


Chapter 12

Impact of AI on Student Learning and Teacher Outcomes in Education 5.0

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ABSTRACT

The role of Artificial Intelligence (AI) in Education 5.0 is changing the paradigm of the student learning process and the teaching process as well. This chapter discusses the effects of AI on students and teachers for personalisation, student motivation and teacher practice. With the help of AI technologies, one gets better and more efficient educational process by providing better learning conditions and thus – making education more flexible. Teachers have less work load to handle or to be more precise the work load that teachers handle is now more intelligent, AI provides data, teachers use this data to imply a better teaching strategy. As Education 5.0 narrative emerges, a conceptual balance of the role of AI can strengthen of learning spaces, enable innovation and preserve humanistic ideals. Thus, this chapter emphasis each of the four themes regarding the need for the responsible development and implementation of AI in order to create a future for education that will be inclusive, equitable and adaptable.

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INTRODUCTION

Education 5.0 symbolizes a new culture where modern technologies especially AI brings a change into learning settings. It also differs from simple digitalisation in that the adaptive processes are powered by AI, which can then deliver individualised pathways of learning. When applied to education, AI, therefore, has a wide impact on how students and teachers learn and teach Introduction of AI in education brings change hence also some of the challenges.

In its essence it is an education system that is Education 5.0 is consistent with the requirement of Industry 4. 0, where AI, machine learning and automation are at the centre of changes. Moving away from AI as a tool to simply introduce technology into teachers' practices is not only a shift in methodology but in epistemology (Selwyn, 2019). AI's sophisticated data handling capability bendy Education systems that can monitor students' performance in the learning process and provides feedback to the learner indicating areas of relative weakness and offers recommendations on the relevant resources (Luckin et al., 2016).

To the students, it means that the application of artificial intelligence will be a perfect platform for individual learning. Particularly the one-way pedagogy models of instruction have been deemed irrelevant in an environment that is characterized by diverse learners. This is helped by AI to foster learning that is flexible with the pace, mode and mode of learning for each and every learner. For instance, Smart Sparrow and Dream Box make the use of algorithms to constantly evaluate the student performance, and in identifying areas of concern, the strategies applied in teaching will also be changed (Holmes et al., 2019). This not only increases the interest level but also guarantees that learning is done in a manner best suited to a learners capability.

Likewise, it has great importance to the teachers' profession and it changes them. Teachers in the present generation have a chance to use more advanced tools of artificial intelligence to analyse the results of their students in order to provide more effective remedial action. As noted by Luckin et al. (2016), these tools also help the teachers in time management in a way that reduces time spent on grading, attendance as well as course planning. This changes the teacher's role from dissemination of knowledge to the management of the learning process the process which has been revolutionized by AI at this stage. Furthermore, we continue to see these AI driven technologies are becoming apparent in immersive learning experiences. Two of the most effective pedagogy technologies are VR and AR which are supported by AI to allow for learning through experience that is not possible on a regular classroom setting (Cochrane et al., 2017). For instance, learners who are learning concepts such as history and scientific important events in the society can easily view and make real life experiences through these virtual worlds which makes understanding

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