

HUMANISTIC DIGITALIZATION IN LEARNING

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Abstract: *Learning is a process of transforming values between generations with the aim of inheriting, developing, and designing civilization for the future. The generation that will live in the future is characterized by Generation Z, which is saturated with digital technology as its main instrument and skill. Digitalization in learning is not just about planning, managing, and developing, but also about being responsible for preparing all parties involved in intergenerational transformation. How can we describe the future as a real situation? This is what must be understood, comprehended, and used as the basis for learning development. We conducted an in-depth study that learning packaged in the process of digitalization must feel dry and dangerous if it is not given a human touch. The idea of developing humanistic digitalization-based learning offers a progressive society as an alternative and solution for good education.*

Keywords: *Digitalization, Learning, Generation Z*

Introduction

We have gone through several eras of social development. The two eras closest to us today are Industry 4.0 and Society 5.0. While Industry 4.0 is characterized by the power of AI and IoT replacing humans, Society 5.0 is characterized by the power of AI working together with humans themselves. While Industry 4.0 focuses purely on technology and its economic aspects, Society 5.0 focuses on completing tasks with the help of AI and human welfare. So, the concept of Society 5.0 combines AI and robots working together with humans. The Society 5.0 revolution promotes efficiency and productivity through technology that is utilized by human intelligence (Kurniati, Nuringwahyu, Daidan, & Deka, 2025, p. 34).

These technological developments have brought about major disruptions in education. (TIM, 2024, p. 1). There is an intrinsic relationship between education and technological innovation. New ideas drive digital transformation, which in turn will improve the quality of education holistically. Technology has brought significant changes to the world of education, demonstrating its critical role in the learning process. Although technological tools are considered to be supporting elements in the learning process, their relevance is undeniable and very real. (Pacheco, Yupanqui, Mogrovejo, Garay, & Hern´andez, 2025, p. 1).

This transformation is not only about adopting new technologies, but also about reformulating learning approaches and administrative processes to better serve the needs of students and educators in the digital age. (Joseph, Onwuzulike, & Shitu, 2024, p. 2785). Digital transformation in education refers to the integration of digital technology into all aspects of the educational process, with the aim of enhancing the learning experience and improving educational outcomes. (Tai & Son, 2023).

The integration of digital technology into education is a significant evolution in the pedagogical framework, with the potential to improve accessibility, engagement, and personalization in learning. (Yumei Zou, Feng, & Cheng, 2025, p. 1). Digital learning has become a force, and it continues to change rapidly today. (Yadav, 2024, p. 24). Therefore, to meet these demands, we need to adapt our learning approaches, focusing on the strategies

implemented by educators (lecturers, teachers) and learners (students). (Joseph, Onwuzulike, & Shitu, 2024, p. 2789).

On the one hand, digital learning platforms, educational applications, and other online resources are revolutionizing the way we access knowledge in learning. This revolution has a significant positive impact on education and learning. (Pacheco, Yupanqui, Mogrovejo, Garay, & Hernández, 2025, p. 1). However, on the other hand, all of these devices also bring significant ethical dilemmas. Among these dilemmas, as Stefania Geannini emphasizes in her foreword, are the risks that advances in digital technology, especially AI, pose for cognitive displacement, a decline in critical thinking, and the reinforcement of disparities in access, gender, language, privacy, ethics, sovereignty, and trust. (UNESCO, AI and the Future of Education; Disruptions, Dilemmas and Directions, 2025). In addition, another equally important dilemma is the decline in social and ethical competence (Rumelin & Weidenfeld, 2022, p. 93).

This is a matter of great concern to UNESCO, which emphasizes that “Protecting the right to education in the digital age: In this era of digital technology and artificial intelligence (AI), without adequate protection such as strong data protection measures, ethical frameworks, transparent governance, inclusive access policies, and accountability mechanisms—the right to education and other human rights are threatened.” (Team, AI and Education; Protecting the Rights of Learners, 2025, p. 4). This statement emphasizes that users of digital education technology must exercise restraint so as not to violate human rights, especially the right to education itself.

