

The role of artificial intelligence in the evolution of language (teaching and learning)

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Abstract

The contribution of Artificial Intelligence (AI) in the field of education has always been significant. From robotic teaching to the development of an automated system for answer sheet evaluation, AI has always helped both the teachers and the students. In this paper we have done an in depth analysis of the various research developments that were carried out across the globe corresponding to artificial intelligence techniques applied to education sector so as to summarize and highlight the role of AI in teaching and student's evaluation. Our study shows that AI is the backbone of all the NLP enabled intelligent tutor systems. These systems helps in developing qualities such as self reflection, answering deep questions, resolving conflict statements, generating creative questions, and choice-making skills.

Artificial intelligence, as one of the innovative and advanced technologies, plays a very important role in teaching and learning English. This article aims to investigate the role of artificial intelligence in the evolution of teaching and learning and emphasizes the importance of this technology in improving the quality and efficiency of the language learning process.

This research was written by reviewing the available documents and texts in this field. One of the main uses of artificial intelligence in teaching is personalization of learning. Using detailed data analysis and observation of each student's performance, artificial intelligence precisely adapts educational programs and creates a personalized learning experience for each individual. This approach allows students to participate independently and motivated in the learning process and improve their language skills. Artificial intelligence also provides immediate and accurate feedback to students by accurately analyzing data and interpreting them. Artificial intelligence can automatically detect and correct language errors, which helps improve students' writing and speaking skills and increases their confidence in language communication. Using artificial intelligence in teaching English creates an interesting and

interactive learning experience. Using games, interactive activities, and chat bots based on artificial intelligence, this technology dramatically increases students' motivation and enthusiasm and encourages them to learn the language. The results of the current research have shown that the use of artificial intelligence as a powerful tool in teaching and learning creates unique possibilities for students and generally turns the process of learning into a better and more successful learning experience. By using this innovative technology, we can benefit from its countless benefits in improving the level of teaching and learning and prepare students for a better life and work.

Keywords: artificial intelligence, transformation, teaching and learning.

Introduction

The AI-based system is used for the analysis of job applications but also helps the human resource department in managing the applications properly. Such tools automatically set criteria for the desired candidates and information gathering which provides guidelines for interviews, etc. [11]. It should be noted that AI applications and tools are not replacing the existing staff of any educational institution, rather they assist them. AI applications and tools are also helping in the admission process of any educational institution. The admission process begins with the submission of an online application to the admission department. Along with this, repetitive inquiries from applicants and their parents accompany the admission form [12] and it is hard to handle such queries in a very short period of time. To address the issue, education organizations are using AI tools in the form of the chatbox, etc. for handling the flood of inquiries during the admission time or process. As an advanced technology, artificial intelligence plays an important role in improving the teaching process. This technology can improve the teaching and learning by enhancing the learning experience of students and assisting teachers and instructors. Due to the increasing growth of artificial intelligence technologies, this role will probably be maintained in the future as an essential tool in the language learning process. Artificial intelligence can provide appropriate and personalized educational content based on the needs of each person. In this way, every student can access appropriate materials according to their level of knowledge. Artificial intelligence systems can notice students' mistakes in writing and speaking and help them correct their mistakes and improve in future training with appropriate feedback. Artificial intelligence technology connects students and teachers in real time and optimizes the automatic teaching mode through data sampling, mathematical statistics, data correlation and other methods. This technology can simulate the online learning environment as much as possible and improve the learning effect of the student group (Owens et al, 2021). Also, students' motivation may increase, and their speaking abilities can be improved by integrating to build a new model of language teaching (Sun, 2021). In addition, the use of a series of smart technology products in the language classroom enriches the content as well as the teaching method of the classroom (Zhou, 2018). The use of artificial intelligence in modern education and teaching can not only enable students to master the basic knowledge and basic skills of the fields, but also uses artificial intelligence technology to optimize the quality of teaching in the classroom. It helps teachers in teaching better and improves the work efficiency of teachers. A complete learning process optimized with artificial intelligence should make full use of various resources in the context of information-based learning, and teachers will then use systems such as the correction network to ask students questions. At this time, the artificial intelligence intelligent learning position recognition device can play its role. It extracts the key words answered by students and examines some of the mistakes that students often make, such as improper spelling of words, incomplete knowledge of grammar. Then the teacher prescribes the appropriate solution for these problems and asks the students to use the word learning and oral practice "APP" to achieve the effect of consolidation and improvement. The artificial intelligence robot in this system can also conduct daily conversations and exchange opinions with students at any time (Qiao et al., 2021).

