



# Artificial Intelligence, A Great Revolution in Student Support Services in E-Learning

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*Dear Editor,*

Student support services (SSS) are crucial to every successful online learning program. They include all the activities that let students set and accomplish their learning objectives. They consist of academic and nonacademic services like administration, counseling, tutoring, and teaching (1).

For online learners, SSS offers a variety of advantages, including decreased isolation, improved self-direction, increased motivation, improved satisfaction, and promoted retention and recruitment. However, due to the diversity, adaptability, and scalability of online learners and programs, providing SSS in e-learning might be difficult (2).

A subfield of computer science known as artificial intelligence (AI) tries to build robots capable of reasoning, learning, and problem-solving—tasks that require human intelligence. Facial recognition, natural language processing, and robotics are just a few of the numerous fields where AI has found use (3).

By offering personalized, adaptable, and intelligent assistance for online learners based on their data and needs, AI can also be utilized to improve SSS in e-

learning (4). Applications of AI for SSS in e-learning include some of the following:

- Academic performance prediction: to forecast students' academic results, including grades, dropout, retention, and achievement, AI can examine student data and behavior. This can assist pupils in keeping track of their development and pinpointing their weak points. Additionally, it can assist educators and counselors in stepping in and providing prompt feedback and support to needy pupils (5).
- Course planning support: based on their interests, objectives, and available time, AI can assist students in planning their courses and schedules. Based on a student's interests, experience, and ability, it can also suggest courses and learning materials that are appropriate for them. Students may benefit from optimizing their learning processes and results (6).
- Intelligent tutoring: according to the learning preferences, skills, and demands of each student, AI may offer individualized and adaptive teaching. Based on their reactions and input, it can also produce dynamic and interactive learning materials

and activities for pupils. This can assist students to improve their knowledge and abilities in various areas (7).

- Automatic feedback: Based on students' performance and progress, AI can offer immediate and customized feedback. Additionally, it can give students pointers and recommendations for enhancing their learning processes and results. This can assist students in self-regulating their learning and motivation (8).
- Chatbots: Using AI, conversational agents that can speak to pupils in their native language can be created. For students who regularly have concerns regarding several facets of e-learning, such as fees, tests, grades, policies, etc., chatbots can offer real-time SSS 24/7. Chatbots can help students manage their mental health and stress during exams or other stressful events. Chatbots can collect students' input through voice, text, or facial expression, translate, evaluate, and process the information, and then respond to the student with a gesture, speech, or text (9).

By offering tailored, adaptable, and intelligent support for online learners based on their data and requirements, AI can redefine SSS in e-learning. By automating parts of the chores or enhancing human staff and faculty's capacities, AI can help lessen the workload and expenses of those who provide SSS in e-learning. However, AI also presents certain dangers and obstacles for SSS in e-learning, including moral dilemmas, privacy issues, problems with quality control, and social repercussions (5).

To generate best practices and implementation guidelines, academics, practitioners, and policymakers must thoroughly examine the advantages and disadvantages of utilizing AI for SSS in online learning. Researchers can understand how it can improve tailored learning experiences, student engagement, and timely feedback by examining the advantages of using AI for SSS online learning. It is equally crucial to be aware of any potential negative effects, such as worries about data privacy and the potential for prejudice to persist in algorithmic decision-making. Practitioners and

policymakers can create thorough rules that enable the appropriate and successful adoption of AI in online learning settings by examining the pros and cons.

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