


Chapter 9

Use of Artificial Intelligence in Teaching Different Disciplines

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ABSTRACT

In this chapter, the impact of online learning platforms that carry out teaching activities supported by artificial intelligence (AI) on the teaching of different disciplines is revealed. There have been many developments regarding AI since the 1950s, and today its use in educational tools has become widespread. AI-supported education platforms include features such as creating a personalized teaching plan depending on the learning speed, monitoring individual performances and providing reports, and making suggestions by analyzing data based on strengths and weaknesses. In this study, paid or free education platforms, which are widely used in teaching interdisciplinary subjects such as science, mathematics, foreign language, computer science, visual arts, and music, were examined within the scope of AI features. By including studies on platforms in literature, the effect of applications on teaching subjects has been tried to be revealed.

INTRODUCTION

Today, artificial intelligence (AI) aims to make life easier in many fields, thanks to devices or applications that think like humans and have some human characteristics. Healthcare professionals are assisted in the diagnosis, treatment and rehabilitation of diseases. It is used effectively for traffic management, vehicle routing and

DOI: 10.4018/979-8-3693-4119-3.ch009

transportation planning, making logistics and transportation efficient. By analyzing some data for trading businesses, customer demands and trends are determined. By accessing many databases on the internet network, the desired level of information can be accessed quickly and easily through certain algorithms. As can be seen, AI has become an important technology for use in the field of education, as it offers a number of advantages in terms of cost, labor and time.

Education is an element that shapes the future of humanity and that countries attach great importance to. It is predicted that AI will also bring significant transformations in the field of education. Many scientists in higher education are interested in AI and are investigating the uses of AI (Popenici & Kerr, 2017). However, compared to other fields, it seems necessary to use AI more actively in the field of education (Timms, 2016). AI studies are being carried out on variables such as grading and evaluation, student absenteeism and dropout prediction, student performance prediction, personalized teaching, sentiment analysis, suggestion systems, smart education systems, classroom monitoring, smart school, school evaluation and management, inspection and analysis systems (Ahmad et al., 2020; Chen et al., 2020; Osetskyi et al., 2020). Apart from applications developed for the benefit of teachers, there is a greater need for applications that can be integrated into courses and help teach subjects within the framework of teacher, student, content and parent interaction elements. Students differ in many aspects such as their learning styles, individual abilities, interests, ways of thinking and cognitive skills. At many levels of education, from primary school to higher education; Many courses such as mathematics, science, social sciences, computer science, art, music, sports and foreign languages are included in the curriculum. The use of applications that will assist teachers in teaching different disciplines at different levels and improve students' knowledge, skills and abilities by taking into account individual learning differences comes to the fore. In this context, in this section, firstly, the definitions of AI and its development process from past to present are mentioned. At this point, the use of AI in different fields has been briefly touched upon and the focus is especially on its use in education. Examples of AI-supported applications that help teach subjects within the framework of different disciplines such as Science, Mathematics, Foreign Language, Computer Science, Visual Arts and Music are given.

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