

## Chapter 2

# The Impact of Biased Design and Hegemony on Sustainable Future-Ready Learning: Digital Transformation Challenges

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### **ABSTRACT**

*The UN 2030 Agenda for Sustainable Development is committed to “quality education.” However, little actionable strategy remains on how to define and measure this goal, particularly in the face of an increasingly digitized future, fueled by emergencies and the need for quality distance learning. Additionally, to achieve SDG 4 in a digital era, societies must undergo substantial reforms in 1) conceptualizing teaching, learning, and assessment, and 2) designing and exporting technology. The successful uptake of new technology is frustrated by a complex array of ecological conditions, hegemonic power structures, and multifaceted digital divides. Through a systems approach, this chapter explores how digital environments function and create barriers. The authors argue that effective technology-based interventions must include awareness of the externalities that impact digital design, providing examples from the Global South. The chapter concludes with recommendations on the transformation needed for successful implementation and sustainable integration.*

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## INTRODUCTION

One of the central pillars of the United Nations' 2030 Agenda for Sustainable Development is a commitment to "Quality Education." To this end, it hopes to achieve basic education delivery that is equitable, accessible, and inclusive. However, there remains little actionable strategy as to how to define, measure, and meet these goals, particularly in the face of an increasingly digitized future – one that is further fueled by pandemics and other emergencies and the need for quality distance learning.

Additionally, in order to achieve SDG 4 in a globalized digital era, we must undergo substantial reforms to our education systems. Primarily, these reforms need to include 1) how we design and export technology and 2) how we conceptualize teaching, learning, and assessment (towards more critical, collaborative, and problem-based practices). New technology does hold great potential to advance educational opportunities; however, its successful uptake is frustrated by a complex array of ecological conditions, hegemonic power structures, and multifaceted digital divides.

All of these conditions fuel biased design – or the ways in which both intentional and unintentional prejudices get built into our user experiences and the media we consume. Most often, these biases occur unintentionally – internalized by our lived experiences in a problematic world. However, they can also be fueled subversively by geopolitical, racial, and patriarchal forces, trying to exploit or disenfranchise the other. This chapter will further describe the ways in which these forces can operate, how they impact our education systems, and how this should shape future initiatives for sustainable education.

## BACKGROUND

For nearly two decades, user-generated ('Web 2.0') technologies have been heralded for their built-in architecture that allegedly fosters creativity and horizontal models of participation. Consequently, many development practitioners invest in the diffusion of Information and Communication Technologies for Development (ICT4D), mistakenly believing that increased access to ICTs serves as *development per se* and that all communities will interact with the technology in similar manners. Thus, hoping to drive low-index countries towards a more sustainable, knowledge-based economy, they overlook how computer usage may be affected by the message of another medium: the classroom. This is particularly important as educational technologies and online platforms become increasingly prevalent across schools.

## MAIN FOCUS OF THE CHAPTER

Through a systems approach, this chapter will explore how digital environments function, drawing on a complex interplay of fields and theories, including but not limited to international development, Social Construction of Technology (SCOT), media ecology, algorithmic bias, and surveillance capitalism. We will argue that successful technology-based interventions for a sustainable education must include strategic awareness of the externalities that impact digital design and will describe those externalities here. The chapter will conclude with recommendations on the transformation needed for successful implementation and integration.

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