

From Digitalization to Humanization: Building Collaborative and Impactful Higher Education Models through Technology Integration

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Abstract: *This paper aims to examine the shift from digitalization to humanization in higher education by proposing an integrated model that balances technological innovation with human-centered values. It seeks to demonstrate how digital transformation can enhance rather than diminish empathy, social connectedness, and ethical learning in universities. Using a qualitative-descriptive approach supported by case analyses from several higher education institutions, the study reviews practices, policies, and learning innovations to identify patterns that integrate technology with humanistic educational principles. The analysis reveals three essential pillars for designing impactful higher education models: (1) collaborative digital ecosystems that foster interdisciplinary engagement and knowledge co-creation; (2) humanized learning experiences that emphasize emotional intelligence, inclusion, and social interaction; and (3) adaptive institutional strategies that align digital integration with organizational culture and broader societal needs. The findings show that ethically designed and inclusive digital tools can strengthen critical thinking, empathy, and community-oriented innovation among learners and educators. The study concludes that technology in higher education should function as an enabler of human potential rather than a substitute for human interaction. A human-centered digital transformation ensures sustainable, meaningful, and future-ready learning environments, offering practical implications for policymakers, educators, and institutional leaders committed to designing more humanized digital ecosystems.*

Keywords: *digital transformation; humanization; higher education; collaboration; technology integration.*

Introduction

Digital transformation has drastically changed the landscape of higher education. In many higher education institutions, digital technologies, from learning management systems (LMS) and hybrid classrooms to online collaboration tools, have been widely implemented to support teaching, learning, and administration. For example, a study of Israeli institutions found that the implementation of digital learning encompasses interconnected educational, personal, cultural-social, and institutional dimensions (Bitar, N. & Davidovitch, N., 2024a). The COVID-19 pandemic accelerated this process globally, forcing institutions to shift to online or blended formats, making digitalization no longer an option but a practical necessity.

However, this transformation presents significant challenges. The use of technology focused on efficiency, accessibility, and large-scale learning often neglects the human dimension of education, namely collaboration, empathy, social participation, and the deep meaning of learning. As experts have noted, digital integration in higher education tends to emphasize a technical orientation rather than considering "teaching-sensitive technology," which is sensitive to the teaching process and human relationships (Stenalt & Mathiasen, 2024; Bitar & Davidovitch, 2024b). This context raises a critical question: how higher education institutions can move from digitalization to humanization, not simply using technology to replace legacy processes, but rather designing educational models that integrate technology

collaboratively and meaningfully, with a focus on human-centered learning and social impact. The concept of humanization here implies that technology should strengthen (not diminish) human relationships, encourage collaboration between students and between institutions, strengthen social engagement, and adapt educational models to the internal and external conditions of the organization.

Although much research on the digitalization of higher education has emerged in the past five years, significant research gaps remain: (1) many studies focus on technology implementation, access, or infrastructure, but few examine how collaborative digital learning models can enhance the human and social aspects of higher education; (2) little research links technology integration with organizational strategies that adapt to internal and external changes; and (3) the lack of conceptual models that holistically integrate collaboration, humanization, and digital transformation within the context of higher education institutions. For example, systematic studies on e-learning integration show that policy, financial, technical, human, and institutional aspects are sometimes treated fragmentarily and not fully considered (Hu & Raman, 2024). Similarly, studies in health education highlight the lack of empirically validated curricula that integrate digital technology with humanization education (Bitar, N & Davidovitch, N., 2024c).

Conversely, recent research indicates that authentic leadership in higher education institutions significantly impacts digital productivity and the institution's capability to navigate complex digital ecosystems (Bitar & Davidovitch, 2024b). Meanwhile, studies on technology integration and collaborative learning in higher education reveal that technology and collaboration have significant potential to support educational transformation, but numerous barriers remain, such as unequal access, faculty preparedness, and cultural and organizational challenges (Bitar, N & Davidovitch, N., 2024a).

Based on this phenomenon, the focus of this paper emphasizes the need to design a higher education model that is not only “digital” but also “humane,” namely a model that (a) enables collaboration between stakeholders (students, lecturers, institutions, external partners), (b) ensures technology is meaningfully integrated into the learning and organizational processes, and (c) considers internal conditions (e.g., institutional culture, staff capacity, organizational strategy) as well as external conditions (e.g., social change, technology, policy, and community needs). This approach reflects the view that technology is not an end in itself, but rather a means to improve the quality of higher education that has an impact on both individual students and the wider community.