These various digital technology issues require proactive strategies and collaborative efforts from educators, policymakers, technology developers, and other stakeholders. (Yadav, 2024, p. 33). The first strategy is from within ourselves. The more we rely on digital technology in education, the more we must ask ourselves: How do we ensure that technology is used responsibly? We must be able to ensure that technology continues to improve the learning process without compromising integrity and diminishing human values. Therefore, this paper offers a theoretical-normative idea of “humanistic digitization in learning.”

Literature Review

Humanistic Digitalization

In this description, there are two important things to understand comprehensively, namely digitization and humanism. Digitization and humanism are two concepts that are interrelated and important in the context of modern society development. A deep understanding of these two things is necessary so that the technology developed can improve the quality of human life without neglecting fundamental human aspects.

In the KBBI, digitization is defined as the process of providing or using digital systems. In general, digitization is the conversion of printed and physical materials, such as writing, images, and sound, into digital versions through computer processing. (Bilge Peker, 2024, p. 29). Digitization is also the process of converting information from analog format to digital format. (Kusnanto, Gudiato, Usman, Manggu, & Sumarni, 2024, p. 1). Thus, digitization is the process of transferring analog material information through a computer into digital form.

The word “humanist” in the KBBI is defined as a person who desires and strives for the realization of a better way of life, based on the principles of humanity; a servant of the interests of fellow human beings; a believer in the idea that humans are the most important object; a believer in humanism. Thus, humanist refers to individuals or figures who adhere to the belief that humans must realize a way of life based on good humanitarian values.

In technology literature, the term digital humanism is found. This term is becoming increasingly popular among technology and media thinkers, inspired by McLuhan, who is

referred to as a technological humanist. (Coeckelbergh, 2024, p. 1). Digital humanism aims to strengthen human responsibility, realize the potential of digitalization to lighten the burden of unnecessary knowledge and calculations, so that humans can focus on essential matters and contribute to a more humane and just future for humanity. (Nida-Rümelin, 2022, p. 71).

From a digital humanism perspective, discussing the dangers and opportunities arising from digitization, the spread and availability of artificial intelligence (AI) systems in various aspects of life today is of utmost importance. Technologies that threaten society and cause individual isolation must be redesigned and reshaped, utilized in accordance with human values. (Peter Knees, 2024, p. 418). This idea arises because, fundamentally, it is emphasized that “Technology is for people and not the other way around.” Technology is for humans, not the other way around. (Werthner, Erich, Lee, Ghezzi, & editors, 2022, p. vi).

Thus, the humanistic digitalization referred to in this article refers to the process of designing, using, and utilizing digital technology in a humane manner. Digital technology is utilized with respect for human dignity and strengthens relationships between people. Digital technology is used wisely and responsibly without violating human rights. As users, we must ensure that the use of technology is in line with human values.

Implementation of Humanistic Digitalization in Gen Z Learning.

Before discussing humanistic digitalization in learning, it is important to first understand human generations in general. To date, there are at least five human generations, namely Baby Boomers, Generation X, Generation Y/Millennials, Generation Z/Zoomers, and Generation Alpha. These generations are classified based on their different birth years. Specifically for Generation Z, there are many versions. Some define Gen Z as people born between 1997 and 2012, others as those born between 1996 and 2010, and still others as those born between 1997 and 2015. (Munir, 2025, p. 1).

There are several terms used to identify Generation Z, such as The Founders, iGen, Plurals, Post-Millennials, Neo-Digital Natives, Centennials, and Homeland Generation. However, the term Gen Z has become the most popular. Members of Generation Z are currently completing their higher education and entering the workforce. (Trevor Gerhardt, 2021, p. 3).

The characteristics of Gen Z, in conclusion, confirm that Generation Z is more pragmatic, more cautious, more global, more individualistic, more innovative, and less focused on their work than Generation Y. (Christian Scholz, 2019, p. 9). In the context of learning, Gen Z has unique characteristics and learning preferences. They are a generation of independent learners who have flourished in the digital technology era. Gen Z is less interested in traditional learning formats, which rely solely on lecture methods. Gen Z also does not read thoroughly in a literate manner, as previous generations did. (Aditya Narayan, 2023, p. 22). They are digital natives, growing up with ever-evolving technology and easy access to the internet and mobile devices. (Munir, 2025, p. 7).

