Using Artificial Intelligence Apps in Enhancing Language Learning of Secondary Students.

Submitted by:

Fatma Ashraf Ahmed

Hagar Ebrahim Khalifa

Hagar Sayed Amer

Hagar Emad Mohammed

Maryam Atef Salah

Menna Allah Sherif Farouk

Reem Nabil Fathy

Under the supervision of :

Dr. Salwa Gouda Mohamed

Lecturer of English Literature - Faculty Of Education – English Department

Ain-Shams University

May 2024

Abstract

Recent developments in artificial intelligence have generated great expectations for its future impact on teaching and learning. Many academics in the field of education think that the role of teachers, learners, schools, and leaders will change because of the growing body of research on artificial intelligence (AI). In this context, this research aims at investigating the potential results of AI in enhancing English language learning in secondary schools using artificial intelligence apps. The following apps are used: Open l, Andi, Yippity and Whimsical which provide insights into the future of language learning. The study used an experimental approach to verify students' opinions, and data were collected through a questionnaire. The results indicate that as artificial intelligence spreads in the classroom, teachers and learners will gain new skills and face new challenges. The results highlight some recommendations for implementing AI in English-language classes.

Key Words:

Artificial intelligence (AI):

Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. Specific applications of AI include expert systems, natural language processing, speech recognition, and machine vision.

Artificial intelligence apps:

Applications powered by artificial intelligence are useful in all fields. Every year, we see more and more artificial intelligence applications coming to light, and current applications are also constantly being developed. Over the years, these applications have been developed to transform an assistant tool into an indispensable tool in our daily lives. Whether it is about gathering information, education, retail, travel, or financial technology, there is always an artificial intelligence application to assist.

Digital education:

Digital education is the innovative use of digital tools and technologies during teaching and learning and is often referred to as technology-Enhanced Learning (TEL) or e-Learning. Exploring the use of digital technologies gives educators the opportunity to design engaging learning opportunities in the courses they teach, and these can take the form of blended or fully online courses and programs.

AI in education:

The practice of incorporating and utilizing artificial intelligence (AI) technology in the classroom to improve instruction and learning outcomes is known as AI in education. This comprehensive strategy makes use of AI technologies and algorithms to evaluate and interpret student data, automate administrative processes, personalize learning materials,

and offer adaptive feedback. Like machine learning, artificial intelligence (AI) in education enables teachers to recognize pupils who are having difficulty and provide them with the individualized support they need to minimize obstacles to achievement.

---

1. Introduction:

The past few years have seen advancements in all areas of information, to the point that the current period has been given numerous names, including: the time of the information boom, the era of data, the time of the cognitive scientific revolution, and the time of data warfare. There are now major forces that control the world.

Research into the field of artificial intelligence began a long time ago, but its official beginning dates back to 1956, when John McCarthy and Marvin Minsky convinced two young mathematicians, Claude Shannon, who was then famous as the inventor of information theory, and Nathaniel Rochester, the designer of the first commercial computer from IBM, to join them to organize a summer program at Dartmouth University.

The program aimed to discover how to make machines speak language, and formulate abstract ideas and concepts. It aimed to assume that every aspect of learning or any feature of intelligence can, in theory, be described so accurately that machines can be made able to emulate it .Russell [2019]

Carlos [2018], concluded that the advancement of nations has not only been measured by the data they have, but also by what they can organize and utilize this data to serve their people. Artificial intelligence insights have become one of the subjects that attract the most attention in all academic areas. The field is experiencing widespread growth due to accelerating technological advancements and economic reasons driven by companies, which have been bolstered by the development of big data in recent years. Today, artificial intelligence has become a widely used concept, and it has been applied to all technical and scientific fields, as well as in the human sciences. With the progress that the world is experiencing today, it has become commonplace to acquire smart devices and use intelligent information programs. Typically, a program is considered smart if it can automatically perform behaviors that are not programmed in advance. It can make new decisions on its own to adapt to its environment and surroundings over time.

Turing[1950], proposed the idea of a machine that could exhibit intelligent behavior indistinguishable from that of a human. This research laid the foundation for the development of artificial intelligence as a field of study and research.

Moreover, "Artificial intelligence is one of the most advanced and innovative sciences that relies heavily on computers and their programs. It is the basis for creating customized and automated machines that can perform tasks largely similar to human cognitive functions, such as learning, reasoning, and decision-making". [Al-Sharqawi, 2001]

AI was defined as the study and design of intelligent agents. An intelligent agent is a system that understands its environment and takes actions that increase its chances of success in achieving its mission or the mission of its team. Differences between AI and IT: AI and IT are two distinct but interrelated fields within computer science. Check out table (1) that shows AI vs IT.

table (1): Differences between AI and IT

Basis of Difference	Artificial Intelligence	Information Technology
Scope	Artificial Intelligence (AI) is the study of creating intelligent computers that can carry out activities requiring human-like intelligence.	IT is the field that deals with managing and processing information using technology.
Focus	AI is primarily concerned with creating intelligent systems that are able to analyze data and make decisions—often in real time.	IT is primarily concerned with developing and managing dependable, secure, and effective technology.
Goals	The ultimate goal of artificial intelligence (AI) is to build robots that are capable of reasoning, learning, perceiving, and solving problems—tasks that normally require human intelligence. This will increase production, efficiency, and decision-making.	IT exists to assist organizational or commercial goals through the development and upkeep of dependable and effective technology.

The primary goal of artificial intelligence is to enable computers to perform tasks that the human mind can perform. Some of these tasks, such as thinking, are often called "intelligence," but all of them are not devoid of psychological skills that enable humans and animals to achieve their goals. Among these skills are sensory perception and linking, thoughts, prediction, planning, and motor control. A.Boden [2018].

Hinojo et al , [2019], Artificial intelligence has witnessed great developments in recent years and has become a technology that will revolutionize how people live. This technology has been introduced into the field of higher education. Artificial intelligence connects learning areas in a neural network and classifies, distinguishes, and clarifies them, which represents a paradigm shift in knowledge building .jena [2018].
Khare et al ,[2018] noted that artificial intelligence has a positive impact on student success.

Also, Zidane clarified in [2014] that utilizing artificial intelligence can help increase the aptitude of the student and learner to reach the goal of the educational program very quickly, as the crucial parts can be repeated according to the trainee's needs.

Artificial intelligence also contributes to improving the student's management level by teaching him to follow the educational steps for the scientific subject, and practice the tests and know the correct answers, which leads to evaluating himself and knowing his level, in addition to increasing the creative ability of the student, using graphic and pictorial programs that highlight the scientific subject.
There are certain tasks in which a computer is recognized as predominant to the human intellect. In a clearer sense, there are routine tasks that a computer can perform way better than a human, including performing numerical calculations,

storing and retrieving data rapidly, and repetitive operations .Al-Husseini [1999].

When attempting to mimic human intelligence with a computer, one must consider the capabilities, qualities, and predominance of both people and computers. This comparison is made within the following areas: typical processors, instinct, and comparison of induction models .Abdel Samie[2001].

It is obvious from the outset that artificial intelligence is one of the sciences that depends primarily on the computer and its programs. It links the learning regions within the neural network and classifies, recognizes, and clarifies them. Furthermore, it could be a worldview move utilized in building information that has a positive effect on the students' success.

AI for students can offer:

Personalized learning routes: AI adapts lessons based on each student's strengths and shortcomings, allowing them to advance at their own speed.

Real-time feedback: To speed up progress, AI tutors provide prompt feedback on vocabulary usage, grammar, and pronunciation.

Interactive and captivating experiences: AI-driven application , gamify education, increasing students' enjoyment and motivation.

AI can be used by educators for: Automated assessments and grading: AI gives teachers back time they may use to provide more individualized instruction.

The research assumes that artificial intelligence (AI) can be a useful tool to improve the efficacy and accessibility of English language instruction, rather than taking on the role of human teachers.

Adaptive lesson planning: AI helps curate learning materials based on student progress, optimizing the learning experience.

The research concludes that AI is not a replacement for human teachers, but rather a powerful tool to enhance the effectiveness and accessibility of English language learning.

Yushiaka and Seij [2007],Despite the extraordinary advancements that artificial intelligence research has made in providing some of the characteristics of intelligence to computers, it is still too early to say that there are programs that can mimic the human intellect in its way of thinking and imagination. The current success seen by artificial intelligence programs is just the advancement of particular computer programs that specialize in specific connected areas in which the machine incorporates the result of human involvement in a field. The human being chooses the activity based on his sentiments, information, and personal involvement, both intentional and unintentional.

Research problem:

Schools rely on traditional teaching methods, but education needs rapid change, and the utilization of artificial intelligence technology to achieve growth in education. It will have a positive impact on educational systems.

