Sino-US English Teaching, December 2025, Vol. 22, No. 12, 295-299
doi:10.17265/1539-8072/2025.12.005

Digital and Audio Learning: Tools for Sustainable Teaching, Learning, Knowledge, and Education—A Prescriptive Paper

Mujeedah Abdul Aleem Olagunju
The Voice of Nigeria, Nigeria

This paper explores the growing trend of digitized and audio learning in contemporary research, learning, and society. As technology advances and digital platforms become more accessible, the field of knowledge has witnessed a significant shift in focus towards the popularity and examination of both digitized and audio content across various media forms. The way literary texts are accessed, disseminated, and consumed has paved the way for the emergence of digitized content which transforms traditional texts into new forms and mediums, including e-books, audio books, internet research, ChatGPT, Grammarly, virtual reality (VR), Zoom teaching/learning, and so on. The study examines the potentials embedded in digital and audio learning. It criticizes the existing denial of digitized and internet resources as inadequate for making intellectual claims. As a prescriptive study, the paper employed qualitative research method and deployed documentary observation as instrument for data collection through scrutiny of various works of research, conducted using digital sources in comparison to research done using traditional book/physical library sources. This paper maintained that, due to media technology and Artificial intelligence, digitized and e-learning is becoming more popular, faster and contemporary amongst scholars and students. This paper concludes that there is a need to begin to acknowledge digitized learning and teaching as a tool to educational sustainability and development.

Keywords: education, sustainability digitization, audio learning, media technology

Introduction

The 21st century came with several realities and fundamental among them is the proliferation and duplication of information across borders engineered by technology and AI. The digital revolution has flooded all aspects of human endeavour including the academic sphere. Digital humanities refers to "the application of computational and information technology to enable new methodologies in the study of the humanities, as well as the critical reflection on the impact of these technologies on culture, society, and humanistic inquiry" (Presner, Schnapp, & Drucker, 2009, p. 3). In addition, Terras, Nyhan, and Vanhoutte (2013, p. 1) stated that "Digital humanities encompasses the use of digital tools and computational methods in humanities research, teaching, and communication, as well as the study of digital culture itself". This means that, the emergence of digital humanities has ushered in different modifications within the field of humanities, of how things are done, consequent upon the advancement of technology. This ranges from the nature of the text itself, to teaching, learning, research, and modes of writing.

Mujeedah Abdul Aleem Olagunju, Dr., The Voice of Nigeria, Nigeria.

Sustainable development is a global imperative, involving economic, social, and environmental dimensions that need to be balanced for a better future. Education is a crucial vehicle to promote the knowledge, skills, attitudes, and values necessary for a sustainable society. However, traditional educational approaches often fall short in reaching a broad audience and fail to fully engage learners with dynamic, real-world sustainability challenges. The rapid rise of digital technologies presents new opportunities for transforming education, especially in addressing sustainable development goals (SDGs).

The internet has revolutionized the way literary texts, learning, teaching is coordinated, accessed, disseminated, and consumed. With the proliferation of digital platforms, literature is no longer confined to printed books but is now available in diverse formats, such as e-books, audio books, films, virtual reality (VR), toys, video games, and online publications. This expansion of the literary landscape has paved the way for the emergence of these adaptations. This transformation has revolutionized the field of education taking cognizance of the changes that occur across medium, within medium, and between mediums.

Hence, the need to begin to acknowledge these new teaching methods cite and acknowledge these internet and digitized entries in references and bibliographies is the core problems this study sets out to address.

Digital Education for Sustainable Development: A Pathway to a Sustainable Future

As already stated, the world faces multifaceted explosion of knowledge, which demand innovative solutions to sieve through the rubble. Digital education for sustainable development (ESD) is key to maintaining some sense in the information highway. In recent years, the role of digital technology in enhancing education has become more apparent, particularly in making education more accessible, interactive, and adaptive. The intersection of digital education and sustainable development, using digital tools and technologies can contribute to ESD. Digital learning may prove effectiveness on digital platforms in promoting sustainability education and present practical approaches to learning in both formal and informal settings.

Digital education leverages technology to deliver learning content, often using interactive and engaging platforms that transcend geographical and social barriers. This paper argues that digital education can play a transformative role in promoting sustainable development by making education accessible, flexible, and globally interconnected. In addition, digital education can help overcome barriers to education in marginalized communities, thereby fostering social equity, a key pillar of sustainable development.