Method

This study employs a literature review approach to comprehensively examine the concept, principles, and implementation of humanistic digitalization in learning. A literature review is considered appropriate as it enables the identification, evaluation, and synthesis of existing scholarly works, thereby providing a holistic and in-depth understanding of the research topic (Snyder, 2019).

The data sources consist of national and international peer-reviewed journal articles retrieved from reputable academic databases such as Scopus, Web of Science, Google Scholar, and SINTA. The reviewed literature focuses on key themes including digital learning,

humanistic educational approaches, human-centered educational technology, and the integration of technology and pedagogy. The inclusion criteria were: (1) articles published within the last ten years, (2) publications written in English or Indonesian, and (3) studies with direct relevance to humanistic values and digitalization in educational contexts (Creswell & Poth, 2018).

The literature search process was conducted through several systematic stages: identifying relevant keywords such as humanistic education, digital learning, human-centered technology in education, and digital pedagogy; screening titles and abstracts; and conducting full-text reviews to ensure alignment with the research focus. This structured procedure was implemented to reduce selection bias and enhance the credibility of the review process (Kitchenham & Charters, 2007).

Data analysis was carried out using thematic analysis, in which key findings from the selected studies were categorized into major themes related to humanistic values in digital learning, including teacher–student relationships, empathy, learner autonomy, meaningful learning experiences, and ethical use of technology. These themes were critically examined to identify patterns, similarities, and divergences across the literature, resulting in a coherent conceptual synthesis (Braun & Clarke, 2006).

The findings of this literature review are presented in a descriptive-analytical narrative that integrates theoretical and empirical perspectives. This study is expected to contribute theoretically by strengthening the conceptual framework of humanistic digitalization in learning and practically by providing insights for educators and researchers in developing digital learning environments that remain firmly grounded in humanistic values (Miles, Huberman, & Saldaña, 2014).

Result and Discussion

Humanistic Digitalization in Learning

Digitalization in learning is the process of utilizing digital technology as a medium for interactive learning. Technology in learning can take the form of hardware such as computers, tablets, projectors, televisions, and other interactive boards. It can also take the form of software, such as LMS (Learning Management System), learning applications, artificial intelligence (AI) with its various generations, and other devices that support personalized learning. (Raharjo, 2025, p. 71). All of these devices have made learning more flexible and accessible. (Yumei Zou, Feng, & Cheng, 2025, p. 02).

Digital learning in educational practice has become the main foundation of our education today. (Yumei Zou, Feng, & Cheng, 2025, p. 2). The importance of digital learning in the modern educational landscape is an inevitability. This is because digital learning offers many benefits that are essential for preparing students to adapt to the challenges of the digital age and thrive in the 21st century. (Yadav, 2024, p. 25).

However, there is something more important than adaptation and development. In the digital age, the competence and character of users (educators and students) will become much more important to improve. We must not only be cognitively skilled, but also much more emotionally skilled. In fact, humans still play an important role in controlling and directing the development of technology in digital learning. Humans must be digital controllers to assist their activities. In learning, the use of digital technology is not to replace the role of humans, but to shape humans in solving learning problems. (TIM, 2024, p. 2).

Educators are required to not only question how to integrate digital technology—such as AI—into learning, but also how integrated learning practices can facilitate the formation of human identity and how learning experiences can be shaped to develop human capacity for a better life. (Ching Sing Chai, 2025, p. 95). If this is not the case, then educators (lecturers,

teachers) and learners (students) are highly likely to lose their professional competence. (Nida-Rümelin, 2022, p. 90).

Therefore, among the efforts to control the use of digital technology in learning, a collaborative approach among stakeholders will be important in creating an inclusive and effective learning environment for a shared future. (Yumei Zou, Feng, & Cheng, 2025, p. 1). Joseph et al. further narrowed down that the implementation of effective digital transformation in education (learning) requires a comprehensive approach that covers various aspects of the educational process, including technological infrastructure, pedagogical strategies, and stakeholder involvement. (Joseph, Onwuzulike, & Shitu, 2024, p. 2787).

