

# Virtual Education, a Complementary Element of the Puzzle of Holistic Education in The Relationship Between Humans and Environment or Iranian Citizens

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## Abstract

This paper explores the impact of modernization and globalization on Iranians' cultural and identity-based relationship with the environment, resulting in a loss of mental and semantic dimensions. This has led to environmental numbness and disregard for the natural world. The study argues that virtual education can complement holistic education and provide a platform for Iranians to learn about the mental and semantic aspects of their relationship with nature, thereby restoring their sense of connection to the natural world. The paper suggests that virtual education can help develop environmental awareness, critical thinking skills, and social responsibility while providing access to educational resources for individuals who may be geographically or socially isolated. Integrating virtual education into formal and non-formal education in Iran can play a critical role in promoting sustainable development, addressing environmental challenges, and preserving cultural identity. The study uses qualitative and descriptive research methods.



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**Key words:** globalization, holistic education, Iranian citizens, relationship between humans and the environment, virtual education.

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## Introduction and Problem Statement

The relationship between Iranians and their environment has been a significant aspect of their culture and history. In the past, this relationship was characterized by a general and subjective understanding of nature and the environment, deeply rooted in their culture and beliefs (Dariush & Dastyar, 2020). However, with the introduction of modern concepts and technological tools, this relationship has become more complex and has shifted towards a utilitarian view of nature. As a result, the mental aspects of the relationship between Iranians and their environment have decreased, leading to a lack of understanding and appreciation of the ecological systems that surround them. This situation has been exacerbated by factors such as urbanization, industrialization, and globalization, which have further disconnected Iranians from their environment (Dariush & Motedayen, 2019; Barati et al., 2020).

The current state of the environment in Iran is alarming, with major concerns about air and water pollution, desertification, deforestation, and loss of biodiversity (Alinezhad et al., 2019). However, urbanization, industrialization, and globalization have contributed to a lack of understanding and appreciation of the ecological systems that surround Iranians, leading to a utilitarian view of nature and a disconnection from the environment (Alinezhad et al., 2019; Moradi et al., 2019).

The interaction between people and the surrounding natural environment, especially with the dominance of deterministic positivist thinking, has formed a more mechanical approach with the acceptance of the obvious duality between humans and the environment (subject-object). Scientific thinking tools such as positivism and a mechanical view of the world have caused the direct communication and interaction of humans with the environment to be abandoned and neglected. In such a situation, humans have considered their environment as a consumer product, and excessive consumption of natural resources has become normalized (Barati et al., 2020).

To overcome these challenges, a holistic approach to environmental education that emphasizes the interconnectedness of human beings and their environment is necessary (Moradi et al., 2019). One potential solution is the use of virtual education as a complementary element of holistic education. Holistic education here refers to interdisciplinary education and a combination of educational approaches that can establish a systematic relationship between humans and the environment. As an interdisciplinary and learner-centered constructivist approach, environmental education offers problem-based learning and hands-on outdoor activities to develop critical thinking skills (Gislason, 2009). It requires integrated knowledge that focuses on mutual understanding between humans and the environment and the relationship between knowledge and actions for sustainability (Ergen & Ergen, 2011). Virtual education has the potential to connect Iranians with their environment and provide them with a deeper understanding of the ecological systems that surround them. By using virtual platforms, Iranians can explore different aspects of their environment, learn about environmental issues, and engage in interactive activities that promote environmental awareness and responsibility.

However, to effectively integrate virtual education into environmental education, it is necessary to develop a comprehensive approach that considers cultural and social factors, as well as the unique characteristics of the Iranian environment. This requires collaboration between educators, policymakers, and other stakeholders to develop effective strategies and programs that can promote a deeper understanding and appreciation of the environment among Iranians. It is unfortunate that the relationship between Iranians and their environment has become purely objective and physical, with little consideration for the mental and semantic dimensions of the natural world. This disconnection from nature can lead to a lack of appreciation for the value and beauty of the environment and can result in destructive behaviors that harm the land and its ecosystems.

