

The Future of Management E-Learning under Artificial Intelligence Applications

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Abstract The research expects AI applications to play an important role in the educational process. The study addresses multiple types of algorithms and their functions in the teaching process. For the academic year 2023, the research was conducted according to the survey curriculum, and the place of study is the secondary administration of Baghdad governorate. In addition, 2024 represents the school community in terms of computer teachers at the secondary level, numbering about 410 teachers, 85 of whom were selected, while the research variable depends on each teacher's educational grade separately. (Qualified) and the second variable is also represented in (number of years of experience) based on their ability to properly complete the questionnaire created using two axes: "Degree of use of AI applications" in addition to "Challenges of use of AI applications." The survey indicated that the use of educational toys was the most common AI application in the study sample, while "converting printed images or handwritten texts into editable text files." "The use of artificial intelligence applications was the least popular. The main factors contributing to this were the idea that the use of AI applications in education required more work than traditional teaching methods, lack of technical assistance required, inadequate problem-solving skills in students, while the results showed that the availability of skills related to the use of AI applications by students (Planning for the lecture) was an average calculator of 3.07, while the other showed after implementation to an average arithmetic of 3.10, which means the importance of enhancing those skills before the implementation of AI. Accordingly, the recommendations for the study highlighted the importance of holding training courses on the use of AI applications for all parties



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1. INTRODUCTION

S The world has witnessed many years in the field of artificial intelligence, the effects of which have clearly appeared in many different fields, as the applications of artificial intelligence have overlapped in all fields, whether in medicine, engineering, investment, space sciences, communication,, etc.

This places on the cooperation of modern ministries of education great responsibilities in order to develop their policies, educational curricula and strategies to keep pace with the guidelines of the artificial revolution, which depends on the spark that lit the new educational spaces in the search for the richness of the culture of artificial intelligence and its text in theory and application in the various stages of learning.

This enrichment comes as a result of the fact that artificial intelligence will be the engine of progress, growth, and prosperity over the next few years, and it can also highlight innovations for a new world that may seem like a path of imagination, but current signs confirm that this world is near.

Therefore, integrating artificial intelligence into e-learning paved the way to understanding individual learning styles, preferences, and knowledge gaps, which in turn requires the

creation of e-learning platforms that customize content, pace, and assessments to meet the unique needs of each learner in order to contribute to increasing participation and improving its results. In addition to that, creating Chabot and virtual assistants loaded with many sufficient databases in order to provide the necessary information for each learner, which helps the learner to choose the optimal time that is appropriate for him in order to obtain the required information, and it can also expand the searches for information to a great extent. From a source via this technology.

1.1. Research Aims

The research deals with the impact of applying e-learning through the use of artificial intelligence applications. From this standpoint, the research is directed to the tools used in the learning and information gathering processes, which actually play a major role in providing data. An example of this is the chatpt application, which is one of the applications that contributes to providing a large amount of information and data. It is also intended to comprehend and react to human language in a way that is organic and human. Consider it as a chatbot or virtual assistant that can comprehend and react to spoken or written language. It may be used for a range of activities, including question answering, language translation,



and even creative writing. It was trained using a sizable dataset of text from the Internet. For instance, "it can be used in customer service to assist people with their questions, or in education to create an intelligent educational system that can understand and respond to student inquiries". However, some applications need to learn how to use them to achieve specific steps, but these applications lack some information, which It is similar to engineering programming learning or simulation, model design, and this involves the learner returning to the main source, which is the teacher, in order to obtain information that helps him in engineering designs. On the other hand, medicine does not provide artificial intelligence applications either, even if it has reached a tremendous level of development. Pathological information without resorting to practical examinations of patients, but it may contribute to diagnosing patients through medical machines designated for x-ray operations and determining some diseases and their extent of spread and size.

1.2. The study Problem

The study problem is summarized in many different points which we will continue to highlight according to the priority of each point individually. One of the biggest real problems is that with all these scientific and technological advances there is still a clear lack of expertise based on the applications of artificial intelligence in electron education from students and teachers. It is necessary to provide specialists with expertise in establishing the necessary training courses in order to familiarize the teacher and the student with the possibilities and advantages through which both the student and the teacher can work. While that and whatever development is indispensable to the role of the main teacher in the educational process, On the other hand, there are insufficient and upgraded computer labs within schools and universities to do so.

Through the above, the problem can be formulated as follows:

Are adequately experienced AI professionals available to establish AI application training courses?

Are computer labs available to teach and train students?