In relation to this, Oliviero Stock makes a more philosophical statement, based on the perspective of digital humanism, that if technology aims for human prosperity, then its greatest value is empowering each individual with the ability to appreciate humanity from all aspects of its identity in an inclusive and adaptive manner. (Werthner, Erich, Lee, Ghezzi, & editors, 2022, p. 115). Of course, this also applies to the learning process that uses digital technology devices.

Conclusion

Digitalization in learning is a necessity, as a response to developments in digital technology. However, digitalization in learning is not the goal of learning, but rather an approach to achieving that goal. Therefore, digital-based learning does not sacrifice the goal of learning, which is the educational-humanistic process. We do not want to lose the human touch when using digital technology. Digital-based learning must be carried out while maintaining universal human values as a learning community. Therefore, we must implement humanistic digitalization in learning, especially for Generation Z and Alpha.

Humanistic digitization in learning is the process of designing, using, and utilizing digital technology in learning in a humane manner. Digital-based learning must respect human dignity and strengthen human relationships in a wise and responsible manner without violating human rights. In short, digital-based learning must be in line with human values. To implement “humanistic digitization” in learning, we must understand and comprehend its foundations and principles.

There are three main foundations in the implementation of humanistic digitalization in learning, namely the normative-religious foundation, the philosophical foundation, and the legal foundation. These foundations arise from the most fundamental thinking. They give rise to several main principles, namely the principle of justice, the principle of honesty, the principle of trust, and the principle of responsibility. With these three foundations and four principles, it is hoped and believed that digitization in learning will be based on humanistic ethical values.

It is well recognized that the substance of this paper contains theoretical-normative ideas, so technical-operational follow-up based on research is necessary. The goal is to make the technical framework of “humanistic digitization” in learning more systematic, operational, and measurable. However, this can be used as an initial framework for further development. The idea of developing humanistic digitalization-based learning offers a progressive society an alternative and solution for good education.

The Foundation of Humanistic Digitalization in Learning

To implement humanistic digitalization in learning, it must be based on the most fundamental thinking. There are at least three main foundations for implementing humanistic digitization in learning, namely the normative-religious foundation, the philosophical foundation, and the legal foundation. It is important for educators (lecturers, teachers) and learners (students) to understand all of these foundations. With these three foundations, it is hoped and believed that digitization in learning will be based on ethical human values.

The normative-religious foundation is very important to strengthen, because the onslaught of materialism, marked by rapid technological development, tends to distract people from their religious teachings. Lubis mentions that religion has experienced a decline in its role as a result of this progress, which ultimately causes humans to lose their grip on life. (Lubis, 2017, p. 114). Of course, this statement does not mean that religion has lost its role, but rather emphasizes that many religious people have strayed from religion due to technological advances, so that the role of religion seems to have receded or even disappeared from their activities.

The normative-religious foundation emphasizes ethical values derived from religious teachings, which lead to the development of the individuality of each subject (educators and students) in learning in the digital age. This stems from a belief that religion aims for universal goodness and improvement. Religion does not teach evil and anything that can demean human dignity. In this context, a person must be mature in their religion so that this maturity has a full impact on their practice of religion. This is because people with religious maturity will practice religious commands with totality and are less likely to violate God's rules. (Saifuddin, 2019, p. 70).

The normative-religious foundation emphasizes ethical values derived from religious teachings, which lead to the development of the individuality of each subject (educators and students) in learning in the digital age. This is based on the belief that religion aims for universal good and improvement. Religion does not teach evil and anything that can demean human dignity. In this context, a person must be mature in their religion so that this maturity has a full impact on their religious practices. This is because people who have religious maturity will carry out religious commands wholeheartedly and are less likely to violate God's rules. (Saifuddin, 2019, p. 70).

Indeed, in the context of philosophy, there are two schools of humanism, namely liberal humanism (technological humanism) and revolutionary humanism (Marxist humanism). (Brownlee, 2004, pp. 118-119). These two theories have very different views of humanity. Liberal humanism believes in the goodness of humans and their ability to live in harmony with other humans. However, humans also have a bad side, namely irrational desires. It's just that this side can also be overcome by using their own rationality. Because for them, the "crown" of humanity is its rationality. Consequently, they assert that humans must strive to control nature with better knowledge and technology.

