Chapter 3
AI in Education: Shaping Curriculum and Student Assessment

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ABSTRACT

In this paper, curriculum enhancement and methods of evaluation for students through the application of artificial intelligence (AI) is discussed. It starts by describing the history of educational technology, the developments made and trends observed in modern learning environment. AI is discussed as applied to curricula, with a focus on the role of embedment in establishing individual learning trajectories. Examples of institutions that have implemented AI to support curation and learners' assessment are illustrated with enhanced learning interests and outcomes. The paper also highlights issues such as ethical implication, data privacy, and organizational AI skepticism. Last but not the least its focus on way forward for these challenges and captured the essence of the collective responsibilities of educators, policy makers and technology developers to unleash the true beauty of the AI in education.

INTRODUCTION

In the process of education today there are several difficulties. Nonetheless, conventional classroom instruction approaches have been found to be inadequate to address students' needs. It is a fact that classrooms are diversifying, teachers require having more forms to support every learner (Sandhu, 1994). Artificial Intelligence has gradually entered the field of education. It can also make deliveries of learning activities to students more distinct (Cope et al., 2021). As an example, AI can

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differentiate between lessons according to a learner's accomplishment to let the student learn as per his/her abilities (Garcia, et al., 2024). AI is also transforming the ways the performance of students is being evaluated. Actual knowledge may not be revealed due to the often-low raw scores received by students on traditional tests. In this way, AI can generate better evaluations through a gendered analysis of various kinds of students' work (Swiecki, 2022). On the same note, Miller (2024) observes that AI has the capacity to enhance teaching and learning processes through a more customized learner approach and enhancing the assessment processes. Education is a very sensitive sector that should be adapted to the growth of technology to prepare future generations.

Curriculum in any Educational system or system of instruction is very important. They depict what students are expected to get and the way they receive the information (Tyler, 2021). The two aims of curriculum design are that it caters for the needs of various learners, and it equips them for the future tasks (Chimbunde, 2024). They should be content and skills that are relevant today (Tang, et. al., 2020). Equally important is the aspect of student assessment. From here, it assists teachers in establishing how effectively the learners are grasping (Mendez, et. al., 2014). A student's progress and any learning gaps that require that the teachers spend more time explaining can be determined with assessments. With the help of curriculum design as the concept that helps to create lessons and tests, student assessment makes receiving education efficient and useful. They assist in establishing the culture within which learning occurs to achieve growth (Miller, 2024). As education grows, is incorporating AI into these areas beneficial for better personalization within the education process (Cope et al., 2021). If successfully implemented, the afore described combination can contribute to preparation of the students for the future which is rapidly evolving.

At the same time, it is worth mentioning that AI technologies are altering education in numerous ways. One important type that should be highlighted is the adaptive learning systems. These systems suggest changes in terms of lesson delivery depending on the progress that the student has made (Tang, et. al., 2020). They assist students in learning at their own rate, and tutors can always intervene to offer additional help (Mendez, et. al, 2014). Another AI-relevant technology is intelligent tutoring systems. Such programs involve communication with a student as well as providing him/her with instructions and evaluations, which are characteristic for a tutor (Garcia, et al., 2024). They can assist in lessons where learning content involves numbers such as math and language (Swiecki, 2022). Another application is AI's integration into the assessment tools. These tools are used in the analysis of student work to give extend information that favors or disadvantages the students (Miller, 2024). It also assists the teachers to know how to better their teaching practices. Two last key technologies that largely influence the educational