Research aims:

Learn about the importance of artificial intelligence. Recognize AI applications and their importance in education. Provide a future vision of the importance of using AI applications in education. Using Artificial Intelligence Apps to Enhance Language Learning.

Research importance:

The utilization of artificial Intelligence apps for enhancing language learning of secondary students in a better and faster way.

2. The Theoretical Framework

It was argued that the 2019 COVID disease pandemic has changed the instructional framework, as stated by Singh, J., Steele, K., and Singh, L. The global health crisis has forced schools and universities all over the world to reevaluate their teaching strategies, enabling them to consider online, hybrid, and blended learning environments.

Artificial Intelligence (AI) applications have gained significant attention in education, particularly in language learning. This part of the research aims to provide a structured overview of the concepts and theories related to language learning using AI, the chronological evolution of the inclusion of language learning with AI, previous studies and their relation to this research topic. It also aims to explore the potential of AI apps, specifically Open L, Andi, Yippity AI and Whimsical in enhancing language learning among secondary students. In addition, it provides a foundation for understanding the role of AI apps in language learning and identifies gaps for further research. That's why we thought we would use these AI apps as an experiment to see if they would enhance and strengthen language learning in secondary school or not.

Concepts and Theories:

1. Language Acquisition Theory: Drawing from Krashen's Input Hypothesis and Vygotsky's Socio-cultural Theory, this theory posits that language learning is facilitated through exposure to comprehensible input and social interaction. AI apps can provide tailored input and simulate authentic communication, thereby promoting language acquisition.

2. Adaptive Learning: Based on the principles of personalized learning, adaptive learning systems adjust instructional content and pace according to individual learners needs. AI apps like Open L and Andi utilize adaptive algorithms to deliver customized language exercises, catering to diverse learning styles and proficiency levels.

3. Feedback and Error Correction: Feedback plays a crucial role in language learning by providing learners with information about their performance and guiding them towards improvement. AI apps such as Yippity AI offer real-time feedback and error correction, enabling students to identify and rectify language errors effectively.

The chronological evolution of the inclusion of learning with AI apps:

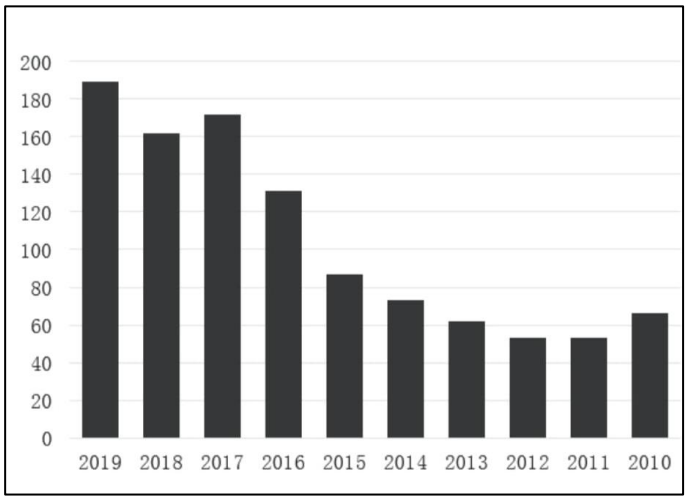
The integration of artificial intelligence (AI) programs into learning environments has undergone a remarkable evolution over the past few decades, transforming the landscape of education and paving the way for innovative teaching methods and personalized learning experiences. The following points explain the development of AI's inclusion in learning, from its early beginnings to its current state and future prospects.

The chronological evolution of the inclusion of learning with artificial intelligence (AI) programs has witnessed a significant speed-up, particularly during the COVID-19 pandemic.

- Initially, AI's integration into education dates back to the 1950s-1970s with early experiments focused on automating administrative tasks and drill-and-practice exercises.

- Then, Expert systems and intelligent tutoring systems emerged in the 1980s–1990s, providing personalized instruction and problem-solving support
- After that, Multimedia technologies in the 1990s–2000s enabled interactive and engaging learning experiences through AI-powered educational software. Machine learning and data analytics in the 2000s enabled systems to analyze learner data and predict outcomes.

In the decade spanning 2010 to 2019, as in (**1**)– the proliferation of research papers on the intersection of artificial intelligence (AI) and education witnessed significant growth, evident in databases like Web of Science and Google Scholar. Across these platforms, the number of papers exploring the symbiotic relationship between AI and education surged, highlighting the multifaceted approaches to enhance learning outcomes through AI-driven methodologies and technologies.



(1) Number of papers in web of science and Google scholar in the ten years (2010–2019) with key words "AI" and "education".

- However, it was the outbreak of the COVID-19 pandemic in 2020 that served as a catalyst for rapid transformation in the education sector. With widespread school closures and the shift to remote learning, educators and policymakers turned to AI-powered technologies to bridge the gap and ensure continuity in learning.

The pandemic underscored the importance of AI in education, not only as a means of delivering remote instruction but also as a tool for enhancing student engagement, providing real-time feedback and fostering inclusive learning environments. As a result, the COVID-19 period has marked a pivotal moment in the chronological evolution of AI's inclusion in learning, accelerating its adoption and reshaping the future of both learning and education.

In short, the inclusion of AI programs in learning has evolved significantly over time, from early experiments to sophisticated adaptive learning systems and chatbots. As AI apps continue to advance, so future directions for personalized and lifelong learning in education may include AI-driven adaptive learning systems and virtual tutors. They hold the potential to revolutionize education by providing personalized, adaptive, and immersive learning experiences for students of all ages and backgrounds.

Below is an overview of some previous studies related to the topic of research:–

1. Abu Shamala's study. [2012] looked to identify the effectiveness of a program based on artificial intelligence to create deductive thinking and scholarly accomplishment within the field of data innovation among students.

2. Smith et al. [2019] conducted a study comparing the effectiveness of AI translation apps like Open L and traditional vocabulary learning

methods. Results showed that students using the AI translation apps exhibited significantly higher retention rates and motivation levels.

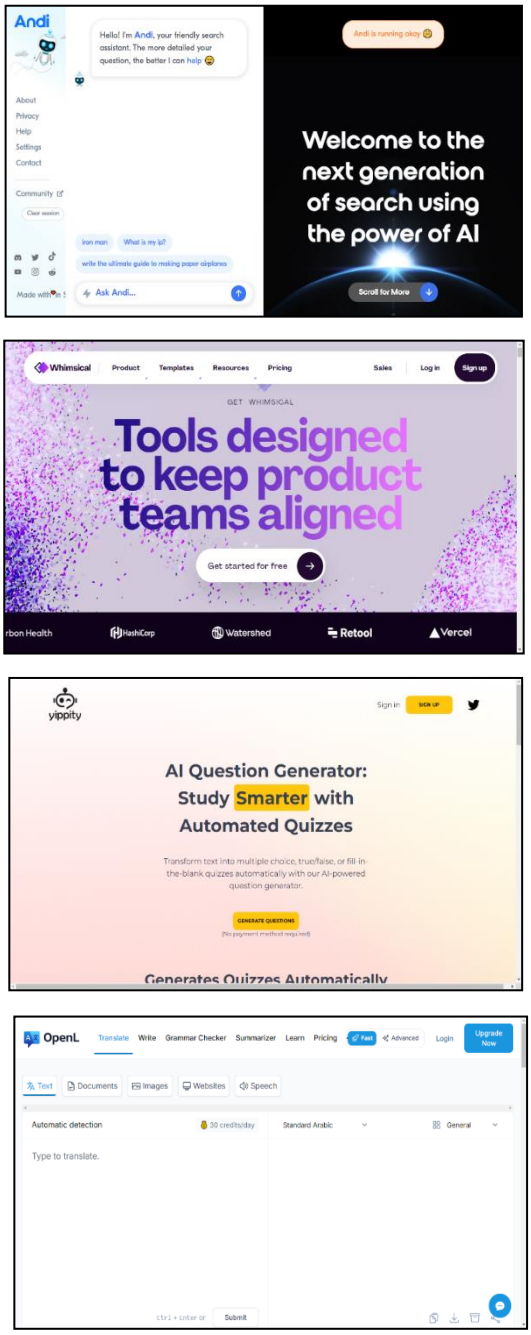
3. Jones and Lee [2020] investigated the impact of AI question generator apps such as Yippity AI on grammar comprehension among students. Findings indicated that the AI apps facilitated a deeper understanding of grammatical concepts and improved students' accuracy in written exercises.

4. Li et al. [2021] explored the use of AI apps to promote speaking fluency among adolescent language learners. The study revealed that the gamified speaking activities led to increased speaking time and enhanced pronunciation skills.

