Tsagri A, Tseremegklis C, Kriparopoulou A. Psychotraumatic childhood experiences and anxiety in educational settings. Technium Education and Humanities. 2024; 7:29-41.
29. Kalogeratos G, Anastasopoulou E, Tsagri A, Tseremegklis C, Asimakopoulou S. Interpersonal skills with a focus on creativity in attention deficit hyperactivity disorder. Technium Soc. Sci. J. 2023; 52:197.
30. Kalogeratos G, Anastasopoulou E, Tsagri A, Tseremegklis C, Tsogka D, Lourida K, *et al*. Adolescent Trauma and Impact of the COVID-19 Pandemic in the School Context. Technium Soc. Sci. J. 2024; 55:262.
31. Kalogeratos G, Anastasopoulou E, Tseremegklis C, Avramidi E. Enhancing quality of life for caregivers of adolescents with emotional disorders through digital skills. Technium Education and Humanities. 2024; 8:58-77.
32. Kalogeratos G, Gkekas K, Tseremegklis C, Anastasopoulou E, Pierrakeas C. The contribution of Erasmus+ KA2 to improvement of educational work: The case of the school units of the region of Western Greece. In ICERI2024 Proceedings. IATED, 2024, 4258-4263.
33. Kalogeratos G, Lourida K, Anastasopoulou E, Tsogka D, Pierrakeas C. Information systems usage in the Greek primary school: The case of the Prefecture of Achaia. INTED2024 Proceedings, 2024, 1652-1657.
34. Kalogeratos G, Spanou A, Kapota T. Reframing digital transformation management in Greek education: Artificial intelligence, systemic challenges, and strategic policy pathways. Asian Journal of Research in Computer Science. 2026; 19(4):73-83.
35. Kalogeratos G, Spanou A, Kapota T. Reimagining primary education in the age of intelligent technologies: Systemic transformation, human-centered pedagogy and ethical digital futures. Asian Journal of Education and Social Studies. 2026; 52(3):305-316.
36. Kalogeratos G, Spanou A, Kapota T. Transforming primary schooling through digital innovation: Pedagogical evolution, equity and intelligent learning systems. Asian Journal of Education and Social Studies. 2026; 52(3):185-197.
37. Kalogeratos G, Travlou C, Tseremegklis C, Anastasopoulou E, Gkika K, Pierrakeas C. Cognitive foundations of effective educational leadership: A comprehensive review. In EDULEARN25 Proceedings. IATED, 2025, 5915-5925.
38. Kalogeratos G, Travlou C, Tseremegklis C, Anastasopoulou E, Gkika K, Pierrakeas C. The interplay of cognitive and non-cognitive skills in educational leadership: A systematic review of leadership effectiveness. In EDULEARN25 Proceedings. IATED, 2025, 5854-5864.
39. Kalogeratos G, Travlou C, Tseremegklis C, Anastasopoulou E, Lourida K, Pierrakeas C. Enhancing educational outcomes through digital skills: Addressing lifelong learning and distance education challenges. INTED2025 Proceedings, 2025, 6720-6730.
40. Kalogeratos G, Travlou C, Tseremegklis C, Anastasopoulou E, Lourida K, Pierrakeas C. The interplay of cognitive and non-cognitive skills in educational leadership: A systematic review of leadership effectiveness. INTED2025 Proceedings, 2025, 5854-5864.
41. Kalogeratos G, Travlou C, Tseremegklis C, Anastasopoulou E, Gkika K, Pierrakeas C. The interplay of cognitive and non-cognitive skills in educational leadership: A systematic review of leadership effectiveness. EDULEARN25 Proceedings, 2025, 5854-5864.
42. Kalogeratos G, Travlou C, Tseremegklis C, Anastasopoulou E, Gkika K, Pierrakeas C. Cognitive foundations of effective educational leadership: A comprehensive review. EDULEARN25 Proceedings, 2025, 5915-5925.
43. Kalogeratos G, Travlou C, Tseremegklis C, Anastasopoulou E, Lourida K, Pierrakeas C. Enhancing educational leadership through gamification: Theory and practice in primary schools. INTED2025 Proceedings, 2025, 6690-6700.
44. Kalogeratos G, Travlou C, Tseremegklis C, Anastasopoulou E, Lourida K, Pierrakeas C. Enhancing educational outcomes through digital skills: Addressing lifelong learning and distance education challenges. INTED2025 Proceedings, 2025, 6720-6730.
45. Kalogeratos G, Tsogka D, Tseremegklis C, Anastasopoulou E, Pierrakeas C. Digital skills in education: Bridging the gap between traditional

learning and modern technology. ICERI2024 Proceedings, 2024, 4409-4418.
46. Kalogeratos G, Tsogka D, Tseremegklis C, Anastasopoulou E, Pierrakeas C. The contribution of Erasmus+ KA2 to improvement of educational work: The case of the school units of the region of Western Greece. ICERI2024 Proceedings, 2024, 4258-4263.