In line with this perspective, this paper proposes that higher education institutions require a conceptual framework that connects digitalization with humanization through collaboration and technology integration. This framework will enable institutions to design learning and social models that are adaptive, inclusive, and impact-oriented, while also adapting to internal and external dynamics. Therefore, this paper seeks to fill the research gap regarding the integration of technology, collaboration, humanization, and organizational context in higher education.

Based on this background, the objectives of this paper are as follows:

1. To identify and analyze key elements in a higher education model that integrates digital technology with a collaborative and human-centered approach.
2. To examine how internal conditions (organizational culture, institutional capacity, faculty readiness) and external conditions (community needs, education policies, emerging technologies) influence the design and implementation of such a model.
3. To propose a conceptual framework for building an impactful higher education model—one that is not only digital but also humane, collaborative, and socially relevant. This allows higher education institutions to design strategies, processes, and structures that support meaningful educational transformation.

Writing Methodology

1. Writing Approach

This article uses a conceptual-analytical approach, which aims to develop a conceptual framework for designing an impactful higher education model through the integration of technology and humanization-oriented collaboration. This approach was chosen because the issues studied are multidimensional and require a synthesis of theories across fields, including higher education, digital technology, organizational collaboration, and human-centered learning. According to Snyder (2019), a conceptual approach allows the author to "integrate existing knowledge and generate new perspectives through critical analysis and cross-disciplinary synthesis." In the context of higher education research, this approach is relevant because it allows for the formulation of theoretical ideas that can serve as a basis for subsequent empirical research. This article does not collect primary data from the field, but rather constructs a conceptual model based on mapping the latest scientific literature, educational policies, and documented good practices at various universities over the past five years.

2. Analysis and Synthesis Techniques

The analysis was conducted through three main stages:

- **Thematic Analysis:**

The literature was classified into four major themes: (a) digital transformation in higher education, (b) collaboration in digital contexts, (c) humanization in learning, and (d) the influence of internal and external organizational factors.

This thematic analysis identified patterns of relationships and imbalances between the technological and human dimensions.

- **Conceptual Synthesis:**

Based on the results of the thematic analysis, the author structured the relationships between key concepts into an integrated conceptual framework that demonstrates that

digitalization and collaboration must be directed toward humanization as an outcome that generates social impact.

- **Argumentative Reasoning:**

This stage assessed the logical coherence between concepts and underlying assumptions. For example, does digitalization truly strengthen collaboration? Does collaboration automatically give rise to humanization? This analysis was conducted by confronting theories from various disciplines (educational technology, social psychology, and organizational management) to build a strong argument.

This combinative approach follows Torraco's (2016) guidelines for conceptual literature review, which emphasizes the importance of logical and reflective construction in generating new theoretical models.

Result and Discussion

1. Digital Transformation as a Catalyst for Higher Education Change

Digital transformation has become a defining force in reshaping higher education systems worldwide. In recent years, universities have undergone unprecedented digital acceleration triggered by the COVID-19 pandemic, advancements in artificial intelligence (AI), and the growing expectations for flexible, inclusive learning environments (OECD, 2023). However, digitalization in higher education is not merely a technical process of converting analog systems into digital platforms; it represents a paradigm shift in how institutions conceive teaching, learning, governance, and social impact. As Al-Samarraie et al. (2022) argue, digital transformation is most effective when it redefines pedagogical values, rather than simply digitizing existing practices.

At the pedagogical level, the integration of digital technologies—such as learning management systems (LMS), massive open online courses (MOOCs), and AI-driven analytics—has enabled more flexible, student-centered learning. Pinto-Llorente & Izquierdo-Álvarez, (2024), highlight that digital ecosystems provide opportunities for *personalized learning pathways*, allowing students to progress at their own pace while engaging with interactive content and peer collaboration. Yet, while the benefits of digital learning are well-documented, there remains a significant gap between technological adoption and meaningful educational transformation. Many universities focus on infrastructure and efficiency but neglect the deeper goal of cultivating reflective, socially responsible learners (Biesta, 2020).

In this regard, digital transformation must be viewed as a catalyst for *re-humanizing* higher education rather than mechanizing it. When institutions adopt a purely technological perspective, education risks becoming transactional and depersonalized. According to Kim and Frick (2021), poorly designed online learning environments can exacerbate feelings of isolation and reduce authentic interaction between students and instructors. Conversely, human-centered digital transformation anchored in empathy, ethics, and collaboration can strengthen social connectedness and collective intelligence within academic communities (Allam, Gyamfi, & AlOmar, 2025; Bond, et al., 2024; Stolba, et al., 2024).

