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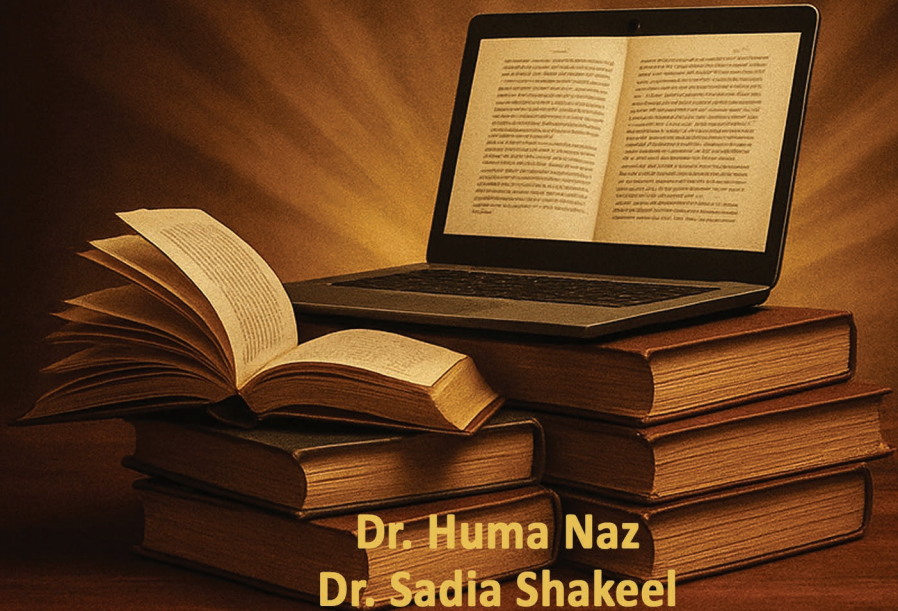


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OPEN EDUCATIONAL RESOURCES (OER): THE RISE OF FREE AND ACCESSIBLE LEARNING

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Greener Learning: Harnessing E-Education for a Sustainable Future

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ABSTRACT

In the context of escalating environmental challenges and the urgent need for sustainable development, the education sector must evolve to align with ecological goals. This chapter explores how e-education, encompassing online learning platforms, virtual classrooms, and digital resources, offers a viable and environmentally friendly alternative to traditional education systems. Conventional learning models are resource-intensive, relying heavily on printed materials, physical infrastructure, and daily commuting, all of which contribute significantly to carbon emissions and environmental degradation. E-education, by contrast, has the potential to reduce these impacts through digital delivery methods that minimize paper use, decrease travel-related emissions, and support energy-efficient infrastructures when powered by renewable sources.

The chapter highlights several sustainability benefits of e-education, including its role in lowering greenhouse gas emissions, reducing dependence on paper, and increasing educational access with a lower ecological footprint. It also discusses the scalability of digital learning, making education more accessible to remote and underserved communities without the need for environmentally costly infrastructure development. Furthermore, it emphasizes the value of integrating environmental awareness and sustainability

content into digital curricula to cultivate responsible, eco-conscious global citizens.

However, the chapter also addresses challenges, such as the rise of e-waste, the energy demands of data centres, and the digital divide that limits access for many learners. It underscores the importance of policy support, institutional collaboration, and inclusive strategies to ensure the environmental and social sustainability of e-learning systems. Ultimately, the chapter argues that e-education is not only a practical response to educational needs in the digital age but also a strategic tool for driving global sustainability. By embracing greener learning methods, educators, policymakers, and learners can contribute to building a more sustainable and equitable future. The chapter concludes by envisioning a future where education is not only universally accessible but also inherently sustainable, aligning technological advancement with ecological responsibility.

KEYWORDS: *E-Education, Sustainable Future, Global Sustainability, Digital Learning, Energy-Efficient Infrastructure.*

Introduction

In an era marked by rapid technological advancement and growing environmental concerns, the need to rethink traditional systems has never been more pressing. Among these systems, education stands as both a foundation of societal development and a contributor to environmental degradation. From the widespread use of paper to the energy demands of physical infrastructure and the carbon emissions from daily commutes, conventional modes of education carry a significant ecological footprint. As the world grapples with the dual challenges of expanding access to education and preserving the planet for future generations, the concept of “greener learning” has emerged as a promising solution.