


Chapter 9


Management of Artificial Intelligence as an Assistive Tool for Enhanced Educational Outcomes: Students Living With Disabilities in Nigeria

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ABSTRACT

This chapter explores the transformative potential of Artificial Intelligence (AI) in enhancing educational opportunities for students with disabilities in Nigeria. It examines AI-driven assistive technologies such as real-time captioning systems, adaptive user interfaces, and intelligent tutoring systems, evaluating their effectiveness in addressing diverse needs. The chapter investigates the challenges faced by Nigerian educational institutions in implementing AI solutions, including infrastructure constraints, limited resources, and ethical considerations like data privacy and algorithmic bias. The research combines quantitative analysis with qualitative insights from educators, students, and parents, to propose a framework

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for the responsible integration of AI into special education in Nigeria, emphasizing human-AI collaboration, inclusivity, and adaptability. The study combines quantitative analysis of student performance data with qualitative insights from educators, students, and parents with a comprehensive survey of 100 special education teachers across Nigeria.

INTRODUCTION

This chapter provides a comprehensive overview of the transformative potential of Artificial Intelligence (AI) in enhancing educational opportunities for students with disabilities in Nigeria. According to Thompson and Ofojebe (2020), education is a positive instrument for the overall improvement of one's knowledge, ideologies and skills with the aim of achieving self-reliance, sustainability and enlightenment. The use of artificial intelligence in Nigeria especially in the educational sector is an evolving concept with remarkable abilities to positively change the educational fortunes of Nigeria. Recent studies have shown that AI-powered assistive technologies can significantly improve learning outcomes for students with disabilities (Gibson, 2024). According to Mafara and Abdullahi (2024), it is a known fact that the current technological explosion regarding the utilization of artificial intelligence, affected all facets of human endeavour and the educational sector is not exempted.

In recent years, Artificial Intelligence (AI) has rapidly transformed various sectors, including healthcare, finance, and transportation. The educational sector, though often slower to adopt advanced technologies, has started integrating AI solutions with promising implications for accessibility, especially for students with disabilities. Globally, AI-powered tools have shown potential to support learners by offering personalized learning experiences, adaptive content delivery, and real-time assistance, thereby reducing traditional barriers that students with disabilities often face in educational settings. However, while AI's transformative potential is widely recognized, its implementation in Nigerian tertiary institutions still needs to be explored (Ibrahim, 2024).

In this context, the potential for AI to create a more inclusive and accessible education system for students with disabilities in Nigeria is particularly compelling. By offering tools that can adapt to individual learning needs, providing real-time support, and enabling early identification of learning challenges, AI has the potential to bridge these significant gaps in accessibility. Recognizing the inadequacies of traditional educational methods, integrating AI and other innovative technologies into the educational teaching and learning system, emerges as not just desirable but necessary (Parissi, Komis, Dumouchel, Lavidas, Papadakis, 2023). However as stated above, the implementation of AI in the educational system, particularly in

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