Institutional change is also crucial. Alawiah & Tukiran (2024) and Intan & Tjakraatmadja (2024) found that authentic leadership and digital readiness are key predictors of successful digital transformation in universities. Leaders who emphasize participatory decision-making and shared vision foster a culture that embraces technological innovation while maintaining a humanistic ethos. Moreover, aligning digital transformation with institutional missions and community engagement ensures that technological progress contributes to broader social impact (UNESCO, 2022). Therefore, digital transformation should be understood as a systemic and value-driven process rather than a technological upgrade. It requires universities to rethink how digital tools can enhance inclusivity, empathy, and collaboration across the academic ecosystem. The ultimate goal is not digital efficiency but *digital meaningfulness* the ability of technology to amplify human potential and create a more equitable and impactful higher education landscape. OECD Digital Education Outlook (2023) emphasizes the importance of “human-machine hybrid systems” in managing people and technology working together in education ecosystems.

2. Collaboration as a Driver of Innovation and Humanization

Collaboration has emerged as the cornerstone of impactful digital transformation in higher education. In the era of global connectivity, collaboration transcends physical boundaries, enabling co-creation of knowledge across disciplines, institutions, and cultures. As universities navigate the digital era, the capacity to collaborate effectively both internally and externally—determines their ability to innovate, adapt, and maintain human-centered values in technologically mediated environments (Mäkitalo et al., 2022). Collaboration, therefore, is not merely a pedagogical strategy but a systemic mechanism for organizational learning and collective transformation.

At the instructional level, digital collaboration fosters engagement and cognitive presence among students and educators. Turgut (2023) argue that when learners participate in online communities of inquiry, they experience deeper levels of reflection, shared meaning-making, and empathy core dimensions of humanized learning. Similarly, the use of digital collaboration tools such as *virtual project studios*, *peer mentoring platforms*, and *learning analytics dashboards* allows for more equitable participation and feedback loops, reinforcing both academic and emotional engagement. According to Sun and Chen in van Dorresteijn et al., (2025), collaboration in online settings enhances learners’ sense of belonging and mitigates the depersonalization often associated with digital learning.

At the organizational level, collaboration functions as an engine of innovation. Universities that cultivate interdepartmental and inter-institutional collaboration tend to demonstrate higher adaptability and creativity (Anderson & Hsiao, 2023). Through *digital research consortia*, *innovation hubs*, and *open educational resource (OER) networks*, institutions can leverage collective expertise to co-develop teaching models, share resources, and respond swiftly to societal challenges. Moreover, collaboration with external stakeholders—such as industries, NGOs, and local communities—strengthens universities’

societal relevance and bridges the traditional gap between academia and practice (UNESCO, 2022).

Importantly, collaboration also plays a humanizing role in the digital education ecosystem. When students, faculty, and partners engage in co-creation, they develop empathy, social awareness, and ethical responsibility. Mäkitalo et al. (2022) emphasize that collaborative learning communities promote *mutual recognition* and *distributed agency*, both of which are essential for maintaining the relational quality of education in digital contexts. These environments shift the focus from individualized competition to collective growth, aligning with the broader vision of higher education as a public good (Biesta, 2020).

Nevertheless, fostering effective collaboration requires institutional readiness and supportive culture. Turgut (2023) note that leadership styles emphasizing trust, transparency, and empowerment are vital for sustaining digital collaboration. Without intentional policy frameworks, digital tools may reinforce silos rather than bridge them. Therefore, universities must invest in professional development for faculty digital literacy, collaborative platform design, and inclusive communication strategies to ensure that technology enhances, rather than replaces, human interaction.

In summary, collaboration acts as both a driver and mediator of innovation and humanization in higher education. It transforms digital transformation from a technological shift into a social and ethical endeavor. By enabling shared agency and relational engagement, collaboration ensures that the digital university remains not just efficient, but profoundly human. As Mäkitalo et al. (2022) conclude, “collaboration is the heartbeat of educational innovation—it humanizes the digital.”