Revolutionary humanism also believes that humans are fundamentally good. They emphasize that the main struggle of humans is not against nature but against human greed itself (Prasetya et al., 2025). For them, problems that arise need to be solved through conflict, not with better technology. This is because even though technology has great capabilities and plays an important role in helping humans, in the current world economic system, technology actually enslaves humans themselves. Technology and science are controlled by those in power for their own interests, and technology is used to oppress the weak (Brownlee, 2004, pp. 118-119).

From the perspective of these two schools of humanistic philosophy, there is an aspect that can be used as an ethical basis for the use of digital technology, namely that humans are fundamentally good and desire goodness, albeit in various ways. However, humans also have the potential to be bad. Therefore, humans and goodness for humans must be dominated through rationality in order to realize good humans.

This philosophical foundation plays a role in providing an understanding of human nature and the purpose of human education, so that digitization does not only focus on technical aspects, but also on the development of human potential as a whole. Through this foundation, we must emphasize the importance of maintaining human values amid rapid technological developments. We should only use technology as a tool to achieve the highest human potential

(Wisnu Widjanarko, 2025, p. 91), not to demean and destroy human dignity (Faiz, Ula, & Zubaidi, 2022, p. 233).

In the context of education and learning, one of the key philosophical elements is the belief that learning is human-centered. Therefore, a balance between technology and humans must be created. Although technology plays a very large role in the advancement of learning digitalization, it is still necessary to emphasize the importance of humanistic aspects. (Asep Deni, 2024, p. 1).

Finally, it is very important to strengthen the legal basis, because the use of technology has great potential for abuse by certain users. This basis, as emphasized by Rekbi, requires legal certainty, as a guarantee of stability and certainty of legal norms, through the formulation of clear and integrated laws and regulations that are in line with the dynamic nature of technology, while still protecting basic rights. (Rekbi, 2024, p. 2814).

In the context of education and learning, this foundation serves to provide a clear legal framework for the application of digital technology tools in learning, protect the rights of educators (lecturers, teachers) and learners (students), and ensure that the learning process is fair and responsible, without violating any regulations.

In relation to this, in Indonesia, which is more relevant to the context of education and learning, the Minister of Communication and Information Technology Circular Letter Number 9 of 2023 concerning Artificial Intelligence Ethics has been issued. In this circular, there are at least nine ethics that must be considered, namely: inclusiveness, humanity, security, accessibility, transparency, credibility and accountability, personal data protection, sustainable development and environment, and finally intellectual property.

Learning does require creativity, based on efforts to understand students who are more dynamic, complex, but still challenging. Muhammad Qorib explains that; The learning process that can develop the potential that exists in students is very important because teachers must be able to explore the needs of their students by designing learning to accommodate the diversity of students that can be adapted to different levels of ability, readiness, interests, and learning profiles. (Qorib, 2024).

Although several regulations had been issued prior to that, including Law No. 19 of 2016 concerning amendments to Law No. 11 of 2008 concerning Electronic Information and Transactions (ITE). Also Government Regulation No. 71 of 2019 concerning the Implementation of Electronic Systems and Transactions. In addition, Law No. 27 on Personal Data Protection was also issued. All of these regulations aim to benefit humans in their use of technology.

The Principles of Humanistic Digitalization in Learning.

After outlining the aforementioned foundations, we need to break them down into basic principles for implementing humanistic digitalization in learning. The most fundamental principles are: the principle of fairness, the principle of honesty, the principle of trust, and the principle of responsibility. This article does not seek to limit other principles that may be used in the application of digital technology. However, as a concept, we consider these four principles to be fundamental and essential. If used as a basis, humanistic digitalization in learning will be realized.

First, the principle of fairness emphasizes attitudes and behaviors that ensure that every individual (lecturers, teachers, university students, school students) has equal access to digital technology in learning. Every learning participant must participate in digital learning as a whole; there should be no discrimination against anyone. In addition, this principle also serves to meet diverse needs without harming oneself or others. Therefore, the use of digital technology in learning must be based on the principle of fairness and not harm others. (Budi, 2025, p. 12).