The Role of Education in Sustainable Development: Definition of Sustainable Development

Sustainable development refers to the process of meeting present needs without compromising the ability of future generations to meet their own. It encompasses environmental protection, social inclusion, and economic growth. The United Nations' 17 SDGs define the global vision for sustainable development, including goals, such as climate action (SDG 13), quality education (SDG 4), and reduced inequalities (SDG 10). Education is widely recognized as a key enabler of sustainable development. By providing knowledge, developing skills, and fostering attitudes supportive of sustainability, education helps individuals and communities make informed

decisions and take responsible actions. ESD seeks to empower learners to contribute to sustainability through critical thinking, problem-solving, and interdisciplinary approaches.

Digital Transformation in Education

In the last decade, digital technologies have revolutionized various sectors, including education. The COVID-19 pandemic accelerated the shift to digital education as schools and universities around the world moved their courses online. This sudden shift not only highlighted the potential of digital platforms to provide uninterrupted learning, but also exposed existing inequalities in access to digital infrastructure.

Digital education involves various tools, such as Learning Management Systems (LMS), Massive Open Online Courses (MOOCs), mobile applications, social media, and educational games. These platforms allow for flexible, self-paced learning, providing access to global resources and experts regardless of geographic location. They offer multimedia content, real-time feedback, and interactive exercises that make learning more engaging and personalized.

Advantages of Digital Education

Digital education has a unique capacity to bring sustainable development to the forefront of the global educational agenda. By incorporating sustainability concepts into digital platforms, educators can foster awareness, understanding, and action toward the SDGs.

Increased accessibility. One of the most significant benefits of digital education is its ability to increase access to learning resources. In many parts of the world, especially in developing countries, traditional education is hindered by poor infrastructure, limited resources, and geographical barriers. Digital platforms, which can be accessed through mobile phones and internet-enabled devices, provide a solution. Learners in rural or underdeveloped areas can now access high-quality educational materials on sustainable development, overcoming physical and economic barriers.

For example, mobile applications, such as Grammaly, ChatGPT, Zoom, and teams are freely available online as research and editing tools for scholars and students like across the world.

Interactive and engaging learning. Digital platforms offer numerous features, such as interactive simulations, games, quizzes, and discussion forums, that make learning about sustainability more engaging. For instance, VR, and augmented reality (AR) technologies enable immersive learning experiences where students can explore virtual environments affected by climate change, pollution, or deforestation. These tools help learners visualize complex sustainability concepts, making abstract topics tangible.

For example, are the various simulation scenarios when you are in a VR space or platform, gamified learning platforms also encourage participation and make learning fun for example car racing and martial arts games.

Collaboration and global learning communities. Digital education fosters global collaboration, breaking down geographic barriers to connect learners and educators across the world. This global interconnectedness is particularly relevant to sustainable development, which requires international cooperation to address global challenges, such as climate change and resource scarcity.

Online platforms enable the creation of global learning communities where students and educators can share ideas, engage in discussions, and work on projects related to sustainability. For example, Zoom lectures, Google meet, Telegram, Microsoft teams, and so on.

Digital Literacy and 21st Century Skills

The integration of digital tools in sustainability education helps earners develop essential 21st-century skills, including digital literacy, critical thinking, and problem-solving. These skills are crucial for the future workforce, particularly as industries shift toward more sustainable practices. Students who engage with digital learning platforms not only acquire knowledge on sustainability topics, but also become adept at using digital tools for research, communication, and project management. This combination of sustainability knowledge and digital skills positions learners to become leaders in sustainability-driven innovation and entrepreneurship.

Challenges and Barriers to Digital ESD

While this paper recognizes the innovative abilities digital literacy already portends, it also observes that there are challenges that are not global but are limited to various countries and regions.

Digital Divide

While digital education offers opportunities for greater accessibility, the digital divide remains a significant challenge. While many communities, particularly in developing countries, have lapses with internet access, affordable devices, or the necessary digital literacy to engage with online learning platforms, the divide is getting better but addressing these disparities is critical to ensuring that digital ESD is inclusive and equitable.

Lack of Contextualized Content

While many digital platforms provide general sustainability education, there is often a lack of content that is tailored to the specific needs and contexts of local communities. To maximize the impact of digital ESD, content must be relevant to the learners' cultural, economic, and environmental contexts. That is why online video streaming platforms like Netflix and Prime video have begun to create African content suitable for an African audience as well as contents suitable for each continent.