3. Humanization as the Orientation of Digital Higher Education

In the accelerating wave of digital transformation, the principle of humanization stands as the ethical and pedagogical counterbalance to technological determinism. While technology has undeniably increased efficiency and access, it also risks reducing education to a process of data transmission and behavioral tracking. As Biesta (2020) contends, education must remain a profoundly human endeavor aimed not only at producing knowledgeable individuals but at cultivating “subjectivity, responsibility, and the capacity to act in the world.” Humanization, therefore, is not an ornamental value but a structural necessity that ensures higher education remains grounded in empathy, ethics, and meaning.

Recent studies emphasize that digital learning environments often create emotional distance between teachers and learners. According to Kim and Frick (2021), online education can unintentionally dehumanize the learning process by weakening interpersonal cues, immediacy, and empathy. Students report feelings of isolation and transactional relationships with instructors, particularly when platforms prioritize efficiency over engagement. Consequently, humanization requires intentional design strategies that reintegrate emotional, ethical, and social dimensions into digital education (Gonzalez-Moreno, et al., 2023).

A human-centered approach to digital learning focuses on designing technology that amplifies human connection rather than automates it. For instance, reflective journaling tools,

synchronous video discussions, and empathy-driven feedback systems have been shown to foster emotional presence and social belonging (Turgut (2023). Similarly, advances in artificial intelligence offer both promise and peril: AI can personalize learning and detect student disengagement, yet if deployed unethically, it can reinforce surveillance and bias (Holmes et al., 2023). Thus, adopting *ethics-by-design* and *human-AI interaction principles* becomes essential to ensure that AI supports, rather than substitutes, authentic human relationships in education.

Moreover, the humanization agenda extends beyond pedagogy into institutional ethos. Universities must create digital cultures that honor well-being, inclusivity, and dialogue. Mäkitalo et al. (2022) found that institutions that emphasize empathy-driven collaboration experience greater faculty satisfaction and student engagement. Similarly, UNESCO (2022) calls for “a new social contract for education” in which technology serves the collective human good, reinforcing dignity, social justice, and sustainability. This shift redefines academic excellence—not as the mastery of tools, but as the cultivation of wisdom and ethical agency in a connected world.

Ultimately, humanization reframes the purpose of digital higher education: from information dissemination to *formation of the person*. It asks critical questions: What kind of humans are we shaping through our digital systems? Are we designing universities that produce algorithmic efficiency or compassionate citizenship? As OECD Digital Education Outlook (2023) argue, “digital transformation must begin and end with the human.” Only when technology is consciously aligned with humanity can higher education fulfill its transformative social mission.

4. Integration of Internal and External Organizational Factors

The success of any digital and human-centered transformation in higher education depends largely on how effectively universities align internal organizational capacities with external environmental demands. Digital technology alone cannot generate meaningful change unless it is embedded within an institutional culture that values collaboration, adaptability, and shared vision (Alawiah & Tukiran, 2024; and Intan & Tjakraatmadja, 2024). Conversely, even the most innovative institutional culture must continuously adapt to external forces such as policy reforms, technological disruption, and societal expectations. The dynamic interplay between internal and external contexts therefore determines whether digital transformation will remain a technical adjustment or evolve into a sustainable humanistic evolution.

Internally, universities operate as complex socio-technical systems. Factors such as leadership style, organizational culture, digital literacy, and governance structures are central to transformation. Authentic and participatory leadership has been repeatedly identified as a decisive factor in fostering digital readiness (Alawiah & Tukiran, 2024; and Intan & Tjakraatmadja, 2024). Leaders who model transparency, empathy, and trust tend to create psychologically safe environments where experimentation and collaborative innovation can flourish (Anderson & Hsiao, 2023). Furthermore, a human-centered digital culture requires

capacity building for both faculty and administrative staff. Professional-development programs that combine technical training with ethical and pedagogical reflection help educators transition from digital compliance to digital fluency (OECD, 2023).

Equally vital are organizational structures and incentives. Many institutions remain fragmented, with technology initiatives siloed within IT units or individual faculties. A more integrated approach, supported by inter-faculty collaboration, digital learning offices, and reward systems for innovation encourages cross-disciplinary synergy (Mäkitalo et al., 2022). When governance aligns digital initiatives with institutional mission and social responsibility, technology becomes a vehicle for achieving the university's humanistic and societal goals.