In a research related to artificial intelligence in the teaching-learning process, a group and comparative learning method has been investigated. It has been stated that "RuWAAI" software

is able to determine the appropriate group of each student with 99% accuracy and recognize weak and strong groups by recognizing conversations. Also, this software can give appropriate notifications and messages to students and determine appropriate exercises for each student. The disadvantages of this software include the low flexibility in determining the group members based on the study of the behavior and previous activities of the students, the weak role of the teacher in determining the groups, the failure to recognize the groups that have intellectual conflicts with each other, the lack of attention to anger and dissatisfaction. Students and the lack of support for them by teachers and the system. The purpose of this article is to create more interaction between group members, present the results of group activities to the class teacher, determine the appropriate group member using the back and forth method (back and forth), determine the subject and group member according to the opinion of the class teacher, and teach anger management and participate in group activities. (Ramel et al., 2016). In a research, an agent named "Betty" has been simulated and produced, which the student should teach her the lesson concepts by the banner method and informal models. In this way, first the student carefully reads all the sources and produces the necessary connections between different concepts; After checking the results of the exams, he corrects and edits these informal models by querying and checking the inserted explanations and the generated communications. In this method, it is necessary that the student can establish links and edit these models by re-studying the lessons and checking the results.

This article considers the main forms of students' learning to be the inability to connect concepts and the lack of understanding concepts based on their forms and connections. In this article, the student can be evaluated based on the number of times the links are edited, the duration of reading the textbooks, and the review of the "Betty" exams (Biswas et al., 2015). In a method of using artificial intelligence in the teaching-learning process, the learning patterns of each student are identified with the Learning Pattern Indexing Questionnaire (ILS) and their learning habits are obtained by data mining methods. Then, the suitable study materials are presented to each student and their learning speed is compared. To do this, a lesson is randomly selected and a presentation is also selected and training is carried out. To check the level of learning, the student completes the codes and answers the tests. In this article, "AprioriAll" algorithm is used to analyze and check learning activities, and clustering is done using learning patterns obtained from students' "Logfile" and clustering techniques. Then, with "protus" software, appropriate exercises and assignments are determined for each student and a suggested list based on them including text, example and test is provided (Kalanja et al., 2011). Artificial intelligence can translate texts from one language to the source language and vice versa, which can be very useful in learning. These technologies can be used to detect student performance, analyze educational content, and improve educational experiences. Also, these tools can help students practice conversation and answer questions. For the best results, there is a need for a proper balance between artificial intelligence and the human role in language teaching and learning. Artificial intelligence can help strengthen teaching and help teachers improve the quality of education, but the important role of teachers in teaching and learning should not be ignored, and artificial intelligence cannot completely replace teachers in teaching. On the other hand, when using artificial intelligence in language teaching, the privacy of students and their information must be taken into consideration. By observing the ethical principles and proper balance between artificial intelligence and human role, this technology can be used to make the language learning process better and more effective for students. The role of artificial intelligence in language learning by students is very important and can be effective in

improving the quality and efficiency of the language learning process in many ways. According to the student's strengths and weaknesses and the skills she needs, these programs provide his with appropriate content and exercises that increase the efficiency of the learning process. AI does not need to rest and can continuously respond and support students. This allows students to access educational resources whenever they want and continue to learn the language continuously. Artificial intelligence, as a powerful tool, can be effective in improving the quality and efficiency of language learning by students and improve their educational experience. As an advanced and powerful technology, artificial intelligence plays an important role in improving language teaching and learning for teachers and students. Using advanced algorithms and techniques, this technology has improved the learning experience and is effective in many ways. Artificial intelligence helps teachers to accurately analyze the progress of each student and evaluate his performance. This allows teachers to adjust educational programs more precisely and better. Therefore, according to the extent and importance of using artificial intelligence in the field of education, we will examine the role of artificial intelligence in education and learning separately.