Comment on the previous studies:

Previous studies have demonstrated the effectiveness of AI apps, including Open L, Andi, Yippity AI and Whimsical are used in various aspects of language learning among students. However, this research aims to address this gap by examining the combined impact of these AI apps on overall language proficiency, motivation, and engagement among secondary students. By synthesizing findings from previous studies and building upon existing theoretical frameworks, this framework sets the stage for experimental investigations that will contribute to the advancement of knowledge in the field of AI-enhanced language learning, informing didactic practices and curriculum design.

In various contexts, Artificial Intelligence's capacity to personalize training for each student is advantageous. According to Aditi Bhutoria, massive information analysis and simulated intelligence will drive a quantum leap forward in the next era of educational innovations. The AI apps used in this research, as in (2), include Open L that helps students with translating texts and correcting errors. Also, Andi helps them with searching for any information they need. In addition, Yippity AI is a question generator, which helps students study smarter with their own automated quizzes. Moreover, Whimsical generates AI diagrams to help them learn in an organized way.



(1) **AI apps used in this research**

As well as, troubled students may benefit from this kind of feedback since it will enable teachers to tailor their assignments more effectively to the needs of the individual student. Artificial intelligence, according to Shubham Joshi, will result in new teaching and learning strategies that will be evaluated under various circumstances. As a result, instructional innovation can make it easier for students to achieve and manage their academic goals.

To sum up, the current study agrees with some previous studies in using an experimental approach. However, it differs from previous studies in the method used, the environment, the sample, and the study material. It seeks to reveal the role of artificial intelligence (AI) in language learning enhancement by using the four AI apps (Open L / Andi / Yippity / Whimsical) as an experiment among the secondary school students.

3.Methods of Research and the tools used

The research followed the experimental method, which is an approach that refers to the plan for conducting the research. It outlines the framework for how we will collect, analyze, and interpret data to answer the research questions or test the hypotheses through direct or indirect observation of phenomena or through carefully controlled experiments and draw scientific findings from accurate and measurable data. The collected data are analyzed using appropriate statistical methods.

Note:

There has recently been a decline in students' level of English language learning. This decline is due to several factors, most notably the reliance on traditional methods of education.

Traditional methods of education depend on lectures and theoretical explanations by the teacher, with less student participation in the educational process.

Disadvantages of traditional methods of education:

1-Boredom and loss of concentration :

Students get bored and lose concentration when listening to long lectures.

2- Loss of passion for learning:

Traditional methods do not provoke students' passion for learning, resulting in poor motivation.

3- Lack of critical thinking skills:

Traditional methods do not enhance students' critical thinking skills.

4- Not keeping up with technological developments:

Traditional methods do not keep pace with modern technological developments.

Procedures and Search Tool Used

1. We conducted a questionnaire on a sample of 10 students to measure the level of academic achievement before using artificial intelligence apps and recording the results.

We applied the research on Unit 8 entitled "Robots"

The aims of this unit are:

Read Online posts about the advantages of new technology.

Listen to the discussion on how technology can improve learning.

Language: Zero, first and second conditionals.

Critical thinking: Is technology always good?

The performance of the students:

- The explanation of the unit is unclear and boring for some of them.
- Focus on memorizing information rather than understanding it.

– Lack of opportunities for interaction and participation by them.
– Not providing timely feedback or useful evaluations.
– Sometimes there is a lack of interest in the topic.
– Lack of critical thinking.

2. We studied and analyzed the questionnaire results.

3. We found the most appropriate applications that can be used to improve students' academic achievement in English language learning.

4. We applied the AI apps to students and observed progress in their academic achievement. We applied the AI apps on the same unit.

The performance of the students:

- Personalized learning: AI generates personalized learning plans for each student.
- Real-time feedback: AI provides students with real-time feedback on their assignments.
- Help students to develop critical thinking skills.
- Improved Engagement: Interactive AI apps make learning more engaging, leading to increased focus and motivation.
- Increased Practice: AI apps provide students with endless practice opportunities, allowing them to solidify their understanding.
- Improved Learning Outcomes: By providing personalized learning and additional support. AI apps help students achieve higher academic level.

5. We took the same sample after using artificial intelligence applications. And recorded and compared the results.

The study sample:

The study sample consisted of 10 females students studying English as a second language in secondary school. A questionnaire was applied to them that included a number of questions based on two-pivotal questions, the use of traditional methods in learning the English language, and the use of artificial intelligence in learning it.

Research limitations:

Time limits: The study was implemented in the second semester of the year 2023-2024.

Spatial limits: Classroom

Human limits: It included a sample of students in the first secondary school in their English language course.

Research methodology's results:

It showed that there were statistically significant differences between the average of the study sample members regarding learning the English language using traditional methods and using artificial intelligence.

Challenges encountered in the application:

- Issues with the limited use of modern technology in schools.
- Difficulty in understanding how to use artificial intelligence programs for students.
- Lack of internet resources.
- High student absenteeism rates in schools.

4. Results of Research

Students were facing multiple problems related to learning English, such as pronunciation errors, listening, and translation. All of this was due to the use of traditional teaching methods, where students could not reach the correct translations, especially since English was not their native language.

However, after using the Open L app, which was applied to the translation sentences in Unit 8, students were able to reach the correct translation. After that, students had a reliable app that enabled them to compare their translation with the trusted translation through this app. One of the problems that students were facing was that learning resources were very limited, restricted to the textbook and the teacher only. There are no other sources available.

However, after implementing the Andi app on them, they had access to many resources, such as the apps, which enabled them to access many resources by sending them links about the topic they chose. This was implemented in the lesson on simple past and if conditions in Unit 8.

Also, students were having difficulty remembering, but after implementing the Whimsical app, which provides them with mind maps, this made their minds store the information better and made it difficult for them to forget it.

The students were struggling with a lack of questions, and they needed many questions to be able to understand their lessons. However, after implementing the Yippity app on them, which provided them with many questions, they became proficient in their lessons. In the end, the result was very satisfactory. Access to information has become more accessible. AI has given students immediate access to vast amounts of information and resources on a variety of topics.

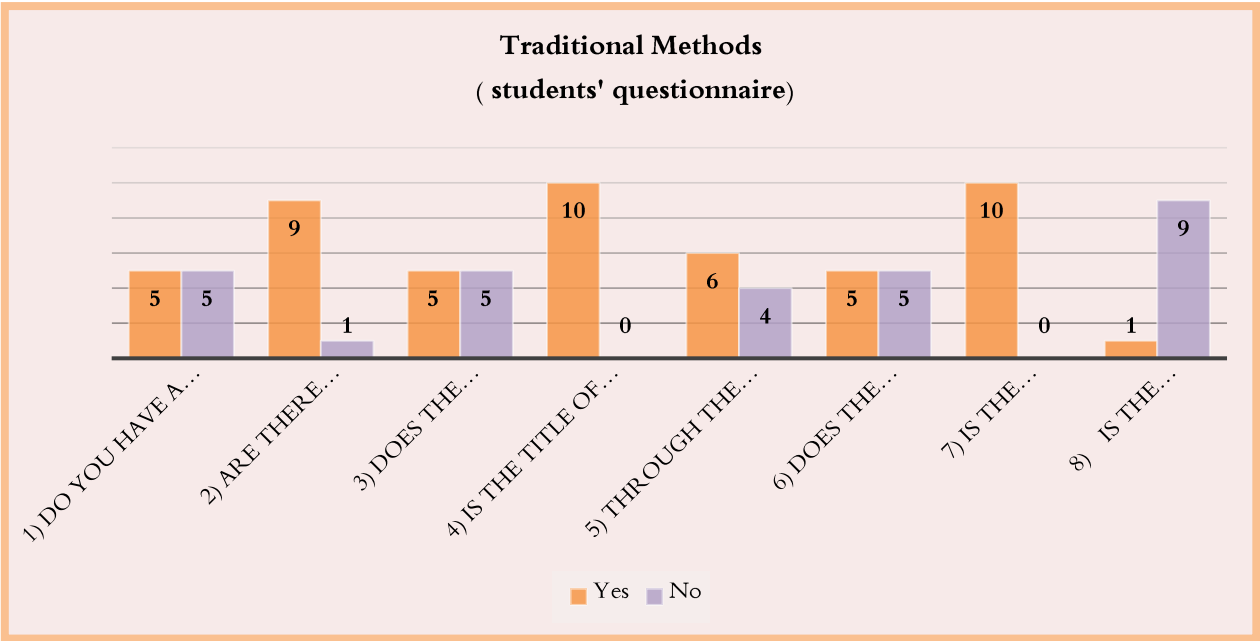
Furthermore, students have become more active learners, not passive learners. The chosen AI apps enabled students to engage in interactive learning experiences through virtual simulations, games, and online exercises. The learning process has become more personalized. Each student can choose what suits them according to their interests and their ability to understand.