Externally, universities face a rapidly shifting ecosystem shaped by global policy frameworks, labor-market transformations, and social change. UNESCO's (2022) *Reimagining Our Futures Together* report calls for higher education systems to adopt an "ecosystemic perspective," recognizing universities as nodes within broader knowledge networks that include government, industry, and community partners. Collaboration with these actors enables institutions to remain socially relevant while also enriching curricula with real-world contexts. Similarly, regulatory frameworks and funding policies can either accelerate or constrain innovation. Governments that prioritize open-access initiatives, digital equity, and ethical AI in education create enabling environments for universities to implement inclusive transformation (Holmes et al., 2023).

The alignment of internal and external factors thus forms the structural foundation for human-oriented digitalization. Internal culture and leadership determine the *depth* of transformation, while external drivers define its *direction*. When both dimensions interact constructively, universities can sustain a cycle of reflective adaptation continuously learning from their environments while maintaining their ethical compass. Chugh, et al. (2023) note, "the future of higher education depends not only on technological capacity but on institutional coherence and contextual responsiveness." In summary, digital humanization in higher education is neither an internal initiative nor an external mandate; it is a co-evolutionary process. By harmonizing organizational culture, leadership, and resources with external partnerships and policies, universities can ensure that digital transformation remains both strategically robust and socially humane.

5. How the Model Can Be Implemented in Higher Education: Practical Pathways

Integrating the "digitalization-to-humanization" model in higher education is not just about designing a strategy, but also about translating it into practices that touch the curriculum, leadership, student mentoring, and institutional networks. Things higher education can do to directly implement this model are:

- Redesign the curriculum as a human-centered digital curriculum.

The curriculum needs to be designed not only to incorporate technology, but also to maintain the depth of the human learning experience. The implementation steps are:

- Integrate problem-based learning, project-based collaboration, and design thinking across all study programs.

- Use technology (LMS, AI assistants, learning analytics) to support personalized learning, while maintaining space for face-to-face dialogue and personal mentoring.
- Ensure that each digital course has learning outcomes that explicitly include empathy, collaboration, communication, and digital integrity.

The expected impact of implementing this model is that students experience more relevant, interpersonal, and meaningful learning.

- Collaborative Ecosystem Approach (Collaboration Across Faculties and External Partners).

The humanization model requires education to be a collaborative space for solving real-world problems. Its implementation can be done through the following steps:

- Cross-faculty collaboration, the goal being to develop multidisciplinary solutions.
- Establish an innovation sandbox or collaboration hub that connects students with industry, local government, MSMEs, startups, and the community.
- Encourage universities to facilitate community-engaged innovation projects.

Through the implementation of this model, it is hoped that impact-oriented and real-life learning experiences will be created.

- Humanized Use of AI and Digital Tools

Technologies such as AI, chatbots, and analytics can be highly beneficial when used with the human-in-the-loop principle. Effective implementation steps include:

- Use AI to personalize student feedback, simplify lecturer administration, and map learning difficulties.
- Ensure that critical academic decisions remain human-led—such as final assessments, academic recommendations, or the curation of sensitive material.
- Implement AI ethics in education that emphasize transparency, accountability, and fairness.

The impact is that technology improves the quality of education without eliminating the human touch.

- Revitalize the Role of Lecturers as "Facilitators of Meaning"

Humanization demands a transformation in the role of lecturers, and this can be achieved through the following steps:

- Provide lecturer training on digital pedagogy, human-centered teaching modules, collaborative leadership, and technology integration.
- Encourage lecturers to become mentors, facilitators of reflective processes, and liaisons between students and the professional world.
- Develop teaching communities of practice to share the success of digital-human teaching.

Through these strategic steps, the expected impact is that lecturers are not replaced by technology, but rather strengthened by it.

- Student Support System that Strengthens Well-being and Belonging

Humanization emphasizes strengthening social relationships, empathy, and meaningfulness. To achieve these goals, the implementation steps are:

- Provide academic and career mentoring based on individual needs.
- Use data (learning analytics) to identify students at risk of falling behind or experiencing psychological distress.
- Build a campus culture that is inclusive, enjoyable, and supportive of student well-being.

By implementing a student support system, students feel "seen, heard, and valued."

➤ Leadership for Humanized Digital Transformation

Leadership is key to driving this model. To realize humanistic leadership, the following steps can be taken:

- Campus leaders need to prioritize digitalization that enhances collaboration, participation, and the quality of human relationships.
- Apply the principles of authentic leadership, empathetic governance, and shared decision-making.
- Provide policies that encourage teaching innovation, cross-unit collaboration, and educational experimentation.