CATEGORIES OF TEACHING

Caro & Hauser (1992) suggested that teaching in nonhuman animals is likely to fit within one of two categories:

opportunity teaching or coaching. Opportunity teaching is defined as the ‘teacher put[ting] pupil in a situation conducive to learning a new skill or acquiring knowledge’ (page 166; see also Ewer 1969), whereas in coaching, the teacher ‘directly alters the behaviour of [the] pupil by encouragement

or punishment’ (page 167). However, these categories may not always be mutually exclusive and certain forms of behaviour may satisfy the three criteria for teaching, but not be fully consistent with either opportunity teaching or coaching (Appendix). For example, in pied babblers, adult behaviour is reminiscent of coaching in that adults encourage nestlings to respond to purr calls by providing food. On the other hand, one could argue that adults provide nestlings with opportunities to learn an association between purr calls and food (Raihani & Ridley 2008). We suggest that it may be more productive to categorize teaching according to the nature of the knowledge acquired. Educational psychologists distinguish between teaching to promote procedural knowledge (the knowledge exercised in performing tasks or skills, i.e. ‘knowing how’) and declarative knowledge (which refers to content and facts, i.e. ‘knowing that’), and note that facilitation of these two forms of knowledge in pupils requires different actions by teachers (Dillon 1986; Ennis 1986). For example, teachers may promote the acquisition of procedural knowledge by working through progressively more difficult examples of a task with pupils, while declarative knowledge may be taught by encouraging repetition and recitation. Natural selection may therefore favour different forms of teaching behavior depending on whether it functions to facilitate the acquisition of procedural or declarative knowledge. We refer to these two categories as ‘progressive teaching’ and ‘fixed teaching’.

Discussion

There are two types of responsibilities in any educational organization, and teachers have to perform both of them. For example, besides teaching it is also the job of a teacher to handle the classroom environment and to deal with many other such tasks. Artificial Intelligence systems

use various techniques to collect and analyze accurate data for the prediction of a student's learning patterns and the identification of their educational needs. It has the potential to understand the individual's differences that are useful for personalizing learning. The one-size-fits-all approach aims to consider the same education for all students, having a problem in recognizing the level of intelligence and need of each student individually. Personalized Education is educating the students according to their levels and is a customized approachable to focus on each student in real time.

With the use of AI systems, learning can be adjusted according to the requirements of each student. Teachers will be easily handling more students in classrooms as it enables a differentiated level. AI also transforms the education sector in terms of smart content. It refers to virtual content like digitalized books, video lectures, lecture notes, etc. Smart content also makes access to education easy, because it can be contacted remotely and individually and more than one at a time, unlike in a physical classroom environment. It increases the student's learning and assists teachers in transmitting knowledge. Intelligent tutoring systems, trial and error, personalized learning, and many more applications of AI are assisting the academic activities and tasks of a teacher. It is clear that AI application helps teachers to teach in a better way, minimize the burdens, and maximizes the time for teaching and guiding. Some of the tasks other than teaching are grading/assessment, evaluation of papers, admissions, human, and personnel-related tasks, looking after the classroom materials, dealing with parents, checking attendance, and a lot more. All of these tasks are needed for an effective learning environment. It is clear that no school can exist in the absence of these and so the need is clear. Teachers cannot ignore any one of these and so about half of their duty time is focused on these non-teaching activities. To minimize the burden of such tasks, also called administrative tasks on teachers, AI systems have been developed and are providing significant aid to such tasks. Tasks like grading/assessment, evaluation, personalized responses to parents and students, attendance, etc., can be performed through such systems. As reviewed in the literature above, AIA can provide assistance and feedback to parents and students in the admission process, can help the teachers in different types of complicated tasks like budgeting, student enrollment, course management, application, or data management, etc., which not only makes the education system effective and efficient but also provides more time to teachers for teaching. AI systems also reduce institutional operating costs, assist in facility management, and improve their responsiveness. In addition, such systems also reduce biases during various occasions where human influence is high and credibility matters. For example, assessment, grading, admission process, hiring, and firing are the areas that can get influenced, but if the system has unbiased algorithms, then the chance is low and the credibility increases. Nowadays this is common in admission especially. To be more specific and concise VR is changing the education industry at a substantial level. A practical example of VR in education is its usage in group work, virtual field trips, virtual labs, design, and art; and exploring history [6]. Similarly, LA also has practical application and examples in education as discussed by [6] and [7]. Examples of AI in admission is discussed in and in grading and assessment in .

