Chapter 3
AI Integration in Education 5.0:
Design, Challenges, and Future Prospects

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ABSTRACT

Education 5.0 is still in its infancy. After covid-19, the education sector has propelled a milestone by integrating virtual means of education. Though it was not completely successful in the covid era but impact of virtual education has opened a new dimension to the reality of integrating the most successful technology into its field.AI is the new research topic in every field. AI integration to the education sector will enhance the productivity and effectiveness amongst learner and educator. Different AI enabled services may be integrated in the education so that the challenges in providing a sustainable environment towards education will definitely be achieved. As education is diversified to learner and educator or student and teacher so the technological implementations may be done from grass roots level. This chapter dives into the education 5.0 basics and the means of AI integration to Education 5.0. It also provides a design structure of AI integrated education, it's possible challenges and research scope for future ahead.

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INTRODUCTION

Education 5.0 is the fifth industrial revolution in the field of education by leveraging digital and smart technologies. Different barriers in learning can be eradicated by the implementations of current technologies like artificial intelligence and machine learning in education. The new paradigm of education has created a revolution in teaching and learning methodologies by inculcating the AI technology with education. The concept of education has been redefined after covid-19 because of the rise of internet of things (IoT) and information communication technology (ICT). The amalgamation of sensor technologies and the frequent analysis of data through smart technology like artificial intelligence (AI) and machine learning has facilitated the emergence of state-of-the-art educational systems. The domain of education is intrinsically connected to the industrial revolutions, with the fourth industrial revolution showcasing significant advancements towards the implementation of Education 4.0, aimed at enriching the educational experience through the integration of Information and Communication Technology (ICT) and Internet of Things (IoT) innovations. Nevertheless, in spite of its numerous enhancements relative to traditional educational paradigms, the escalating necessity for customized tutoring and educational frameworks, as well as game-based learning, has heralded the inception of a fifth revolution in the field of education.

Education 5.0 has prioritized the different learning schemes to become the most perfect education system. This includes the frequent using of ICT tools, data analytics procedures and different IoT tools. Education system has travelled a long distance from education 1.0 to education 5.0. Education 1.0 generally based on class room teaching and root learning whereas education 5.0 is totally focused on adaptive learning, focused learning, technology-based learning and AI integrated learning.