Questionnaire model

The method of teaching using traditional methods

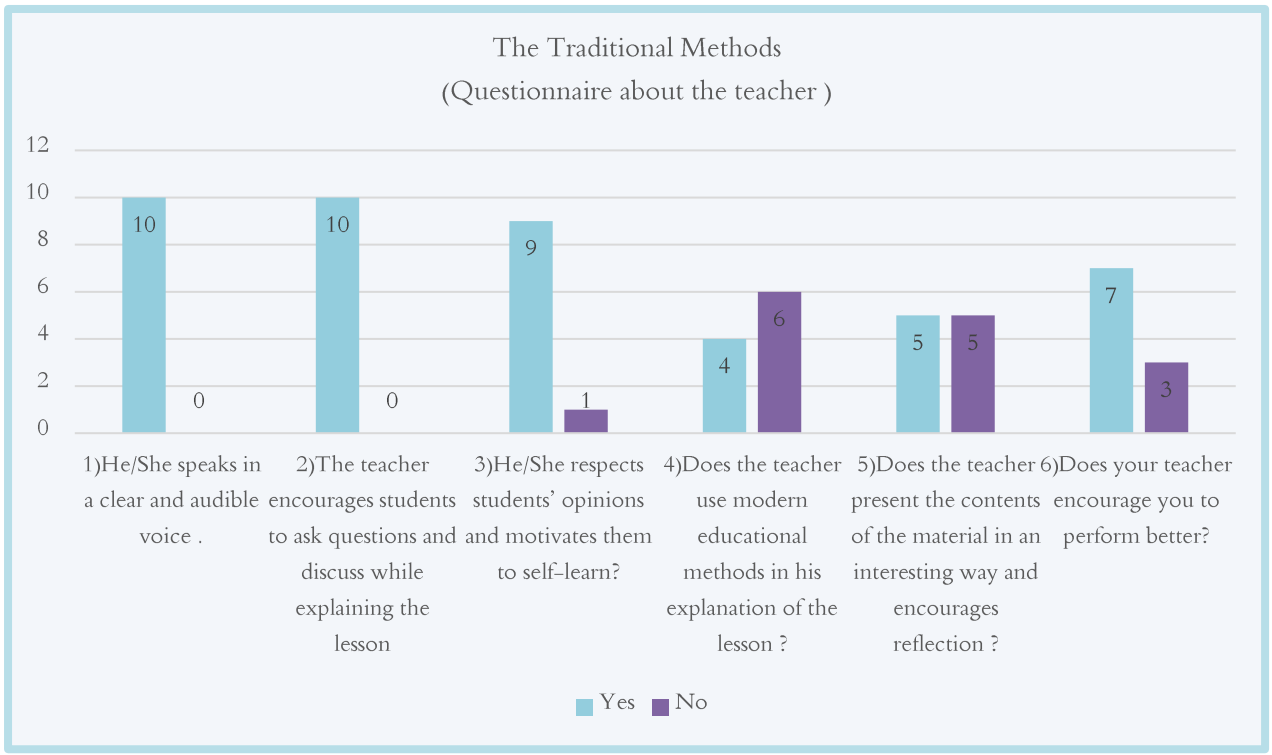
(1) **Questionnaire for students**:

Question	Yes	No
1) Do you have a trouble in learning by the traditional way?	**50%**	**50%**
2) Are there different learning strategies used during the lesson presentation?	**90%**	**10%**
3) Does the current method of explanation help to develop students' abilities?	**50%**	**50%**
4) Is the title of the lesson being prepared using concluding questions?	**100%**	–
5) Through the presentation of the lesson, are they aroused by the thinking of students and the development of their skills?	**60%**	**40%**
6) Does the current method help to respect the individual differences in students?	**50%**	**50%**
7) Is the material linked to previous lessons?	**100%**	–
8) Is the school book just about explaining the lessons?	**10%**	**90%**



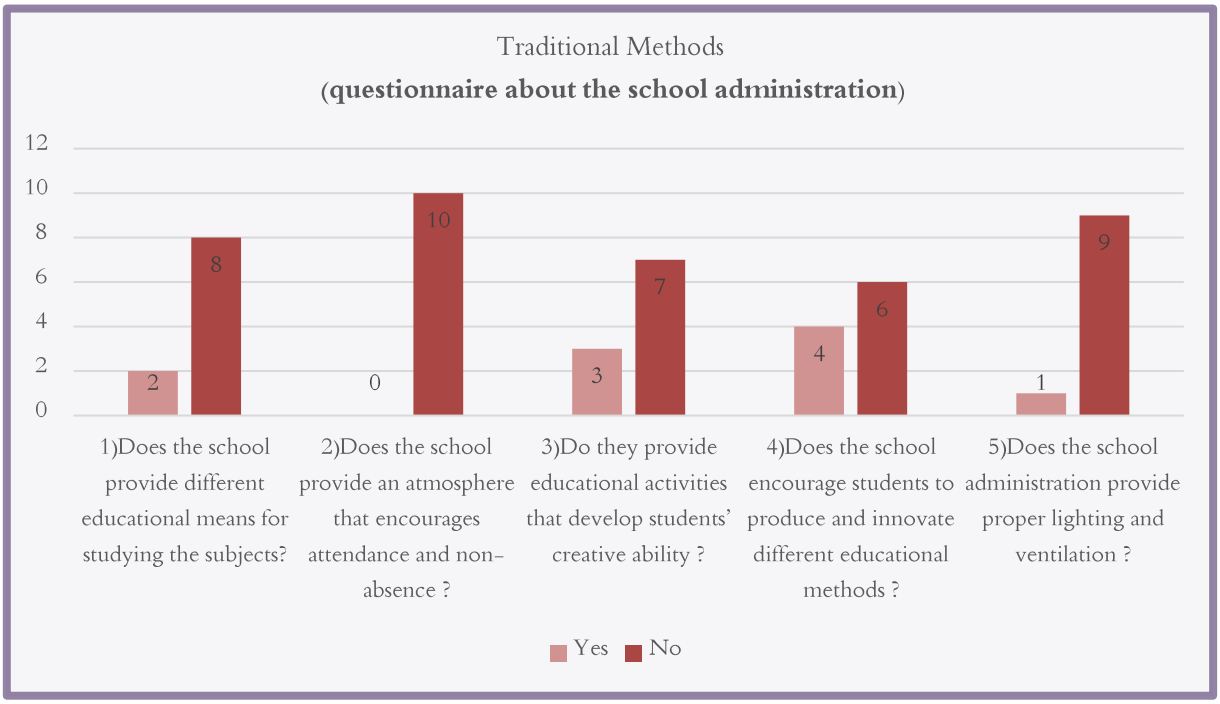
(2) **Questionnaire about the teacher**:

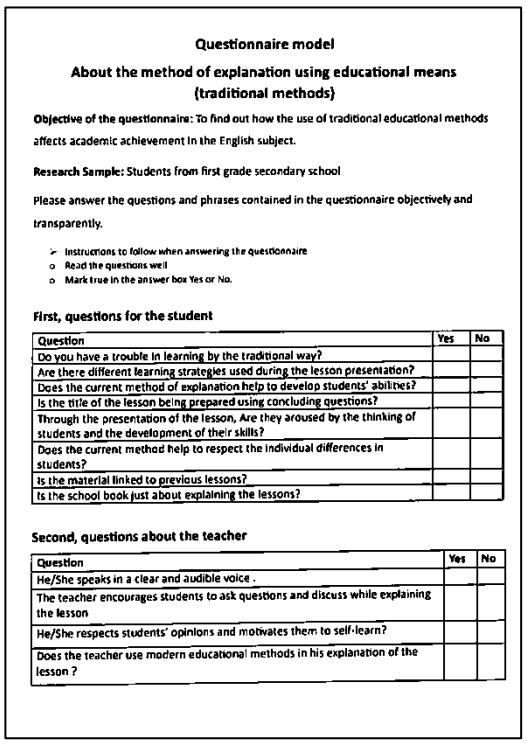
Question		Yes	No
1)	He/She speaks in a clear and audible voice .	100%	-
2)	The teacher encourages students to ask questions and discuss while explaining the lesson	100%	-
3)	He/She respects students' opinions and motivates them to self-learn?	90%	10%
4)	Does the teacher use modern educational methods in his explanation of the lesson ?	40%	60%
5)	Does the teacher present the contents of the material in an interesting way and encourages reflection ?	50%	50%
6)	Does your teacher encourage you to perform better?	70%	30%



(3) Questionnaire about the school administration:

Question		Yes	No
1)	Does the school provide different educational means for studying the subjects?	20%	80%
2)	Does the school provide an atmosphere that encourages attendance and non-absence?	–	100%
3)	Do they provide educational activities that develop students' creative ability?	30%	70%
4)	Does the school encourage students to produce and innovate different educational methods?	40%	60%
5)	Does the school administration provide proper lighting and ventilation?	10%	90%





Questionnaire model

About the method of explanation using educational means (traditional methods)

Objective of the questionnaire: To find out how the use of traditional educational methods affects academic achievement in the English subject.