1-1 Personalization of education

Personalizing language education using artificial intelligence means providing and improving educational methods in a way that responds to the needs and capabilities of each student. This technology can use data analysis and artificial intelligence algorithms to provide personalized training plans for each person. In this way, students can learn the language with a unique educational experience according to their level of needs. Some of the available methods and technologies for personalizing language education using artificial intelligence are:

1. Smart evaluation of the student: artificial intelligence can evaluate the level of the student through smart tests and questions, and with the detailed analysis of the results of the tests, educational programs are provided according to the level of each student.
2. Adjusting the speed of training: Based on the performance of the student at each stage, artificial intelligence can adjust the speed of training. This helps students achieve the right balance between challenge and comfort in learning English.
3. Provision of personalized content: According to the needs and interests of each student, artificial intelligence can provide personalized educational content. This content can include videos, exercises, and interactive examples that help to better understand language concepts.
4. Instant feedback: AI systems can instantly access student performance and provide useful feedback. These feedbacks help students to improve their errors and mistakes.

By using artificial intelligence to personalize language education, the learning process will be more pleasant, effective and successful for students, and this technology can significantly improve the acquisition of language skills for each individual.

1-2. Correction and feedback

Correction and feedback to students in language using artificial intelligence is one of the important applications of this technology in language education, which facilitates the improvement of students' language skills. By using artificial intelligence algorithms and techniques, better and more correction and feedback are provided to students. Here is a more complete representation of correction and feedback to students in language using artificial intelligence:

1. Detection and correction of written mistakes: artificial intelligence systems can analyze texts and written products of students and identify spelling, grammar and spelling mistakes. By detecting these mistakes, AI provides helpful feedback to students so that they can correct their errors and improve their writing ability.
2. Speech correction and analysis: Artificial intelligence can analyze students' speech and recognize pronunciation mistakes and adjust the structure of sentences. This makes students approach more correct speech and improve their conversation skills.
3. Pronunciation and visual feedback: Some artificial intelligence systems can use advanced technologies to display students' pronunciation and give feedback on pronunciation mistakes. Also, by using interactive videos and images, better and more practical feedback can be provided to students to check their situation while repeating and practicing speaking.
4. Prediction and Guidance: By analyzing the data and the student's learning history, AI can predict the improvements needed and the topics that the student needs most. With

this information, systems can provide students with useful tips and advice to make the best possible progress in language learning.

5. Answering questions: Using artificial intelligence technologies such as chatbots and robots, students can get appropriate answers to their questions. These tools help students to improve their questions during education and use effective educational resources without the need for a teacher to be by their side.

In summary, the use of artificial intelligence in the correction and feedback to students in language allows for the improvement of language skills and the effective progress of students, and at the same time, it helps teachers to provide a better teaching experience to their students.

1-3. Translation and interpretation

Language translation and interpretation with the help of artificial intelligence is one of the important applications of this technology in the field of linguistics, which facilitates and improves communication and information exchange between people of different languages. Using natural language processing (NLP) techniques, artificial intelligence can translate and interpret texts and language contents in different languages. In the following, more explanations about language translation and interpretation with the help of artificial intelligence are given:

1. Translation of texts: artificial intelligence systems can translate linguistic texts into different languages using "NLP" techniques and advanced language models. These translations can be used in different environments such as travel, international business, education and communication.
2. Interpretation of conversations and speech: artificial intelligence systems can interpret and translate audio and speech content in different languages. This application can be used in cases such as international negotiations, conferences and translation of audio documents.
3. Improvement of text translation tools: Artificial intelligence as a powerful tool helps to improve text translation tools. These tools can translate texts into desired languages more accurately and faster.
4. Translation of wide languages: Artificial intelligence can translate texts of wide languages to each other with multilingual translations. This increases communication between different ethnic groups and cultures and creates new opportunities for knowledge exchange and trade.
5. Concept separation and translation of idioms: Artificial intelligence can help to separate the exact meaning of words and idioms in the language and translate them into other languages. This improves the accuracy of translations and prevents ambiguity in the interpretation of the content.

In general, artificial intelligence is very important for international and cultural communication by providing the possibility of translating and interpreting English language into other languages, and it can take advantage of the combination of new technologies with linguistic knowledge to create favorable results.