To address this issue, it is important to raise awareness about the importance of a healthy and sustainable relationship with the environment. Education and public awareness campaigns can help promote the idea that humans are an integral part of the natural world and that our actions have a direct impact on the environment. In addition, efforts should be made to promote sustainable practices and policies that prioritize environmental conservation and protection. This includes reducing carbon emissions, protecting natural habitats, and promoting the use of renewable energy sources. It is also

important for individuals to take responsibility for their own actions and make changes in their daily lives that can have a positive impact on the environment (Salehi et al., 2020). This includes reducing waste, conserving energy, and supporting environmentally-friendly products and services. Overall, a more holistic and mindful approach to our relationship with the environment is necessary for the long-term health and sustainability of our planet.

Globalization, being a complex phenomenon, has given rise to various outcomes affecting different societies and nations. Extensive debates have revolved around the issues arising from the expansion of the virtual realm, such as the proliferation of misinformation, disinformation, and fake news (Sabzali et al., 2022), a dearth of critical thinking (Sabbar et al., 2021), and complications concerning global internet ownership (Masoumifar, 2022), among others. Generally, negative considerations regarding cyberspace expansion tend to focus on the problems within the digital domain. Conversely, when examining the influence of cyberspace expansion on the physical world, people tend to emphasize the positive consequences, such as decreased traffic and air pollution.

While globalization has certain advantages, it has also had negative consequences for the environment (Xia et al., 2022). However, globalization has also ushered in technological advancements and novel concepts that have the potential to mitigate these adverse impacts.

The field of education, like other aspects of human life, has been greatly affected by globalization. One of the most significant advantages of globalization in this regard is the emergence of virtual education (Abbasian et al., 2019). With virtual education, individuals can access educational resources from anywhere in the world without the need to travel or physically be present in a specific location. This can reduce the carbon footprint associated with traditional education systems, which often require extensive transportation and infrastructure (Cordero-Gutiérrez et al., 2018). Moreover, virtual education can be particularly beneficial for individuals living in remote or rural areas who may have limited access to educational resources and opportunities (Rajabi et al., 2019). It can also enable individuals to acquire new skills and knowledge, which can help them contribute to more sustainable and environmentally friendly practices (Li & Wang, 2020).

Technological advances are known as the general trend of globalization. Globalization has also led to the development of new technologies and innovations that can help address environmental

issues (Kareiva & Marvier, 2012). For example, advancements in renewable energy sources such as solar and wind power have enabled countries to reduce their dependence on fossil fuels and decrease greenhouse gas emissions (Ghasemi et al., 2020). Media can play an important role in promoting environmental education and public awareness. According to Mihailidis and Thevenin (2013), the use of media in environmental education can help engage learners and promote understanding of complex environmental issues. Virtual learning through media, such as online courses, webinars, and videos, can reach a wider audience and allow learners to engage with the content at their own pace. Additionally, social media platforms can facilitate discussions and information-sharing among learners and experts, creating a sense of community around environmental issues. However, the effectiveness of media in promoting environmental public knowledge depends on the quality and accuracy of the information provided. Therefore, it is important for media producers to ensure that their content is scientifically accurate and unbiased, and for educators to guide learners in critically evaluating the sources of information they encounter through media (Sabbar & Matheson, 2019). Sufficient knowledge in social networks is necessary to be able to design specific messages for specific groups of people.

In conclusion, virtual education can serve as a complementary element to holistic education in the relationship between humans and the environment for Iranian citizens. By integrating virtual education into formal and non-formal education systems, Iranians can gain a deeper understanding of the mental and semantic dimensions of their relationship with nature. Virtual education can promote environmental awareness, critical thinking skills, and social responsibility while providing access to educational resources for individuals who may be geographically or socially isolated. It is essential to develop comprehensive strategies and programs that consider cultural and social factors and the unique characteristics of the Iranian environment. By doing so, virtual education can play a critical role in promoting sustainable development, addressing environmental challenges, and preserving cultural identity.

### **Literature review**

The research article titled “Environmental Education in Iran: A Review of Its History, Policies, and Practices” by Akbari and Yazdani-Chamzini (2019) aimed to explore the historical, policy, and practical aspects of environmental education in Iran. The study identified several problems

in environmental education in Iran, including the lack of a clear definition and objectives for environmental education, inadequate funding and resources for environmental education programs, and insufficient teacher training and support for environmental education.