Research Sample: Students from first grade secondary school

Please answer the questions and phrases contained in the questionnaire objectively and transparently.

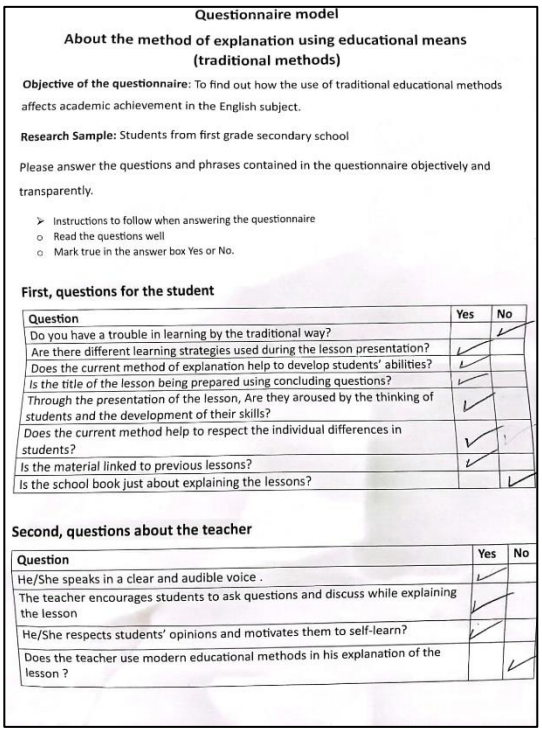
- Instructions to follow when answering the questionnaire
  - Read the questions well
  - Mark true in the answer box Yes or No.

First, questions for the student

Question	Yes	No
Do you have a trouble in learning by the traditional way?		
Are there different learning strategies used during the lesson presentation?		
Does the current method of explanation help to develop students' abilities?		
Is the title of the lesson being prepared using concluding questions?		
Through the presentation of the lesson, Are they aroused by the thinking of students and the development of their skills?		
Does the current method help to respect the individual differences in students?		
Is the material linked to previous lessons?		
Is the school book just about explaining the lessons?		

Second, questions about the teacher

Question	Yes	No
He/She speaks in a clear and audible voice .		
The teacher encourages students to ask questions and discuss while explaining the lesson		
He/She respects students' opinions and motivates them to self-learn?		
Does the teacher use modern educational methods in his explanation of the lesson ?		



Questionnaire model

About the method of explanation using educational means (traditional methods)

Objective of the questionnaire: To find out how the use of traditional educational methods affects academic achievement in the English subject.

Research Sample: Students from first grade secondary school

Please answer the questions and phrases contained in the questionnaire objectively and transparently.

- Instructions to follow when answering the questionnaire
  - Read the questions well
  - Mark true in the answer box Yes or No.

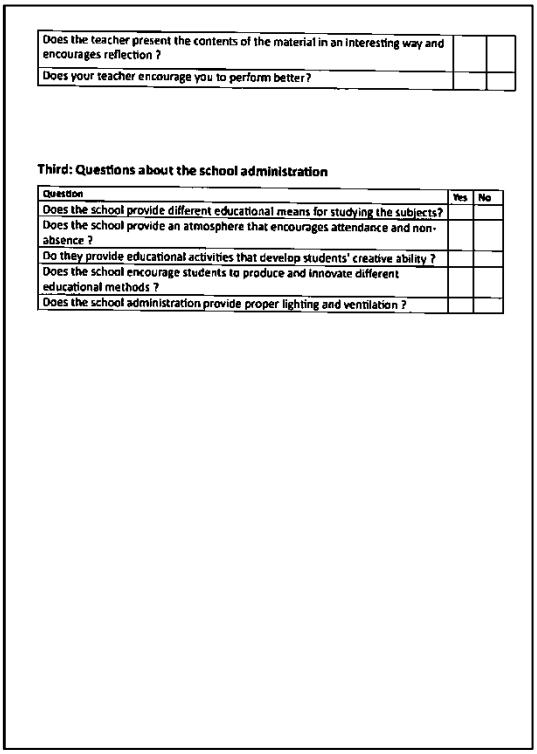
First, questions for the student

Question	Yes	No
Do you have a trouble in learning by the traditional way?		✓
Are there different learning strategies used during the lesson presentation?	✓	
Does the current method of explanation help to develop students' abilities?	✓	
Is the title of the lesson being prepared using concluding questions?	✓	
Through the presentation of the lesson, Are they aroused by the thinking of students and the development of their skills?	✓	
Does the current method help to respect the individual differences in students?	✓	
Is the material linked to previous lessons?	✓	
Is the school book just about explaining the lessons?		✓

Second, questions about the teacher

Question	Yes	No
He/She speaks in a clear and audible voice .	✓	
The teacher encourages students to ask questions and discuss while explaining the lesson	✓	
He/She respects students' opinions and motivates them to self-learn?	✓	
Does the teacher use modern educational methods in his explanation of the lesson ?		✓

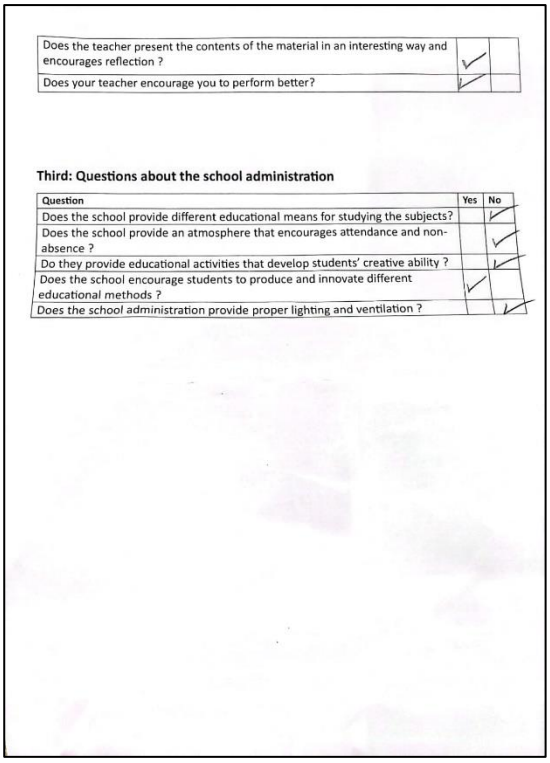
A sample of the traditional method questionnaire.



Does the teacher present the contents of the material in an interesting way and encourages reflection ?		
Does your teacher encourage you to perform better?		

Third: Questions about the school administration

Question	Yes	No
Does the school provide different educational means for studying the subjects?		
Does the school provide an atmosphere that encourages attendance and non-absence ?		
Do they provide educational activities that develop students' creative ability ?		
Does the school encourage students to produce and innovate different educational methods ?		
Does the school administration provide proper lighting and ventilation ?		