1-4. Virtual teachers

Chatbots and robots as virtual language teachers are tools that help students improve and practice their language skills using artificial intelligence and speech technologies. These robots and chatbots interact with students and respond to them. Below are some examples of the most famous chatbots and virtual robots in the language:

1. Duolingo. : It is one of the most popular language teaching programs that uses interactive chatbot methods for teaching. Using artificial intelligence chatbots, this program guides students in learning fluently and provides them with various exercises to improve their speaking, writing and listening skills.
2. Babel. : is also a language learning app similar to Duolingo that uses chatbots to interact with students. This program offers students a variety of educational content and helps them practice conversation, pronunciation and other language skills using chatbots.
3. Replica. : is an advanced artificial intelligence chatbot that also responds in other languages. This chatbot, by means of artificial intelligence, has the ability to improve the experience of interaction with students and can provide more appropriate training based on more interactions with students.
4. BBC Learning: It uses artificial intelligence chatbots to teach language. This chatbot helps students to improve their language skills by providing interactive content and various exercises and is continuously updated.

Note that these chatbots and robots are only used as a part of educational methods and it is better to accompany them by interacting with teachers and using other resources such as books, videos and interactive lessons to learn the language.

1-5. Improving educational experience in any language

Improving the educational experience in language using artificial intelligence means improving and improving the language learning experience for students. Using advanced algorithms and techniques, artificial intelligence personalizes the educational experience and responds to the needs and capabilities of each student. This process increases the quality and efficiency of language education. Here are more details on enhancing the educational experience with artificial intelligence:

1. Personalization of education: Every student has different abilities, needs and learning level. Using artificial intelligence, educational programs can be prepared in a personalized way for each student. These programs provide appropriate educational content and appropriate exercises according to the needs and level of each person.
2. Special feedback: Using artificial intelligence, students can receive special and unique feedback. These feedbacks help students to correct their mistakes and do better in learning the language in general.
3. Progress analysis: Using artificial intelligence, each student's progress is carefully monitored. This allows teachers and students to observe their strengths and weaknesses more accurately and strive to improve in various fields.
4. Teaching artificial intelligence games: Since games have the ability to be attractive and persuasive, artificial intelligence can be transformed into language education using

games. These games can be a kind of interactive programs that encourage students to learn the language.

5. Using artificial intelligence in feedback: artificial intelligence can automatically provide educational feedback to students. These feedbacks can be examined for pronunciation, writing and structure of sentences.

By using artificial intelligence in language teaching, the learning experience of students is improved, and this technology can help everyone achieve superior language skills.

1-6. Learning through games

Artificial intelligence can teach language to students using games. This educational method, as an attractive and effective method, has the ability to attract attention and motivate, which increases the amount of language learning and practice. Below are more details on how games can be used by artificial intelligence in language teaching:

1. Designing interactive games: Artificial intelligence can design interactive and attractive games that allow students to learn the language in a fun way. These games can include interacting with artificial intelligence chatbots, answering questions, solving puzzles, and playing word and sentence games.
2. Pronunciation and listening games: Artificial intelligence can design games that help students practice the correct pronunciation of English words and sentences. These games can use listening and pronunciation recognition techniques to help students pronounce words correctly.
3. Multilingual games: Artificial intelligence can design multilingual games that allow students to learn the language in combination with other languages. These games increase fun and learning different languages at the same time.
4. Challenge and intelligence games: Artificial intelligence can design challenge and intelligence games that challenge students to solve language problems and difficult translations. These types of games can strengthen the practice of students' language skills.
5. Interactive games with chatbots: Artificial intelligence can design interactive games using chatbots. These games allow students to communicate with artificial intelligence chatbots and help improve English conversation skills.

In short, artificial intelligence can improve the language learning experience for students by designing interesting and interactive games and give them more motivation to practice and learn. This is an effective way to teach the language in an attractive and different way.

1-7. Interactive and attractive teaching

"Interactive Learning Buddy" is an interactive language learning program that, using artificial intelligence, helps students progress in various language fields in an attractive and active way.

