


Chapter 10

The Role of Technology in Shaping Generation Alpha's Environmental Values

Rohit Yadav

 <https://orcid.org/0000-0002-7573-8005>

IILM University, Greater Noida, India

ABSTRACT

This chapter explores the role of technology in shaping the environmental values of Generation Alpha, the first cohort to grow up fully immersed in the digital age. Technology influences their understanding of environmental issues and their capacity to take action in combating climate change. Through digital platforms, apps, and social media, Generation Alpha is empowered to adopt sustainable practices, engage in global activism, and participate in movements advocating for climate justice. The chapter also addresses the environmental impacts of technology, such as e-waste and energy consumption, while emphasizing the importance of responsible tech use. Looking ahead, it highlights how technological advancements, including AI and blockchain, could further support sustainability goals. Ultimately, the chapter underscores the transformative potential of technology in shaping a generation's environmental values and actions, while also acknowledging the need for critical engagement with the ecological costs of digital progress.

INTRODUCTION

The children of Generation Alpha, born since 2010, are the first generation to be raised on the cutting-edge of digital technology. Generation Alpha is the generation that has access to smart devices, the internet, AI, and virtualized environments from early child development stages due to their circumstances (McCrinkle, 2020). The way Generation Alpha sees the world and engages with their surroundings — skills that include development of their environmental values — differ significantly from previous generations due to their continuous exposure to technology. Environmental values include the attitudes, beliefs and behaviour which reflect our relationship with the physical environment, and the degree to which we value the sustainability of human society (Barton & Kagan, 2004), shaping these is a complex and multi-layered challenge, involving social, educational and technological influences.

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Technology is playing the central role in shaping Generation Alpha's environmental mindset, presenting a double-edged sword. On one hand, the digital platform generates a considerable amount of content regarding environmental problems (such as climate change, biodiversity loss and pollution) that helps raise public awareness and empathy for environmental issues (Zhang, 2022). However, there are concerns about whether these tools are sustainable themselves, with the environmental impact of technology itself (e.g., e-waste, high energy consumption) cast as threats to the environmental values of this era (Timmerman & Rook, 2020). How technology, in all its forms, shapes Generation Alpha's environmental consciousness is what builds this chapter around, focusing both on its pro-educative role as well as its unintended side effects. By recognizing these dynamics more clearly, we will be far better positioned to assess how this generation will confront the future of environmental sustainability.

THE DIGITAL NATIVE EXPERIENCE

Generation Alpha is described as the generation of “digital natives”, a term that represents them being born into a full integration with the digital world (Prensky, 2001). While earlier generations may have witnessed the emergence of personal computers, the internet, or social media, Generation Alpha has never known a time when they did not live in a hyper-connected world. These children with smartphones, tablets in addition to smart assistant technology such as Alexa and Siri located around their homes live in a time in which technology is embedded in every aspect of their daily life (Tapscott, 2012). But their challenges to deal with this relentlessness have been trained - not only on behaviours but also shapes their thinking and world views. Research indicates that early exposure to technology informs this generation's learning style, modes of communication, and methods of information processing (Rideout & Robb, 2018). Gen Alpha's digital experience is one in which interactivity is also key; they interact with media and content in ways that previous generations never did. These tools, such as interactive learning platforms and educational apps, and the use of virtual reality (VR), all facilitate a tactile, immersive style of learning that is personalized and engaging (Breckheimer, 2020). In addition, the development of these skills through direct interaction with digital technology enhances critical thinking and problem-solving skills in children as they actively work their way through these digital landscapes to find information and connect with others. But the digital native experience has its difficulties. Serious concerns about screen time, digital addiction, or the risk of replacing real social interactions with the virtual world have contributed to an ongoing debate on the long-term effects of such an immersion (Radesky, Schumacher, & Zuckerman, 2015). However, understanding how their environmental values are developed must also consider the digital native experience of Generation Alpha, with technology acting as a conduit for the engagement in eco-friendly behaviors, whether in the form of digital education on environmental issues (Osman et al., 2023) or physical manifestations of the technology.

TECHNOLOGY FOR ENVIRONMENTAL LITERACY

Through technology, Generation Alpha is exposed more than ever, to easy-to-access platforms and applications that foster their understanding of environmental issues. The most significant tools to create this awareness through technology come in the form of digital platforms that provide real-time data on environmental topics such as climate change, pollution, and resource depletion. Because online educa-

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