The article “Environmental Challenges in Iran: An Overview” by Arbabzadeh and Darban Astane (2020) aimed to provide an overview of the environmental challenges facing Iran. The study identified a range of environmental challenges in Iran, including air pollution, water scarcity, deforestation, desertification, and soil erosion. The article suggested that these challenges have been exacerbated by a lack of effective policies and governance in environmental management.

The research article “Investigation of Environmental Attitudes among Iranian Students: The Role of Environmental Knowledge, Environmental Concern, and Self-efficacy” by Arjmandi, Jafari, and Moradi (2020) aimed to investigate the environmental attitudes of Iranian students. The study found that Iranian students had a moderate level of environmental attitudes and that environmental knowledge, concern, and self-efficacy were significant predictors of environmental attitudes.

The article “The Role of Environmental Education in Sustainable Development in Iran” by Ghasemi and Rahimi (2020) aimed to examine the role of environmental education in promoting sustainable development in Iran. The study identified a range of environmental education initiatives in Iran, including the development of educational materials, teacher training programs, and environmental education campaigns. The article suggested that environmental education could play an important role in promoting sustainable development in Iran.

The research article “The Role of Environmental Education in Promoting Sustainable Development” by Habibi, Roshani, and Zamanpour (2019) aimed to explore the role of environmental education in promoting sustainable development. The study found that environmental education could play a key role in promoting sustainable development by increasing environmental knowledge, awareness, and behavior change.

The research article “The Impact of Environmental Education on the Behavior of the Residents of the Historic City of Yazd” by Jalali and Alizadeh (2019) aimed to investigate the impact of environmental education on the behavior of residents in the historic city of Yazd. The study found that environmental education had a significant positive impact on the behavior of residents, leading to increased environmental awareness and behavior change.

The research article “The Role of Virtual Education in Promoting Environmental Education” by Javadi and Mahdavi (2020) aimed to explore the role of virtual education in promoting environmental education. The study found that virtual education could be an effective tool for promoting environmental education, providing students with access to a range of educational materials and enabling them to engage in collaborative learning activities.

The research article “Education for Sustainable Development in Germany: Not Just Desired but Also Effective for Transformative Action: Reveal that the inclusion of education for sustainable development (ESD) topics in the official primary and secondary education (K-12) institutions in Boyacá, Colombia, is in line with the country’s Law 115, which governs education. Issues, such as the conservation of water resources and the protection of fauna and flora, are crucial to promote sustainable practices and address environmental challenges in the region. Understanding sustainable development (SD) is crucial, but equally important is knowing how to achieve it and what tools can be utilized to do so. Additionally, it is essential for the national and local governments to prioritize ESD and invest in teacher training, enabling them to effectively communicate the principles of sustainability to students. This, in turn, will empower students to generate transformative ideas for sustainable development within their communities.

### **Theoretical foundations of virtual education**

Virtual education refers to the use of technology to facilitate teaching and learning in a remote environment. Theoretical foundations related to virtual education include constructivism, social learning theory, and cognitive load theory.

Constructivism posits that learners construct their own understanding of the world around them through their experiences and interactions with their environment. In virtual education, this means that learners must be active participants in their own learning, engaging with the material and creating their own meaning from it. This type of learning encourages learners to think critically and creatively, promoting deeper understanding and long-term retention of knowledge (Jonassen, 1991).

Social learning theory emphasizes the importance of social interactions in the learning process. In virtual education, this means that learners must have opportunities to collaborate with others and engage in discussions, debates, and other forms of social interaction.

By doing so, learners can gain new perspectives and insights, as well as develop important communication and teamwork skills (Bandura, 1977).

Cognitive load theory suggests that learners have a limited amount of mental resources available for processing information. In virtual education, this means that instructional designers must be mindful of the complexity and amount of information presented to learners, in order to prevent cognitive overload and ensure that learners are able to process and retain the information presented (Sweller, 1988).