Does the teacher present the contents of the material in an interesting way and encourages reflection ?	✓	
Does your teacher encourage you to perform better?	✓	

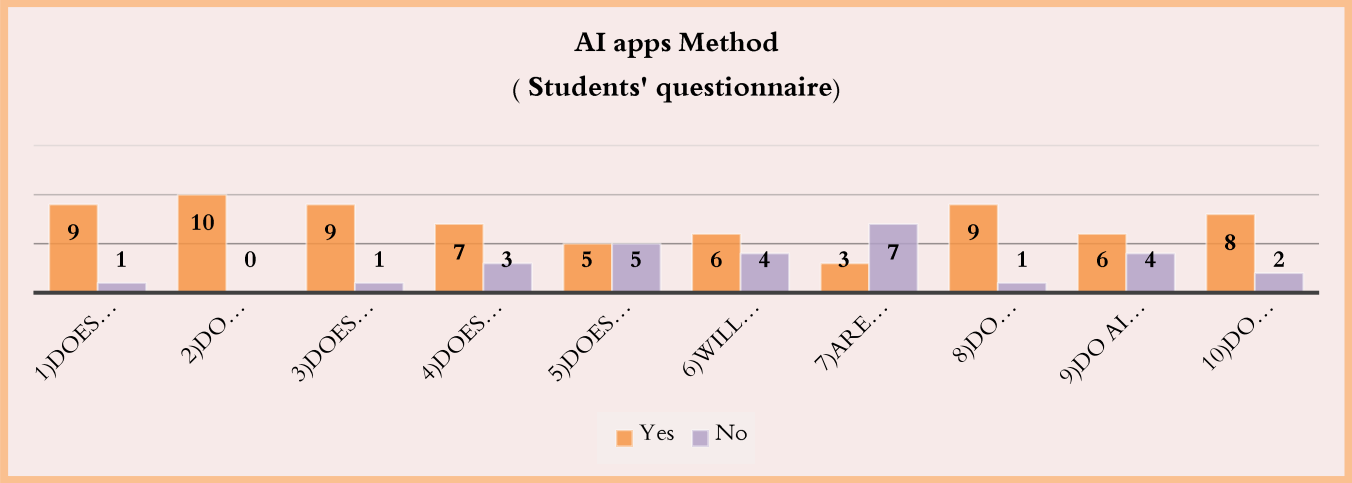
Third: Questions about the school administration

Question	Yes	No
Does the school provide different educational means for studying the subjects?		✓
Does the school provide an atmosphere that encourages attendance and non-absence ?		✓
Do they provide educational activities that develop students' creative ability ?		✓
Does the school encourage students to produce and innovate different educational methods ?	✓	
Does the school administration provide proper lighting and ventilation ?		✓

Questionnaire model
The method of teaching using artificial intelligence apps

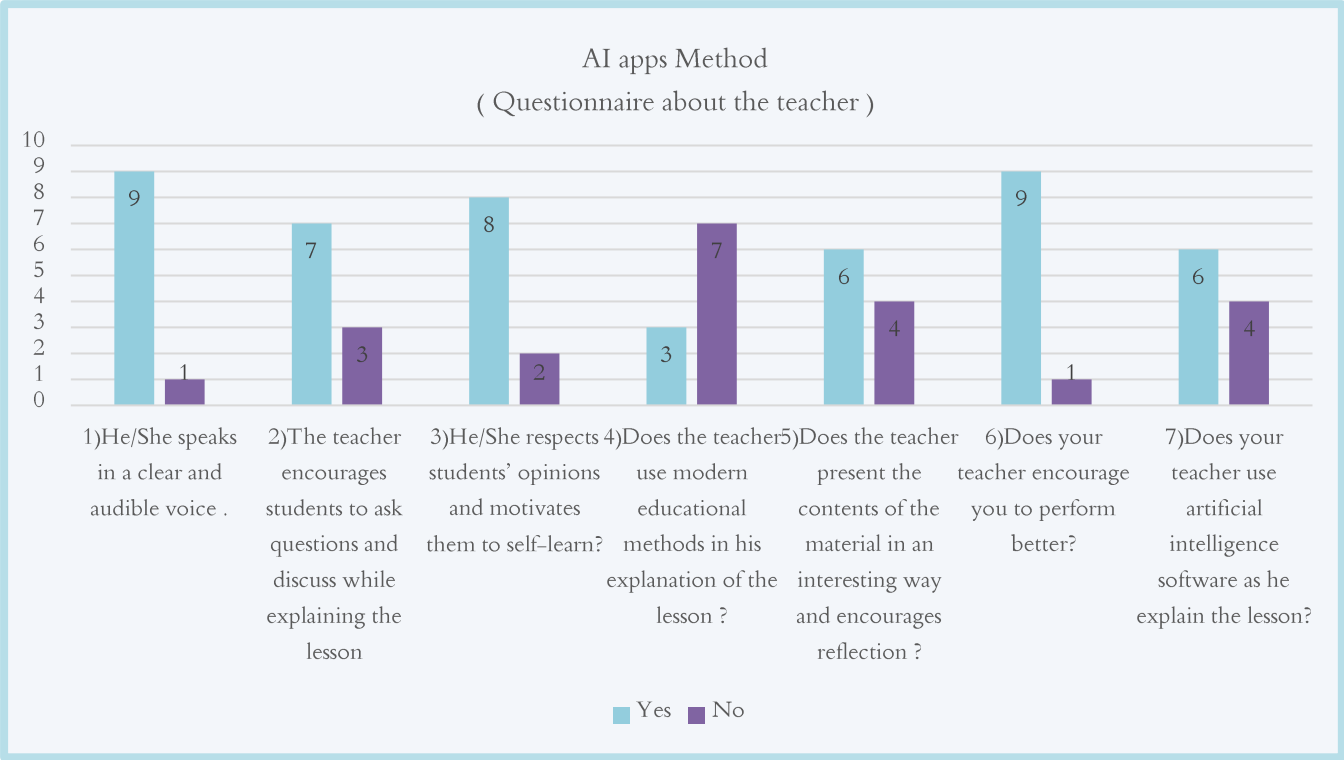
(1) Questionnaire for students :

Question	Yes	No
1) Does the use of artificial intelligence help to understand the material quickly?	90%	10%
2) Do the artificial intelligence programs help to focus more on the studying materials?	100%	–
3) Does the use of artificial intelligence help to stabilize the course material?	90%	10%
4) Does the use of these educational AI programs help to increase the student's desire for the course material?	70%	30%
5) Does the use of these educational programs help to increase academic achievement?	50%	50%
6) Will the level of education improve if it is integrated with artificial intelligence?	60%	40%
7) Are you bored with these artificial intelligence programs?	30%	70%
8) Do you learn the lesson well in that way?	90%	10%
9) Do AI educational programs take into consideration the individual differences in students?	60%	40%
10) Do the artificial intelligence programs have helped clarify concepts in students?	80%	20%



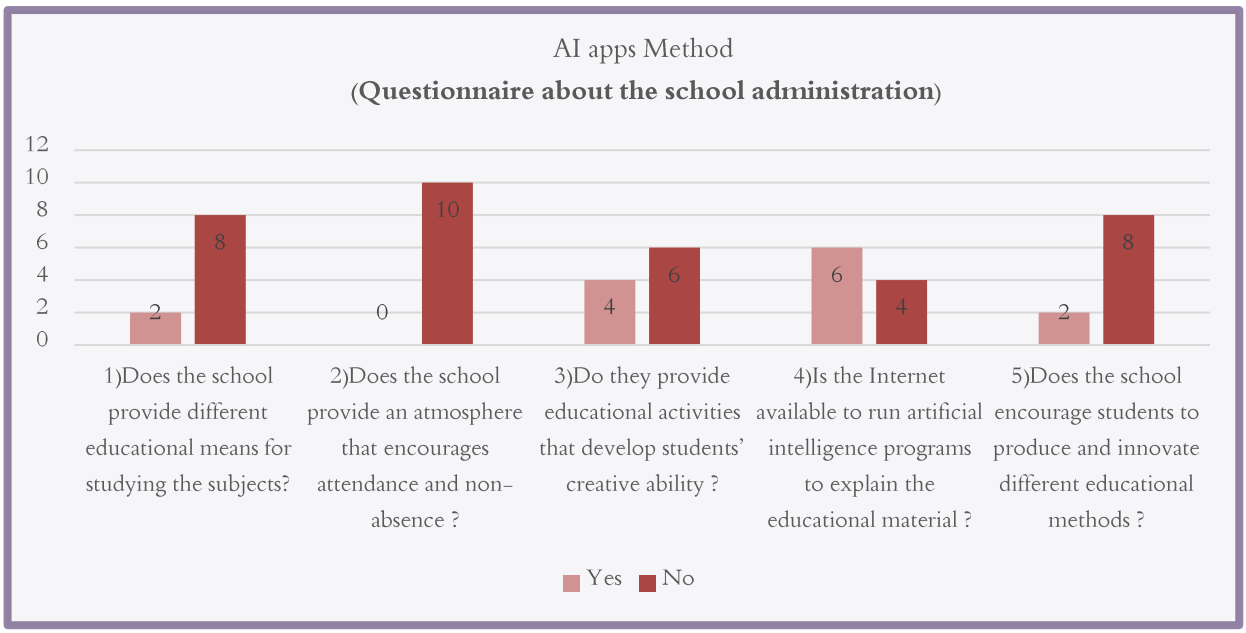
(2) Questionnaire about the teacher :