In addition, a commitment to fairness and the welfare of each individual can serve as a foundation for lecturers and students to develop innovative ideas through the use of digital technology in learning. In this case, what must be done is to critically identify the biases produced by the digital devices used (TIM, 2024, p. 28). This is done so as not to harm anyone.

Second, the principle of honesty is a principle that must be internalized by users of digital technology in learning. This is because digital tools make it easier to facilitate dishonesty and misinformation. (TIM, 2024, p. 39). Although in reality there is no such thing as dishonest technology, because from a technological perspective, technology is considered to be honest (technology itself is honesty). (Kaunang, 2023, p. 73). This statement emphasizes that digital technology can function for good or bad depending on its users.

The principle of honesty emphasizes the aspect of honesty in the attitude of digital technology users (lecturers, teachers, university students, school students, teaching staff) in acknowledging sources, creating learning content, respecting the work of others, and avoiding plagiarism and other forms of dishonesty. The internalization of this principle is crucial for digital technology users, because a culture of honesty will create a humanistic learning environment. Anggia refers to this honesty as digital honesty. (Listyaningrum, 2025, p. 201).

Third, the principle of trust emphasizes mutual trust between users of digital technology in learning, in this case educators (lecturers, teachers) and learners (students). This trust must be built, as it will create effectiveness and a conducive environment for humanistic learning. This trust is an extension of the previous principle of honesty. The more honest the use of digital learning, the greater the trust, and vice versa.

In addition, this principle also emphasizes the protection of the interests of all stakeholders who use digital technology and compliance with human values. In literature, this principle of trust is referred to as digital trust, which is defined as an individual's expectation that digital technology and services—as well as the organizations that provide them—will protect the interests of all stakeholders and comply with the expectations and values of society. (Dobrygowski, 2022, p. 8).

Fourth, the principle of responsibility ensures that the burden of responsibility for each stage in the life cycle of digital technology systems remains with humans. Humans are the users of digital technology, not the other way around. As a consequence, individuals (lecturers, teachers, university students, school students) must critically assess the impact of digital devices on human life. Therefore, what should not be done is the irresponsible use of digital devices that does not take ethics into account. (TIM, 2024, p. 29).

In the context of learning, each individual (lecturers, teachers, university students, school students) must be personally responsible to others for the digital learning they carry out. Using digital technology in learning is not without responsibility. Every access, process, and result of digital technology used academically must be accounted for.

Fundamentally, the four principles above are interrelated and reinforce one another. Fairness plays a role in ensuring that actions based on honesty and trust are applied fairly to all parties, thereby maintaining balance and harmony in learning interactions. Honesty as an ethical foundation creates a learning environment where individuals (lecturers, teachers, students) can build trust; without honesty, trust will be fragile.

In addition, responsibility requires individuals (lecturers, teachers, university students, school students) to be accountable for their academic actions while implementing digital learning. Therefore, the integration of these four principles not only strengthens personal ethics but also encourages the creation of an educational-humanistic learning community.

In this regard, from the perspective of their functions and duties, lecturers must indeed play a greater role. In this case, Indra and colleagues reported the results of their research that

mobilizer lecturers have three roles in driving the independent campus program, namely (1) mobilizer of education and learning, (2) mobilizer of innovation through research, and (3) mobilizer of community service. To achieve the objectives of the independent campus program, mobilizer lecturers implement various strategies. (Indra et al., 2025 p. 625).

To facilitate understanding of the concept of humanistic digitalization in learning, see the following image:



In this regard, educators play a role in learning by providing a deep understanding of the foundations and principles of digital technology use. Educators (lecturers, teachers) must understand and convey to students (university students, school students) the importance of upholding religion, fundamental human values, and legal regulations in designing, using, and utilizing digital technology in learning. Educators must also emphasize that digital-based learning must be carried out based on the principles of fairness, honesty, trust, and responsibility.

In addition, educators (lecturers, teachers) must also emphasize the importance of using digital technology in learning based on the principles of fairness, honesty, trust, and responsibility. This understanding and emphasis on these foundations and principles is very important in the framework of implementing humanistic digitalization in learning.

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