Exploring the Impact of Artificial Intelligence on a Rural Hispanic Institution located

on the Texas Mexico Border

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Exploring Artificial Intelligence (AI) Tools in Higher Education

Abstract

This literature review addresses AI's impact on higher education. AI-powered, tailored learning, intelligent coaching, and automated assessment can improve student success. AI should enhance education, not replace it. Studies show AI is employed in literature searching, author assignment, scientific article authoring, and academic project editing. AI-tailored tutorials help international pupils. AI could improve health education by increasing lab and hands-on work. While AI provides benefits, ethical challenges such student data privacy must be addressed. Teachers need training to use AI tools in the classroom. Technology, social, political, economic, cultural, and ethical issues must be addressed when applying AI in education. Study shows AI maximizes student learning and performance. But AI's privacy and cultural challenges must be acknowledged. Finally, AI may enhance higher education. AI can personalize learning, advise pupils, and grade them automatically. AI must be used responsibly and wisely to complement teachers, not replace them.

Keywords: Artificial Intelligence (AI) Tools, Higher Education, Personalized Learning, Adaptive Learning, Smart Tutoring, Automatic Grading, Language Translation/Accessibility

Introduction

Abbas (2023) claims that AI tools can help higher education staff, students, and faculty perform better, engage more, and learn more. Students and teachers benefit from personalized learning, smart tutoring, easy collaboration, and automatic grading (Crompton & Song, 2021). Teachers should not be replaced by AI, according to Dilmurod (2021). Instead, it is meant to aid learning and various tasks. AI can search the literature, assign authors to peer-reviewed articles,

write scientific papers, and edit academic projects (Pinzolits, 2023). Wang (2023) claims that AI apps can personalize tutorials for international students, speeding up learning. AI could improve lab work and other hands-on health education (Sousa, 2021). Schools considering AI must consider technological, social, political, economic, cultural, and ethical issues (Khare, 2018). Several studies have shown that AI tools improve tutoring, teaching, adaptive learning, and college administration. Remember that AI shouldn't replace teachers. This idea should improve their teaching and learning.

Literature Review

From a university instructor's perspective, Pinzolits' (2023) article guides higher education educators on AI technologies. Tool discussion includes finding literature, analyzing material, writing scientifically, and school writing and editing. Teachers are encouraged to use AI tools effectively in the classroom to improve student work and motivate them. Numerous AI technologies and applications were studied. As a starting point, the list excludes social issues and problem studies.

In this study by Abbas et al., (2023), artificial intelligence (AI) tools are used in higher education to look into how they affect students' success. It looked into how different AI uses, like personalized learning systems, intelligent tutoring systems, and automated assessment tools, can improve how well students learn, how engaged they are in school, and how well they do in school. The research talked about the pros and cons of using AI in schools, stressing the need for smart ways to apply AI, teacher training, and understanding its ethical implications. Researchers now have a better idea of how AI tools can help college students have better learning experiences and achieve better results. Ensuring data is private, fixing bias in algorithms, finding the right

mix between technology and people, teaching teachers how to use AI tools well, and making goals for using AI tools in education are some of the things that the study doesn't cover.

In 2021, Crompton & Song examined how AI is supporting higher education students and faculty, focusing on specific applications and ethical implications. The authors found that AI improved learning, tutoring, collaboration, and assignment scoring for students and teachers. Furthermore, students can learn better with personalized content and activities. Based on knowledge, cognitive level, learning style, and desire to learn, intelligent tutoring systems can regroup students. AI systems can help teachers moderate discussion boards and identify students who stray or make mistakes. Not only multiple-choice tests can be graded automatically by AI. It can grade harder student writing. CyWrite, WriteToLearn, and Research Writing Tutor can provide detailed feedback and help students revise their essays before grading. Using AI in higher education raises ethical concerns about the student data needed to make it smart and the collection of student data to determine cognitive level and personal tastes (Crompton & Song, 2021). Teachers must monitor student data and protect it when necessary. Most importantly, AI can improve college teaching and learning.

In 2021, Dilmurod and Fazliddin examined the pros and cons of AI in higher education. Recognizing opportunities, challenges, and AI's practical limits was stressed. The author examined how artificial intelligence (AI) was used in higher education from different perspectives and considered future directions. The AI study examined knowledge representation, manipulation, communication, perception, training, and behavior. Knowledge representation addresses AI memory and formalization issues. Manipulation involves creating plausible and reliable inference procedures from existing knowledge, redistributing knowledge from inadequate descriptions, and proposing reasoning models that mimic human reasoning.

Communication includes voice understanding, natural language writing recognition, and human-AI interaction modeling. Finally, the authors said AI doesn't compete with teachers in teaching or assessing students' knowledge. Instead, AI can streamline university operations, education, and communication. AI in higher education helps choose the best learning strategy based on student abilities and labor market needs. Social, economic, ethical, and legal research is needed to identify AI opportunities and threats in practice.

Wang et al.'s (2023) article examined how AI affects international students' education, how AI could be used in educational administration, the pros and cons of incorporating AI into higher education, and how AI affects international students. The study's methodology included a comprehensive literature review. Journal Storage (JSTOR), Electronic Registration Information Center (ERIC), and Google Scholar were used to find academic articles, research papers, and reports. Critical analysis of the selected materials revealed key themes and insights. AI accelerated and simplified learning and helped international students, according to the authors. The study identified privacy, cultural differences, language skills, and ethical issues as major risks and limitations that needed to be addressed. The paper also noted a research gap in AI in education, particularly for international students. This group of students learned about the pros and cons of using AI to improve their education. This research paper had some issues that needed to be considered when interpreting it. Remember that this essay did not cover all the literature on how artificial intelligence (AI) affects international student education. For this essay, references were chosen based on how well they answered research questions and showed how AI is used in international student education. Some important studies or viewpoints may have been omitted.

Khare et al. (2018) examined how AI might improve student success, from a student's life-cycle perspective, where AI could be most useful in education, the factors that affect its use in education, and the pros and cons of AI in education. The study thoroughly examines many AI-in-education factors. The student's life cycle, current uses, tests, and future uses of AI in education were considered. The article didn't define outcome measured. It focused on AI's effects and educational applications. Chat bots helped students with services and learning, automatic paper grading was implemented, and academic advice and testing were tried.

José Sousa et al. (2021) investigated AI technology's educational applications for health higher education students. They examined how AI technology affects higher education health learning and skills. By using AI, researchers hoped to improve the understanding of learning environments, techniques, technologies, and pedagogical processes. The study's systematic literature review used VOSviewer for advanced bibliometric data analysis. The study found relevant higher education publications on AI in student learning using research topic-specific search phrases. Searching PubMed, Scopus, Google Scholar, and Microsoft Academic libraries yielded 171 articles. The study found that artificial intelligence could improve health-related higher education, particularly lab classes. AI also enabled equitable and inclusive education for people with disabilities, refugees, and those living in remote areas, and interest in its potential applications in education grew, particularly in response to the COVID-19 pandemic's constraints and social distancing measures.

Conclusion:

Finally, the literature review shows how AI can help higher education. Personalized learning systems, intelligent tutoring systems, and automated testing tools can motivate students, improve academic performance, and boost success. Remember that AI shouldn't replace teachers.

Instead, it should aid instruction. Ethics, data security, and teacher training must be considered when using AI in education. Overall, AI improves learning for students and teachers. This study examined how AI affects higher education. How does artificial intelligence help first-generation Hispanic college students at a rural Hispanic Serving Institute?

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