Virtual education has several positive effects on the mental and semantic importance of the environment. For example, virtual education can provide learners with access to a wider range of educational resources and opportunities, regardless of their physical location. Additionally, virtual education can be more flexible and adaptable than traditional classroom-based instruction, allowing learners to access and engage with educational content on their own schedule and at their own pace.

Moreover, virtual education can also promote the development of important technological skills, as learners are required to use various forms of technology to participate in virtual classes and complete online assignments. Additionally, virtual education can be more cost-effective than traditional classroom-based instruction, as it eliminates the need for physical classrooms, textbooks, and other materials.

In conclusion, the theoretical foundations of virtual education provide a framework for understanding the benefits and challenges of this form of instruction. By taking into account constructivist, social learning, and cognitive load theories, educators can design virtual education experiences that promote active engagement, social interaction, and effective learning. Given the many benefits of virtual education, it is important for educators and institutions to continue to explore and invest in this innovative approach to teaching and learning.

Virtual education has become a critical focus for the United Nations and the United Nations Educational, Scientific and Cultural Organization (UNESCO) in recent years. The emphasis on virtual education is rooted in the belief that every individual, regardless of their background or socioeconomic status, deserves access to high-quality education. Virtual education provides a unique opportunity to reach individuals who may not have had access to education otherwise.

In particular, the COVID-19 pandemic has highlighted the importance of virtual education. As schools and universities around the world closed their doors to prevent the spread of the virus, virtual



education became the primary mode of instruction for millions of students. UNESCO has estimated that nearly 1.6 billion students in more than 190 countries have been affected by school closures during the pandemic.

Virtual education can take many forms, from online classes and video lectures to virtual simulations and interactive games. This flexibility allows educators to tailor their instruction to the needs of individual students and provide a more personalized learning experience.

Furthermore, virtual education is not limited by geographic or economic constraints. With virtual education, students from rural or remote areas can access the same quality education as those in urban centers. This creates new opportunities for individuals who may have previously been left behind by traditional education systems.

In conclusion, virtual education has become a critical tool in ensuring that every individual has access to high-quality education. Its flexibility and accessibility make it a valuable resource for educators and students alike. The emphasis of the United Nations and UNESCO on virtual education highlights the importance of this subject in today's world.

Virtual education is an essential tool in the modern world of education that has been accelerated by the global pandemic. The United Nations and UNESCO have emphasized the significance of virtual education as a complementary element of holistic education in the relationship between humans and the environment for citizens. This paper examines the types of virtual education and its positive effects on the mental and semantic importance of the environment (UNESCO, 2020).

## **Virtual education and the environment**

### **Positive effects of virtual education**

Virtual education has several positive effects on the mental and semantic importance of the environment. First, it provides students with the opportunity to learn about the environment in a more engaging and interactive way. Virtual reality simulations, for example, can provide students with a more realistic experience of the environment, enabling them to better understand the effects of human activities on the environment.

Second, virtual education provides a more sustainable way of learning. It reduces the carbon footprint associated with traditional classroom-based learning, such as transportation emissions and the

use of paper. Virtual education also promotes the use of renewable energy sources, such as solar energy, to power the technology used in learning.

### **Importance of virtual education**

Virtual education is essential in the relationship between humans and the environment for citizens. It provides students with the knowledge and skills necessary to tackle environmental challenges facing the world today. Virtual education also promotes environmental awareness and responsibility, enabling citizens to take a more proactive role in protecting the environment.

In conclusion, virtual education is a complementary element of the puzzle of holistic education in the relationship between humans and the environment for citizens. The types of virtual education, such as online courses, webinars, video conferences, and virtual reality simulations, have positive effects on the mental and semantic importance of the environment. Virtual education is essential in promoting environmental awareness and responsibility and equipping citizens with the knowledge and skills necessary to tackle environmental challenges facing the world today.

The United Nations and UNESCO have emphasized the importance of virtual education in promoting sustainable development and addressing global challenges, including environmental sustainability. According to UNESCO, virtual education can provide a platform for learners to develop the skills and knowledge needed to address complex environmental issues and promote sustainability. It can also help overcome the challenges of traditional education systems, such as limited resources and access to education. Therefore, incorporating virtual education into environmental education strategies can have a significant impact on promoting sustainability and addressing global challenges.

