

Chapter 15

Exploring AI's Impact on Our Post-Pandemic Educational System

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ABSTRACT

Before the pandemic, artificial intelligence (AI) was quietly integrated into some supplemental programs used by teachers to aid students in practicing math and refining their reading skills. However, when schools abruptly shut down in March 2020, teachers had to rapidly embrace the concept of 24/7 virtual learning, which had previously seemed unimaginable. Many educators were introduced to tools that could automatically grade assignments, offer instant feedback on student writing, and assess skill levels while assigning practice activities for improvement. This sudden exposure led some teachers to perceive AI as newer than it actually was, or to notice its presence more frequently in their tools. Today, innovative educators are embracing AI technologies to save time, enhance teaching practices, and reach all students. This chapter aims to provide insights into these aspects and guide readers towards powerful AI tools that can assist educators in curriculum design, lesson planning, student engagement, and assessment, ultimately transforming our educational systems.

INTRODUCTION

Artificial Intelligence (AI) is a component or branch of computer science. AI is a general term used in our society today to refer to AI “systems” which use hardware, algorithms, and data to create simulated “intelligence” to do things like

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make decisions, discover patterns, and perform some sort of action (Ruiz & Fusco, 2024). “The term ‘Artificial Intelligence’ was first used in a 1956 workshop held at Dartmouth College to describe the “science and engineering of making intelligent machines, especially intelligent computer programs’ (McCarthy et. al., 2006, p.2). Over the following decades, AI developed in fits and starts, with periods of rapid progress interspersed with AI winters (Russell and Norvig, 2016).” (Miao, et.al., 2021; page 6)

Artificial Intelligence and education (AIEd) have been interconnected since the inception of AI. That is, many of AI's early pioneers were also cognitive scientists who contributed significantly to educational theory and practice (Doroudi, 2023). “These individuals viewed AI as a means to explore human learning processes and applied their insights into how humans learn to advance AI development”. John McCarthy, Marvin Minsky, Herbert Simon, and Allen Newell both defined the field of artificial intelligence in the early 60’s while also making foundational contributions to cognitive science and education.

Prior to the pandemic, Artificial Intelligence (AI) was integrated silently by vendors into some of the supplemental programs used by teachers in their classrooms to help students practice math skills, or refine their reading skills. When schools were suddenly shut down across the world in March of 2020, all teachers were forced to rapidly adapt an ideation of a 24 hour 7 day a week, virtual learning experiences that were previously inconceivable by many. The majority of teachers, for the first time, discovered tools that were able to auto grade assignments, provide autonomous on-demand feedback on student writing, and even assess students skill levels, and prescribing auto assigned practice activities to improve them. Many educators began to experience either the recency illusion, believing AI was newer than it actually was; or the frequency illusion, suddenly noticing AI more frequently within the tools they were using (Henderson & Kershner, 2023). Today, some innovative teachers and educational leaders alike are leaning into the flood of AI technologies finding ways to leverage them to save time, improve their practice and reach all students. While others are cautiously standing idle, waiting for guidance on how to best insert AI into their educational systems. The fourth Industrial revolution is marked by a connection between technology and the human experience that many cannot explain; and it is becoming more interesting with the accelerated evolution of AI. This chapter will provide insights into these aspects and provide information about powerful AI tools that can save educators time and encourage innovative practices within curriculum design, lesson planning, student engagement, and Assessment; explore the transformative role of Artificial Intelligence (AI) in education, particularly post-pandemic; and, delve into how AI has been reshaping educational practices, assisting educators, and enhancing student learning experiences.

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