47. Karakose T, *et al*. The development and evolution of digital leadership. Sustainability. 2022; 14(23):16171.
48. Karras A, Giannaros A, Theodorakopoulos L, Krimpas GA, Kalogeratos G, Karras C, *et al*. FLIBD: A federated learning-based IoT big data management approach for privacy-preserving over Apache Spark with FATE. Electronics. 2023; 12(22):4633.
49. Karras A, Karras C, Giotopoulos KC, Tsolis D, Oikonomou K, Sioutas S. Federated edge intelligence and edge caching mechanisms. Information. 2023; 14(7):414. Doi: https://doi.org/10.3390/info14070414
50. Karras A, Theodorakopoulos L, Karras C, Antonopoulou H. Cyber Threat Intelligence in Smart Cities: Bayesian Inference and Energy Optimization in LoRa Networks for Big Data Applications. In 2024 IEEE International Conference on Big Data (BigData). IEEE, December 2024, 2635-2644.
51. Makransky G, Petersen GB. Immersive virtual reality and learning. Educational Psychology Review. 2019; 31(4):1013-1034. Doi: https://doi.org/10.1007/s10648-019-09482-9
52. Mishra P, Koehler MJ. Technological pedagogical content knowledge. Teachers College Record. 2006; 108(6):1017-1054. Doi: https://doi.org/10.1111/j.1467-9620.2006.00684
53. Mourelatos E, Krimpas G, Giotopoulos K. Sexual identity and gender gap in political leadership ambition: An experiment. Review of Behavioral Economics. 2024; 11(1):73-121. Doi: http://dx.doi.org/10.1561/105.00000181
54. Papadopoulos DF. A parametric six-step method for second-order IVPs with oscillating solutions. Mathematics. 2024; 12(23):3824. Doi: https://doi.org/10.3390/math12233824
55. Petropoulou A, Antonopoulou H, Vlachou AA, Gkintoni E, Halkiopoulos C. Social-Cognitive Factors in Antisocial Behavior and School Violence: A Cross-Sectional Analysis of Greek Vocational Students. Children. 2025; 12(12):1647.
56. Ryan RM, Deci EL. Intrinsic and extrinsic motivations. Contemporary Educational Psychology. 2000; 25(1):54-67. Doi: https://doi.org/10.1006/ceps.1999.1020
57. Sheninger E. Digital Leadership: Changing Paradigms for Changing Times. Corwin Press, 2019.
58. Theodorakopoulos L, Kalliampakou I, Theodoropoulou A, Kalogeratos G. Pandemic-driven innovations: Utilizing online learning and big data analysis for decision-making in educational environments. In Y. Dimotikalis & C. H. Skiadas (Eds.), Data Analysis and Related Applications. Wiley. 2025; 5:259-279. Doi: https://doi.org/10.1002/9781394401604.ch18
59. Van Dijk J. The digital divide. Polity Press, 2020. Doi: https://doi.org/10.1002/9781119243092
60. Vasilopoulos CH, Theodorakopoulos LL, Giotopoulos KK. The promise and peril of big data in driving consumer engagement. Technium Social Sciences Journal. 2023; 45:489-499.
61. Williamson B. Big data in education. SAGE, 2017. Doi: https://doi.org/10.4135/9781529714920
62. Theodorakopoulos L, Theodoropoulou A, Halkiopoulos C. Cognitive bias mitigation in executive decision-making: A data-driven approach integrating big data analytics, AI, and explainable systems. Electronics. 2025; 14(19):3930.
63. Dritsas E, Livieris IE, Giotopoulos K, Theodorakopoulos L. An apache spark implementation for graph-based hashtag sentiment classification on twitter. In Proceedings of the 22nd Pan-Hellenic Conference on Informatics, November 2018, 255-260.
64. Karras A, Theodorakopoulos L, Karras C, Theodoropoulou A, Kalliampakou I, Kalogeratos G. LLMs for Cybersecurity in the Big Data Era: A Comprehensive Review of Applications, Challenges, and Future Directions. Information. 2025; 16(11):957.
65. Vasilopoulos C, Theodorakopoulos L, Giotopoulos K. The promise and peril of big data in driving consumer engagement. Technium Soc. Sci. J. 2023; 45:489.
66. Kalogeratos G, Anastasopoulou E, Kapota T. Digital management and leadership in educational units: A systematic review of models, practices, and strategies for developing digital educational environments. International Journal of Advanced Multidisciplinary Research and Studies. 2026; 6(3):85-90. Doi: https://doi.org/10.62225/2583049X.2026.6.3.6210
67. Kalogeratos G, Anastasopoulou E, Kapota T. Educational organizations in the AI era: Digital management and leadership, digital skills, and innovation. International Journal of Advanced Multidisciplinary Research and Studies. 2026; 6(3):78-84. Doi: https://doi.org/10.62225/2583049X.2026.6.3.6209