Features of the program:

1. Interactive Learning Buddy" artificial intelligence chatbot: is an artificial intelligence chatbot that allows students to interact with the program on language topics. Students can ask their questions and get detailed and useful answers immediately.
2. Educational games: The program includes artificial intelligence educational games that encourage students to learn the language. These games can include translating words, recognizing correct pronunciation, grammar exercises and how to use sentences.
3. Interactive Learning Buddy" interactive content: provides interactive learning content that includes interactive stories, conversations and language examples. These contents allow students to practice the language in real situations.
4. Recognition of pronunciation and speaking: The artificial intelligence of this program has the ability to recognize the pronunciation and speaking of students. By performing pronunciation and speaking exercises, students can improve the correct pronunciation of words and sentences.
5. Progress Analysis: The artificial intelligence of the program carefully analyzes the progress of each student and offers him the necessary upgrades. This progress analysis helps students to correct their mistakes and perform at their best.

2. Statement of the issues

With the development of society, people have an urgent need for comprehensive English skills. English speaking is the most important and directly reflects people's mastery of the English language, which is why it has become a standard in English tests. However, in the actual teaching process in the classroom, due to the limitation of teaching conditions, teachers are often not able to hold relevant oral English courses. Natural language processing is one of the branches of artificial intelligence that can simulate the processing of speech signals by humans. Therefore, its entry into the mode of English speaking education can help a lot to modernize educational methods and models. Therefore, artificial intelligence technology can be used in English speaking teaching, and it relies on information learning platform to create a learning library to build a smart classroom model. This model integrates a set of functions such as learning status detection, homework release, teacher homework correction, and evaluation system (Opifa et al., 2022). Artificial intelligence is one of the most important new technologies in today's world, which has a wide impact on various social and economic industries. Teaching and learning English as a global language has always been of special importance, and with the advancement of artificial intelligence, innovative approaches to language teaching are presented. The use of artificial intelligence in teaching English has led to significant changes in the process of learning and teaching this language. Artificial intelligence technologies provide facilities for personalization of learning and offer educational programs tailored to the needs and abilities of each student. This improves the quality of education and increases the active participation of students in the learning process. In investigating the role of artificial intelligence in the teaching-learning process, a software called "Moodle" has been presented in a research, which has sections such as forums, chat rooms, quizzes, and assignments, all of which enhance learning. In this software, students must first register. In this way, the software can track these users, their path, performance and the resources they access through the Internet. In order to predict students' success, the two-layer "RBF" neural network, which is capable of general approximation and uses "kernel" functions, is introduced. The inputs of this network are: the "IP" address of the student's computer, the date and time of access, the student's full

name, the information of the exam sessions, the percentage of resources studied, the updating of different course resources and the total number of resources visited, the number of times the student It is registered, the number of times the course is repeated, the final grade, the segmentation of the number of accesses for all moments and the segmentation of each month based on the percentage of accesses. This information can be obtained from the software log file. In this way, segmentation information can be obtained from their average and distribution. The output of the network is the success or failure of the test. The network works correctly when the output of the system matches the teacher's grade. Therefore, with the "RBF" network, it is possible to predict whether the student is able to pass the course or not.

Conclusions

It is evident that AI has a great impact on the education sector and its role is equally beneficial for both academic and administrative activities. Its applications are not only helping the learning inside a classroom environment but also the teachers in various administrative works attached to the classrooms like student's grading and assessment, finding their intelligence level, and their interests. Additionally, AI also helps teachers in course management, classroom management, and managing attendance. It also assists teachers to make lecture notes, video lectures, and helps the students learn through virtual reality. In addition, it also provides help in other departments like admission, budgeting, facility management, resource management, examination management, and record keeping. The role of AI in education is varied, reshaping traditional teaching methods. Personalized learning is a standout application, as AI analyzes individual student data to tailor educational content, accommodating diverse learning styles and pacing. Intelligent tutoring systems, powered by AI, provide real-time feedback and guidance, offering personalized assistance to students. These systems contribute to a more adaptive and interactive learning environment. Additionally, AI automates administrative tasks, such as grading and attendance tracking, streamlining workflows for educators. Virtual assistants, driven by AI, answer student queries, enhancing accessibility and providing additional support beyond classroom hours. Content creation is another significant aspect, with AI contributing to the development of interactive and immersive learning materials. Virtual labs, educational games, and simulations cater to diverse learning preferences, making education more engaging. Furthermore, AI supports early intervention strategies by continuously monitoring student performance, identifying learning gaps, and enabling timely interventions. This proactive approach ensures that students receive the support they need to succeed, contributing to a more inclusive educational environment.

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