The resulting impact is that digital transformation becomes an institutional movement, not merely a technical project.

The digitalization–humanization model provides a new direction for higher education, as technology is used not only to accelerate, but to deepen; not only to automate, but to humanize. Its implementation requires empathetic leadership, collaboration across faculties and external partners, human-centered curriculum design, and the use of AI that still allows for human roles. Higher education institutions that successfully adopt this model will produce not only digitally competent graduates, but also thoughtful, collaborative, and impact-oriented individuals, making quality even more important in an increasingly complex world. Digitalization may speed up the process, but humanization ensures direction.

Conclusion

The journey *from digitalization to humanization* in higher education represents more than a technological shift; it signifies a profound reorientation of educational philosophy and institutional practice. While digital transformation has expanded access, efficiency, and connectivity, it has also exposed the fragility of human engagement in increasingly mediated environments. The central argument of this paper asserts that higher education must transcend the instrumental view of technology and embrace a human-centered model that restores empathy, collaboration, and ethical purpose to the heart of academic life. This study has outlined a conceptual pathway grounded in five interconnected pillars: (1) digital transformation as a catalyst, (2) collaboration as a driver of innovation, (3) humanization as the moral orientation, (4) integration of internal and external organizational factors, and (5) multi-level implications across theory, practice, and policy. Together, these components articulate a coherent framework for designing impactful, collaborative, and ethically sustainable higher education models in the digital age.

References

- Alawiah, E. T., & Tukiran, M. (2024). Digital leadership and digital transformation: Systematic literature review. *International Journal of Social and Management Studies*, 5(3), 27-34.
- Allam, H. M., Gyamfi, B., & AlOmar, B. (2025). Sustainable Innovation: Harnessing AI and Living Intelligence to Transform Higher Education. *Education Sciences*, 15(4), 398.
- Alshahrani, B. T., Pileggi, S. F., & Karimi, F. (2024). A social perspective on AI in the higher education system: A semisystematic literature review. *Electronics*, 13(8), 1572.
- Anderson, R., & Hsiao, Y. T. (2023). *Collaborative innovation in higher education: A framework for digital ecosystems*. *Higher Education Policy*, 36(2), 365–384.
- Biesta, G. (2020). *Letting Art Teach: Art Education after Joseph Beuys*. ArtEZ Press.
- Bitar, N. & Davidovitch, N., 2024. Transforming Pedagogy: The Digital Revolution in Higher Education, *Educ. Sci.*, 14(8), 811; <https://doi.org/10.3390/educsci14080811>
- Bitar, N & Davidovitch, N., 2024. “Cultural Adaptation of Digital Learning Tools in Israeli Higher Education: A Case Study, *TechTrends* (2024) 68:1152–1165 <https://doi.org/10.1007/s11528-024-01007-3>
- Bitar, N. & Davidovitch, N., 2024 “Navigating New Norms: Lecturers’ Insights on Digital Learning Integration in Higher Education: A Case of Israel”, *Educ. Sci.* 2024, 14(8), 816; <https://doi.org/10.3390/educsci14080816> (MDPI)
- Bond, M., Khosravi, H., De Laat, M., Bergdahl, N., Negrea, V., Oxley, E., ... & Siemens, G. (2024). A meta systematic review of artificial intelligence in higher education: A call for increased ethics, collaboration, and rigour. *International journal of educational technology in higher education*, 21(1), 4.
- Chugh, R., Turnbull, D., Cowling, M. A., Vanderburg, R., & Vanderburg, M. A. (2023). Implementing educational technology in Higher Education Institutions: A review of technologies, stakeholder perceptions, frameworks and metrics. *Education and Information Technologies*, 28(12), 16403-16429.
- Elci, A. & Iseri, E., 2022. Learning and Teaching Centers for Faculty Professional Development in Turkey: Management and Organizational Structure, *GergiPark*, Volume: 12 (2), 280 – 295, <https://doi.org/10.2399/yod.21.734565>.
- Fauzi, F. (2025). KEPEMIMPINAN DIGITAL DALAM DUNIA PENDIDIKAN: TINJAUAN SYSTEMATIC LITERATURE REVIEW. *TA'LIM: Jurnal Studi Pendidikan Islam*, 8(2), 215-237.
- Floridi, L. (2022). *The Ethics of Digital Humanism*. *Philosophy & Technology*, 35(1), 16–27.
- Gonzalez-Moreno, M., Monfort-Vinuesa, C., Piñas-Mesa, A., & Rincon, E. (2023). Digital technologies to provide humanization in the education of the healthcare workforce: A systematic review. *Technologies*, 11(4), 88.
- Gopinathan, S., Kaur, A. H., Veeraya, S., & Raman, M. (2022). The role of digital collaboration in student engagement towards enhancing student participation during COVID-19. *Sustainability*, 14(11), 6844.
- Holmes, W., Bialik, M., & Fadel, C. (2023). *Artificial Intelligence in Education: Promises and Perils for Human Learning*. Center for Curriculum Redesign.