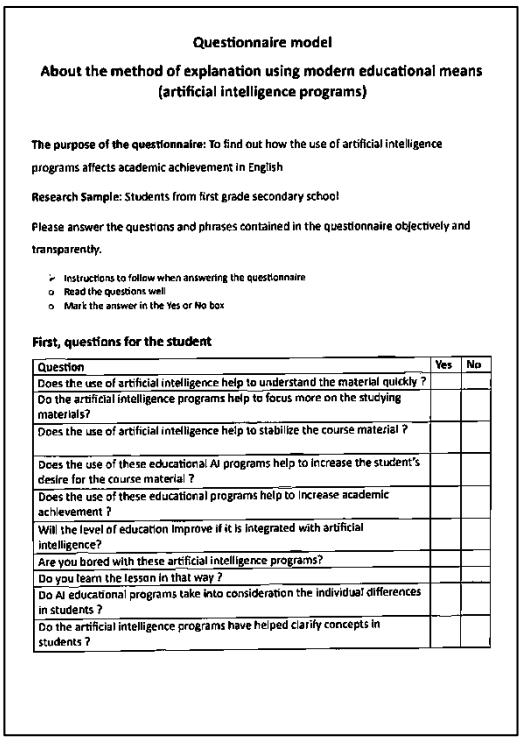
Question		Yes	No
1)	He/She speaks in a clear and audible voice .	90%	10%
2)	The teacher encourages students to ask questions and discuss while explaining the lesson	70%	30%
3)	He/She respects students' opinions and motivates them to self-learn?	80%	20%
4)	Does the teacher use modern educational methods in his explanation of the lesson ?	30%	70%
5)	Does the teacher present the contents of the material in an interesting way and encourages reflection ?	60%	40%
6)	Does your teacher encourage you to perform better?	90%	10%
7)	Does your teacher use artificial intelligence software as he explains the lesson?	60%	40%



(3) Questionnaire about the school administration:

Question		Yes	No
1)	Does the school provide different educational means for studying the subjects?	20%	80%
2)	Does the school provide an atmosphere that encourages attendance and non-absence?	–	100%
3)	Do they provide educational activities that develop students' creative ability?	40%	60%
4)	Is the Internet available to run artificial intelligence programs to explain the educational material?	60%	40%
5)	Does the school encourage students to produce and innovate different educational methods?	20%	80%





Questionnaire model

About the method of explanation using modern educational means (artificial intelligence programs)

The purpose of the questionnaire: To find out how the use of artificial intelligence programs affects academic achievement in English

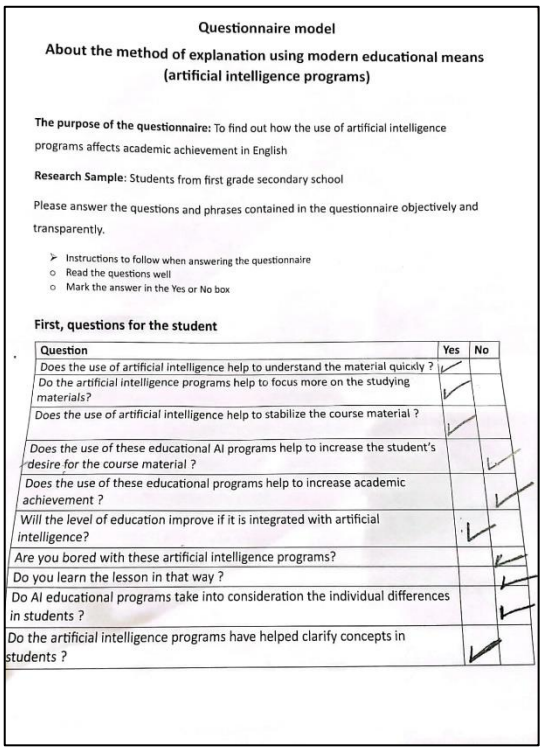
Research Sample: Students from first grade secondary school

Please answer the questions and phrases contained in the questionnaire objectively and transparently.

- Instructions to follow when answering the questionnaire
  - Read the questions well
  - Mark the answer in the Yes or No box

First, questions for the student

Question	Yes	No
Does the use of artificial intelligence help to understand the material quickly ?		
Do the artificial intelligence programs help to focus more on the studying materials?		
Does the use of artificial intelligence help to stabilize the course material ?		
Does the use of these educational AI programs help to increase the student's desire for the course material ?		
Does the use of these educational programs help to increase academic achievement ?		
Will the level of education improve if it is integrated with artificial intelligence?		
Are you bored with these artificial intelligence programs?		
Do you learn the lesson in that way ?		
Do AI educational programs take into consideration the individual differences in students ?		
Do the artificial intelligence programs have helped clarify concepts in students ?		



Questionnaire model

About the method of explanation using modern educational means (artificial intelligence programs)

The purpose of the questionnaire: To find out how the use of artificial intelligence programs affects academic achievement in English

Research Sample: Students from first grade secondary school

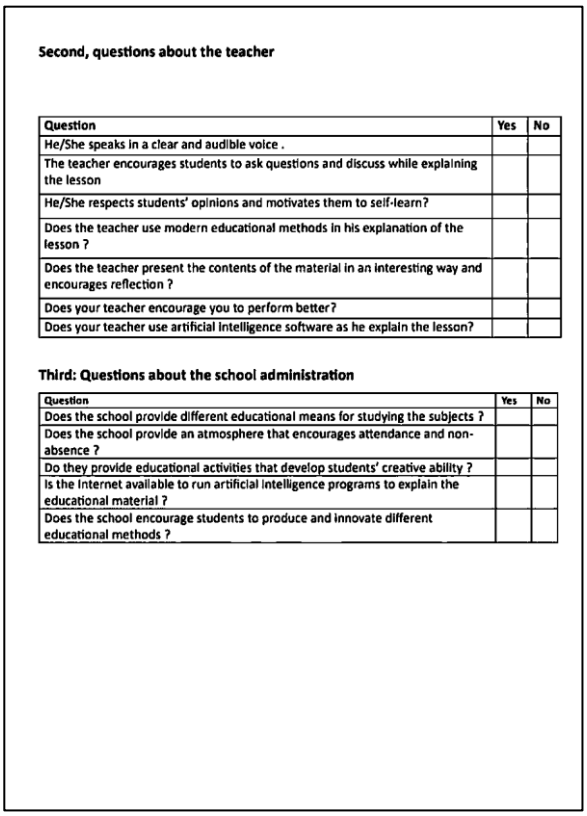
Please answer the questions and phrases contained in the questionnaire objectively and transparently.

- Instructions to follow when answering the questionnaire
  - Read the questions well
  - Mark the answer in the Yes or No box

First, questions for the student

Question	Yes	No
Does the use of artificial intelligence help to understand the material quickly ?	✓	
Do the artificial intelligence programs help to focus more on the studying materials?	✓	
Does the use of artificial intelligence help to stabilize the course material ?	✓	
Does the use of these educational AI programs help to increase the student's desire for the course material ?		✓
Does the use of these educational programs help to increase academic achievement ?		✓
Will the level of education improve if it is integrated with artificial intelligence?	✓	
Are you bored with these artificial intelligence programs?		✓
Do you learn the lesson in that way ?		✓
Do AI educational programs take into consideration the individual differences in students ?		✓
Do the artificial intelligence programs have helped clarify concepts in students ?	✓	

A sample of the method of teaching using AI apps questionnaire.

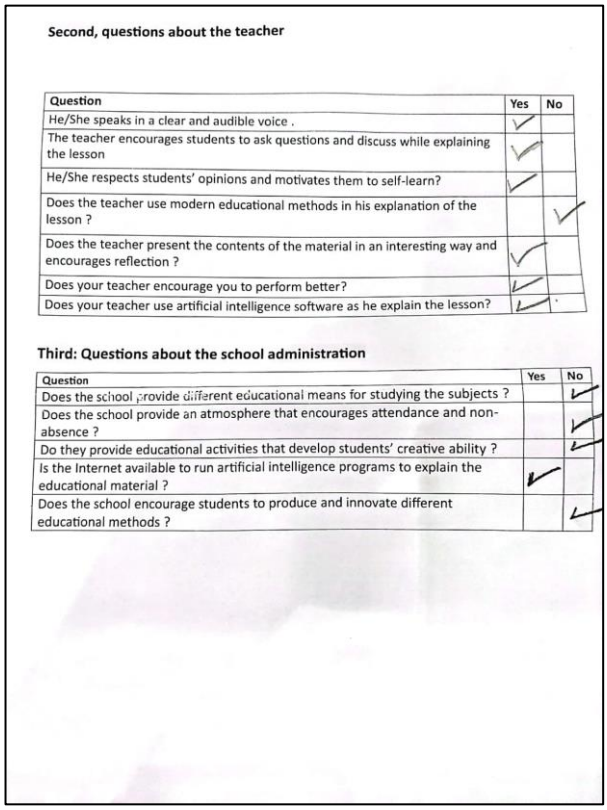


Second, questions about the teacher

Question	Yes	No
He/She speaks in a clear and audible voice .		
The teacher encourages students to ask questions and discuss while explaining the lesson		
He/She respects students' opinions and motivates them to self-learn?		
Does the teacher use modern educational methods in his explanation of the lesson ?		
Does the teacher present the contents of the material in an interesting way and encourages reflection ?		
Does your teacher encourage you to perform better?		
Does your teacher use artificial intelligence software as he explain the lesson?		