The use of information and communication technology in environmental education causes a positive change and improves in the environmental attitude, behavior and values and cognitive processes of the environment in Iranian students. (Khanzadeh et al., 2021). By providing a more interactive and immersive learning experience, virtual education can help address the challenges of environmental protection and sustainability facing Iranian citizens and promote a more holistic and sustainable relationship between humans and the environment. The United Nations and UNESCO have emphasized the importance of virtual education in promoting sustainable development and

addressing global challenges, including environmental sustainability (UNESCO, 2021). Incorporating virtual education into environmental education strategies can have a significant impact on promoting sustainability and addressing global challenges (UNESCO, 2021).

## **Conclusion**

It appears that virtual education can serve as a vital complementary element in the puzzle of holistic education for Iranian citizens, offering unique opportunities to enhance environmental learning and foster a deeper connection between individuals and the natural world. By leveraging technology and digital platforms, virtual education provides accessible, immersive, and interactive experiences that enrich traditional educational approaches. It bridges gaps in access to environmental education, promotes experiential learning, facilitates collaboration, and empowers learners to become active environmental stewards.

One of the notable strengths of virtual education is its ability to increase accessibility and inclusivity. By overcoming geographical constraints, virtual education reaches individuals in remote or underserved areas who may have limited access to environmental educational resources. This inclusivity ensures that environmental knowledge is not limited to a privileged few but is accessible to all, promoting equal opportunities for people from diverse backgrounds to engage with and understand the environment.

Moreover, virtual education offers experiential learning opportunities that enable students to explore various environmental settings and scenarios. Through virtual field trips, simulations, and interactive learning modules, learners can actively engage with the environment, gaining a deeper understanding and appreciation of ecological systems. This hands-on approach fosters a stronger connection with nature and empowers individuals to make informed decisions and take action to protect the environment. Virtual education also facilitates collaboration and global connections. By connecting learners with peers, experts, and organizations worldwide, virtual platforms encourage the exchange of knowledge, ideas, and best practices in environmental conservation and sustainability. This global perspective enables students to comprehend environmental issues from diverse cultural and geographical contexts, fostering cross-cultural understanding and cooperation in addressing global environmental challenges.

Furthermore, virtual education capitalizes on real-time data and monitoring technologies, providing learners with up-to-date

information about environmental conditions and trends. This access to current data enhances their understanding of environmental issues and empowers them to make informed decisions and take proactive steps towards environmental sustainability. By incorporating gamification and interactive activities, virtual education also makes the learning process engaging and enjoyable, promoting active participation, critical thinking, and problem-solving skills.

Additionally, virtual education plays a pivotal role in career exploration and preparation for environmental fields. By showcasing a wide range of environmental career paths and opportunities, virtual platforms inspire students to consider careers that contribute to environmental protection and sustainable development. This emphasis on career prospects ensures that learners are not only knowledgeable about the environment but also motivated to become environmental leaders and change agents. Importantly, virtual education nurtures a lifelong learning mindset and promotes continuous environmental education. With self-paced learning opportunities and easy access to educational resources, individuals can engage in environmental education at their convenience, extending their learning beyond traditional classroom settings. This continuous environmental awareness and engagement are vital in addressing the evolving environmental challenges we face as a global community.

In conclusion, virtual education serves as a complementary and invaluable element in holistic education, enhancing environmental learning and fostering a deeper connection between individuals and the natural world. By leveraging technology, virtual education bridges gaps in access, promotes experiential learning, facilitates collaboration, and empowers learners to become active environmental stewards. Embracing virtual education alongside traditional approaches enriches the educational landscape and contributes to a more sustainable future and harmonious relationship between humans and the environment.

### **Ethical considerations**

The authors have completely considered ethical issues, including informed consent, plagiarism, data fabrication, misconduct, and/or falsification, double publication and/or redundancy, submission, etc.

### **Conflicts of interests**

The authors declare that there is no conflict of interests.

### Data availability

The dataset generated and analyzed during the current study is available from the corresponding author on reasonable request.

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