- Hu, K., & Raman, A. (2024). Systematic literature review on the holistic integration of e-learning in universities: Policy, human, financial, and technical perspectives. *Contemporary Educational Technology*, 16(2), ep497.
- Intan, S. D., & Tjakraatmadja, J. (2024). ASSESSING THE HUMAN DIMENSION OF DIGITAL LEADERSHIP TO SUCCESSFUL DIGITAL TRANSFORMATION. *Jurnal Ilmiah Manajemen, Ekonomi, & Akuntansi (MEA)*, 8(3), 1293-1312.
- Kim, K., & Frick, T. W. (2021). *Humanizing online learning: A systematic review of interaction and presence. Educational Technology Research and Development*, 69(3), 1459–1480.
- Le Dinh, T., Le, T. D., Uwizeyemungu, S., & Pelletier, C. (2025). Human-Centered Artificial Intelligence in Higher Education: A Framework for Systematic Literature Reviews. *Information*, 16(3), 240.
- Mäkitalo, Å., Jakobsson, A., & Ludvigsen, S. (2022). *Digital collaboration and knowledge co-creation in higher education: Towards communities of practice. Learning, Culture and Social Interaction*, 34, 100656.
- Mena-Guacas, A. F., Meza-Morales, J. A., Fernández, E., & López-Meneses, E. (2023). Digital collaboration in higher education: A study of digital skills and collaborative attitudes in students from diverse universities. *Education Sciences*, 14(1), 36.
- OECD. (2023). *Digital Education Outlook 2023: Transforming Higher Education in the Age of AI*. OECD Publishing.
- Otto, S., Bertel, L. B., Lyngdorf, N. E. R., Markman, A. O., Andersen, T., & Ryberg, T. (2024). Emerging digital practices supporting student-centered learning environments in higher education: A review of literature and lessons learned from the COVID-19 pandemic. *Education and Information Technologies*, 29(2), 1673-1696.
- Pinto-Llorente, A. M., & Izquierdo-Álvarez, V. (2024). Digital Learning Ecosystem to Enhance Formative Assessment in Second Language Acquisition in Higher Education. *Sustainability*, 16(11), 4687.
- Stenalt, M. H., & Mathiasen, H. (2024). Towards teaching-sensitive technology: a hermeneutic analysis of higher education teaching. *International Journal of Educational Technology in Higher Education*, 21(1), 17.
- Stolba, A., Hope, A., Branch, J., Manoj, P., Trinier, J., Behboudi, A., ... & Childs, E. (2024). Beyond content delivery: harnessing emotional intelligence for community building in fully online digital spaces. *International Journal of Educational Technology in Higher Education*, 21(1), 48.
- Torraco, R. J. (2016). Writing integrative literature reviews: Using the past and present to explore the future. *Human resource development review*, 15(4), 404-428.
- Turgut, S. E. (2023). EFFECTIVENESS OF COMMUNITY OF INQUIRY BASED ONLINE COURSE: COGNITIVE, SOCIAL AND TEACHING PRESENCE. *International Journal of Pedagogics*, 3(06), 27-30.
- UNESCO. (2022). *Reimagining our futures together: A new social contract for education*. UNESCO Publishing.

- van Dorresteijn, C., Fajardo-Tovar, D., Pareja Roblin, N., Cornelissen, F., Meij, M., Voogt, J., & Volman, M. (2025). What factors contribute to effective online higher education? a meta-review. *Technology, Knowledge and Learning*, 30(1), 171-202.
- Wargo, K., & Anderson, B. (2024). Striking a balance: navigating the ethical dilemmas of AI in higher education. *EDUCAUSE Review (Online)*.
- Zhang, L., & Ma, Y. (2023). A study of the impact of project-based learning on student learning effects: A meta-analysis study. *Frontiers in psychology*, 14, 1202728.