# Chapter 1 Theoretical Reflections on Education for Sustainable Development and Digital Technologies

### **Ute Stoltenberg**

Leuphana University Lueneburg, Germany

### **Gerd Michelsen**

Leuphana University Lueneburg, Germany

### **ABSTRACT**

In this chapter the author discusses the relationship between digitalization and education from the perspective of the concept of education for sustainable development. The aim is to counter a development that sees digitalization as a natural phenomenon or as inevitable technological "progress" to which education must respond. The starting point of the discussion cannot be the many possible applications of digital technologies and the question of how they can best support current educational practice, but instead an understanding of education that needs to be made explicit along with the educational goals associated with it. The international as well as national education policy benchmark for an education that prepares us to meet the challenges of the future is the concept of education for sustainable development. In this chapter is it shown, based on this concept of education, both the potential and the limitations of the use of digital technologies for the design of educational processes.

DOI: 10.4018/978-1-7998-5033-5.ch001

### INTRODUCTION

## **Education in the Face of Societal Challenges**

Since Agenda 21 was endorsed by nations in 1992, education has been understood as a prerequisite for a societal transformation toward sustainable development, one that requires far-reaching changes in how we treat nature as the foundation of life and how we realize human dignity and justice in our societies. An understanding of how educational processes and institutions can advance this transformation has taken place nationally and in international cooperation, especially with the support of UNESCO (e.g. Vare, Lausselet & Rieckmann 2022).

Today, we can describe goals, working methods, content-related tasks and perspectives that are regarded worldwide as fundamental elements of the concept of (ESD). Every individual should be empowered to participate together with others in shaping sustainable development: in everyday life, in an educational institution, at the workplace, in the community, as well as in the context of civil society and political activities. ESD aims at both individual and social learning. Such education and learning processes include the acquisition of knowledge, skills and perspectives needed to promote sustainable development. Transformative potential is developed by making both the critical analysis of non-sustainable practices and the opportunities to experience and shape real challenges and tasks of sustainable development an integral part of educational processes.

Perspectives on the world, values, subject matter and methods that are grounded in the concept of ESD underlie further discussion on the relationship between digitalization and education. Although many considerations will apply to any particular educational opportunity, a special focus is placed here on schools. After all, school is the place where values and world views are engaged and reproduced, thus stabilizing societal conditions. It should become a place that further opens perspectives for the future – in contrast to positions seeking to reduce the concept of ESD to simply adding new content to the curriculum, proclaiming their addition simply for economic and technological reasons.

# EDUCATION FOR SUSTAINABLE DEVELOPMENT AND DIGITAL EDUCATION – TWO UNEQUAL PARTNERS

The concept of ESD is a response to societal processes that are not sustainable (Hopkins et al. 2020). However, this tension makes a discussion of the relationship between education and digitalization difficult, because the massive impact of digitalization – its focus on economic growth, high resource and energy consumption, the priority of efficiency as a goal – reinforces the very developments that underpin the need for sustainable development. Development based on digitalization aims at speed, mass data processing and networking, and the implementation of short-term economic interests (e.g., promoting consumption of short-lived goods, replacing jobs through digitalization). It is used to screen and assess preferences, needs and life practices – which can serve as a type of control – as well as to influence political movements and decision-making, including elections, in a non-transparent way. For the individual, this development results in a loss of control of one's own data, a shifting of work to consumers, or even imperceptible influence through the allocation of information online (Lange & Santarius 2018), a list which by no means covers all aspects of the consequences of digitalization.

11 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/theoretical-reflections-on-education-forsustainable-development-and-digital-technologies/322115

### Related Content

### Exploring Consumer Behavior in the Context of Voluntary Simplicity

Nesenur Altinigne (2024). Sustainable Consumption Experience and Business Models in the Modern World (pp. 144-164).

www.irma-international.org/chapter/exploring-consumer-behavior-in-the-context-of-voluntary-simplicity/335682

# Innovations in Internet of Medical Things, Artificial Intelligence, and Readiness of the Healthcare Sector Towards Health 4.0 Adoption

Suchismita Swain, Kamalakanta Muduli, Venkata Parsuram Kommulaand Kalyan Kumar Sahoo (2022). *International Journal of Social Ecology and Sustainable Development (pp. 1-14).* 

www.irma-international.org/article/innovations-in-internet-of-medical-things-artificial-intelligence-and-readiness-of-the-healthcare-sector-towards-health-40-adoption/292078

### Linkages between Sustainability, Trade, and Geopolitics: The Green Subsidies Dilemma

Maanyaa Anand (2025). Bridging Technology and Development for Sustainable Innovation and Geopolitical Dynamics (pp. 303-324).

www.irma-international.org/chapter/linkages-between-sustainability-trade-and-geopolitics/376161

### Agent Based Noise Detection Using Real Time Data Analysis Towards Green Environment

Nivedita Ray De Sarkar, Anirban Kundu, Mou Deand Anupam Bera (2017). *International Journal of Green Computing (pp. 37-58).* 

www.irma-international.org/article/agent-based-noise-detection-using-real-time-data-analysis-towards-green-environment/206153

### The Competitiveness of Serbian Tourism in the Region During the Transition Period

Drago Cvijanovi, Tamara Gajicand Aleksandra Vujko (2017). *International Journal of Sustainable Economies Management (pp. 13-20).* 

www.irma-international.org/article/the-competitiveness-of-serbian-tourism-in-the-region-during-the-transition-period/189087