Conclusions

Digital education offers unprecedented opportunities to enhance the reach and effectiveness of sustainable development education. By leveraging digital tools, educators can provide more accessible, engaging, and collaborative learning experiences that empower individuals to contribute to a more sustainable future. Indeed, there is no better time to make a clarion call for the acknowledgment of these internet, digital, and audio sources so much, so that contemporary studies have revealed a gradual death of reading culture among the younger population. Majority of the youth prefer to interact with the intermedia (digitzed) adaptations of a work than the precursor text (book) due to obsession with the audio-visual media on their phones and various computers. Also, cold printed texts have also been made into audio books, podcasts and that seems more preferable to the upcoming population.

To sum it up, though the oppourtunities for digital education is obvious, it is essential to address the challenges of the digital divide and ensure that educational content is contextually relevant and inclusive. As the world increasingly moves toward digital solutions, the potential of digital education to drive sustainable development should not be underestimated. The future of sustainable development will depend not only on technological advancements, but also on how effectively these technologies are integrated into education to inspire the next generation of global citizens.

References

Adeoti, G. (2011). Adaptation in contemporary Nigerian drama: The example of Ahmed Yerima. *Journal of Adaptation in Film & Performance*, 4, 115-128.

Aseer IgbaLuga, C. (2015). Literary space and the print media in northern Nigeria: A study of literature and journalism. *The examples of the new Nigerian* and *The Guardian Newspapers* (Unpublished Ph.D. dissertation, Department of English and Literary Studies, Ahmadu Bello University, Zaria, Nigeria).

Brinch, S. (2013). Tracing the originals, pursuing the past: *Invictus* and the "based-on-a-true-story" film as adaptation. In B. Jorgen, G. Anne, and F. H. Eirik (Eds.), *Adaptation studies: New challenges, new directions.* London: Bloomabury publishers.

Bryant, J. (2013). *Textual identity and adaptive revision: Editing Adaptation as a fluid text*. In B. Jorgen, G. Anne, and F. H. Eirik (Eds.), *Adaptation studies: New challenges, new directions.* London: Bloomabury publishers.

Dudley, A. M. (2010). *What cinema is Bazin's quest and its charge*. Wiley:. Blackwell.

EdX. (2023). *Climate change and sustainability courses*. Retrieved from https://www.edx.org

Hutcheon, L. (2006). *The theory of adaptation*. NY, Routledge.

Jorgen, B. (2013). Dialogizing adaptation studies: From one-way transport to a dialogic two-way process. In B. Jorgen, G. Anne, and F. H. Eirik (Eds.), *Adaptation studies: New challenges, new directions.* London: Bloomabury publishers.

Liu, Y., & Schweisfurth, M. (2021). Digital education for sustainable development: Bridging the global divide. *Journal of Global Learning, 45*(2), 150-170.

Olagunju, M. A. (2023). From the script to the multimedia: A receptionist study of the adaptations of selected plays of wole soyinka (Unpublished Ph.D. thesis, Department of English and Literary Studies, Ahmadu Bello University Zaria, Kaduna, Nigeria).

Palmer, B. W. (2009). Multimedia consent for research in people with schizophrenia and normal subjects: A randomized control trial. *Schizophrenia Bulletin, 35*, 719-729.

Presner, T., Schnapp, J. T., & Drucker, J. (2009). *Digital humanities*. The MIT Press.

United Nations. (2023). *Sustainable development goals*. Retrieved from https://sdgs.un.org/goals

UNESCO. (2022). *Education for sustainable development: A roadmap*. Retrieved from https://unesdoc.unesco.org

Scholer, R. (2013). Adaptation as connection-transmediality reconsidered. In B. Jorgen, G. Anne, and F. H. Eirik (Eds.), *Adaptation studies: New challenges, new directions.* London: Bloomabury publishers.

SDG Academy. (2023). *About us.* Retrieved from https://sdgacademy.org

Seymour, C. (1979). Story and discourse: Narrative structure in fiction and film. *Journal of Aesthetics and Art Criticism,* 38. DOI 10.2307/430732

Terras, M., Nyhan, J., & Vanhoutte, E. (Eds.). (2013). *Defining digital humanities: A reader*. Ashgate Publishing.