Third: Questions about the school administration

Question	Yes	No
Does the school provide different educational means for studying the subjects ?		
Does the school provide an atmosphere that encourages attendance and non-absence ?		
Do they provide educational activities that develop students' creative ability ?		
Is the Internet available to run artificial intelligence programs to explain the educational material ?		
Does the school encourage students to produce and innovate different educational methods ?		



Second, questions about the teacher

Question	Yes	No
He/She speaks in a clear and audible voice .	✓	
The teacher encourages students to ask questions and discuss while explaining the lesson	✓	
He/She respects students' opinions and motivates them to self-learn?	✓	
Does the teacher use modern educational methods in his explanation of the lesson ?		✓
Does the teacher present the contents of the material in an interesting way and encourages reflection ?	✓	
Does your teacher encourage you to perform better?	✓	
Does your teacher use artificial intelligence software as he explain the lesson?	✓	

Third: Questions about the school administration

Question	Yes	No
Does the school provide different educational means for studying the subjects ?		✓
Does the school provide an atmosphere that encourages attendance and non-absence ?		✓
Do they provide educational activities that develop students' creative ability ?		✓
Is the Internet available to run artificial intelligence programs to explain the educational material ?	✓	
Does the school encourage students to produce and innovate different educational methods ?		✓

5. Interpretation of Results:

When looking at the results of these questionnaires, we find that there is a difference in the results between the questionnaires on traditional teaching methods and teaching methods using artificial intelligence apps and involving them in English language learning process.

When interpreting those results by looking at the chart, we find that the percentage of the students' sample who participated in the questionnaire changed their opinions from negative to positive in aspects of understanding and comprehension.

The results of the students' questionnaire reveal a noticeable preference for artificial intelligence apps over traditional methods of education, as AI apps make them more effective in the educational process, which leads to the development of their skills and greater participation. The applications used for this experiment are Open L, Andi, Whimsical, and Yippity.

The first app is Open L, where students have simple, get-to-exact translations. This app empowered them to learn the nuances of English and improve their grammar, vocabulary and writing skills. It is also useful for creating sentences by simply giving a reference to the topic. Therefore, this application is not only a translation site, but it can also be a comprehensive reference that they can rely on in their studies, whatever the subject or the field of study is.

The second app applied to students is Andi, which empowers them to get to different sources of study

points and sends students numerous links to almost every subject chosen by them. This app is usually more valuable when students get the lesson than when they rely exclusively on the source of the reading material.

The third app is Whimsical, which helped them memorize information better by creating mind maps.

The last one is Yippity, where this app made a difference by having students answer some of the questions about study subjects. This application does not make them depend on the constrained number of questions within the course reading, making them master what they studied.

These apps were applied practically in the classroom and received positive feedback from students. Through these apps, students' writing, speaking, language, and critical thinking skills are improved.

6. Conclusion:

According to the research findings, using artificial intelligence apps in conjunction with learning in general and the English language in particular can effectively improve language skills. Using apps like Andi, Open L, Yippity, and Whimsical can also help the educational process progress.

The research results also confirm the ability of artificial intelligence apps to make a significant difference in teaching the English language, provided that the teacher and learner interact and participate effectively.

As learning demands change, artificial intelligence (AI)-powered education will become increasingly significant. Currently, AI learning is thought of as an early-stage teaching helper. Now, basic rules and judgment are used to offer his courses, which range in difficulty, but they still do not reach the highest level.

AI systems, such as probabilistic models and knowledge maps, are the subject of educational research. The AI system will produce more data as the language learning process gets more interactive to give a better understanding of the teaching and learning process and to enable more precise information recommendations.

The AI system gives teachers and students access to high-quality information that supports teaching and learning, making the entire process measurable. It is powered by learner analytics, machine learning, and data mining. Currently, the user has several options for determining the right response to every inquiry. By examining their learning preferences, emotional moods and spontaneity, a desirable AI system would eventually mold the imagination and creativity of students, enhancing their creativity and learning abilities as well as their subjective spontaneity. It is anticipated that AI systems will be used more widely and will influence every facet of students' lives.

It is still too early to suggest that apps can replicate human intellect in terms of thought processes and creativity, even with the remarkable strides achieved in artificial intelligence research toward endowing computers with some intelligence.

The success that artificial intelligence applications are currently experiencing is merely the development of specific computer apps that focus on related fields where the machine integrates the outcome of human involvement in a sector

Humans select their activities based on their feelings, knowledge, and purposeful or inadvertent personal participation.

Proposed research for the future:

As an extension of the findings of the current study, the researcher suggests the possibility of conducting the following studies:

- Conducting studies and research on the impact of artificial intelligence technology on the achievement and retention of learning among university students in various academic courses.
- Conducting studies and research on the role of artificial intelligence technology in developing innovation among university students.
- Conducting studies and research on the impact of artificial intelligence on the design and production of electronic lessons for students at the university.
- Conducting studies and research on the role of artificial intelligence (AI) in education with other samples that differ from the study current..

Acknowledgement

. We extend our profound gratitude to Dr. Salwa Gouda, whose expertise, understanding, and patience added substantially to our research experience. Her willingness to give her time so generously has been very much appreciated. She provided us with valuable guidance throughout our research process, constantly inspiring us to aim higher and guiding our intellectual growth with her insightful feedback and unwavering support. Her knowledge and logical way of thinking were of great help in pointing us towards the right direction whenever we felt stuck or overwhelmed by our studies. We are especially thankful for the flexibility and understanding she showed regarding our schedules and the numerous revisions she prompted us to make. Her constructive criticism pushed us to refine our work to a higher standard. This research would not have reached its completion without her exemplary dedication; it is with heartfelt gratitude that we acknowledge her contribution to our studies and to the completion of this project. Her encouragement to engage with a wide array of sources has enhanced the quality of our work. We would like to acknowledge the following key resources that have been instrumental in our research: [Insert specific books, articles, databases, and other materials used]. These sources provided essential information and perspectives that shaped our analysis.
Dr.Salwa's contributions were not just foundational in the academic sense but were also inspiring, pushing us to develop our capabilities further. We are truly thankful for her role in our academic journey.

Bibliography :

- Alan Turing , (1950). Computing Machines and Intelligence.
- Lijia Chen , Pinging Chen & Zhijian Lin school . (n.d.). Fuzhou university. Fuzhou, China.
- Carlos , R.C. , Kahn , C.E. & Halabi,s . (2018). Journal of the American college of Radiology.
- Amjad Almusaed , Ibrahim Yitmen & Raad Z.Homod. (2023, June 21). Enhancing student Engagement: Harnessing .
- Hinojo Lucena , F.J, Aznar Diaz , Càceres Reche , M.P & Romero Rodriguez, J.M. (2019). Artificial intelligence in higher education. A bibliometric study on its impact in the scientific literature and Education sciences.

- Jena , A.K. (2018). Predicting learning outputs and retention through neural network artificial intelligence in photosynthesis, transpiration and translocation. A sia- pacific forum on science learning and teaching.
- Khare , k. , Stewart , B. & Khare , A. (2018). Artificial intelligence and the student experience: an institutional perspective. IAFOR journal of Education.
- Margret ElBodn. (2018). Artificial intelligence. Oxford publishing house. (Page 1) .
- Stuart Russell. (2019) . Humanized artificial intelligence. (Page 16) .
- د.محمد عاطف غيث .(د.ت.) التعليم في القرن الحادي والعشرين : التحديات والفرص.
- الحسيني ، أسامة . (١٩٩٩). الذكاء الاصطناعي ومدخل إلي لغة لسيب. بيروت: دار الرتب .
- الشرقاوي ، محمد علي .(٢٠٠١). الذكاء الاصطناعي والشبكات العصبية. القاهرة : المكتب المصري الحديث .
- تأثير أساليب التعليم الحديثة علي مستوي الطلاب. (٢٠٢٣).مجلة التربية. العدد (٢٥).
- عبد السميع ، مصطفي . (٢٠١١). نظم التعليم بواسطة الحاسب . القاهرة : مركز الكتاب للنشر .
- موقع مبتعث للدراسات والاستشارات الأكاديمية. مقال : المنهج التجريبي .