2. ARTIFICIAL INTELLIGENCE AND ITS APPLICATIONS

The phrase "artificial intelligence" first appeared in print in 1950, when scientist Alan Turing developed the Turing test, which determines a computer's level of intelligence based on its ability to mimic the workings of the human mind. Thus, Christopher Strachey, the chief of programming research, wrote the first artificial intelligence program. Until Anthony Qettinger at the University of Cambridge created a computer simulation experiment for a human person shopping in multiple stores, it was done at the University of Oxford to test the computer's learning capacity. This is the first successful experiment

involving machine learning [2]

The field of artificial intelligence saw a rapid acceleration at the start of the new century, leading to the release of interactive robots in retail stores. These included a robot that could interact with different emotions through facial expressions and other robots that could perform challenging tasks, like the Nomad robot, which finds meteorites and conducts exploration and search missions in remote areas of Antarctica [1].

Artificial intelligence is viewed as all systems or devices that mimic human intelligence to perform tasks, and that can improve themselves based on the information they collect. There are those who view artificial intelligence as a computing technology that helps computers learn from previous experiences and enables them to adapt. With new data inputs, it enables it to perform human-like activities [7]

Therefore, artificial intelligence is considered one of the branches of computer science and one of the basic pillars of the technology industry in our current era, which includes ways and means of manufacturing and designing smart devices and machines capable of thinking and acting like humans. Humans perform a variety of tasks that require intelligence, such as learning, planning, speech recognition, facial recognition, problem solving, perception, and rational and logical thinking. The machine becomes one of the elements that synchronizes with human thinking, and it can be said that it is a "thinking computer." A reading of this concept confirms that artificial intelligence is one of the most important future technologies ([8];[9]), with its impact and influence on aspects and sectors of life, making it an essential factor in shaping the nature and features of the future, and that it is a mistake to limit ourselves to the traditional interpretation of artificial intelligence that it is programmed to learn machines and computers to act on their own without prior human intervention, or with intervention. It is limited, but it is simply a lifestyle whose aspects become compared to the previous lifestyle like a meaningless comparison. The reading also confirms that there are two types of computers, one of which is a regular computer and the other is a computer that was created through artificial intelligence technology. A regular computer can perform many mathematical and programming operations according to pre-prepared commands and relatively fixed algorithms. As for the computer built with artificial intelligence technology, it is the computer capable of completing various tasks in a flexible manner similar to the human ability to be able to deal with data differently, as it can modify the data based on experience and experience to produce smarter and more flexible outputs, and solve problems in an innovative and creative way.

The reading also indicated that there are many types of artificial intelligence, which can be roughly divided into three stages:

First: weak artificial intelligence or narrow artificial intelligence, and there are many examples of this in Google searches, such as self-driving cars and even voice and artificial intelligence. Image recognition software or chess games on computers use narrow AI, machine learning, and deep learning extensively and are full of all kinds of exciting developments.



Second: General artificial intelligence, which is still under research, will create human-level intelligent machines that can perform any required task, and the artificial neural network method is one of its methods, which includes generating neural network systems. For machines that resemble the human brain. Third: Super artificial intelligence: It exceeds the level of human intelligence, is able to perform tasks better than humans with professional knowledge, and has the ability to learn, plan, communicate, and make judgments automatically, even if it is a hypothetical concept. This does not exist in our current era (analyticsinsight.net)

2.1. Applied Areas Of Artificial Intelligence

Artificial intelligence researchers are interested in creating new features and capabilities for computers so that students can perform certain services that did not exist previously. One day, these services will become familiar and do not require further research and development. Then the interest of artificial intelligence researchers will move to new horizons and fields and leave the rest of the old fields to engineers. And technicians. Artificial intelligence does not serve specific applications in the field of computers, but it is a new topic because it serves applications that are always on the edge of technology in general, and computer science in particular ([8];[9])

There is a great diversity in the applications in which artificial intelligence is used, as a result of the participation of large groups of researchers and scientists in the sciences of mathematics, computers, nature, psychology, linguistics, etc ([1];[7]).

Among the sub-fields of artificial intelligence technology that work in producing intelligent systems that achieve the qualities of thinking, vision, hearing, speech, and movement are the following :

- 1- Natural Language Processing
- 2- Computer vision
- 3- Speech Recognition Or Voic
- 4- Expert System
- 5- Intelligent Touring System
- 6- Robotics
- 7- Automated Theorem Proving
- 8- Multimedia [2].

2-2 Artificial Intelligence Also Varies According To The Functions It Performs Into Four Different Types That Can Be Summarized As Follows

Artificial intelligence for interactive machines, which is the simplest type of artificial intelligence, due to its lack of the ability to learn from previous experiences or experiences to develop future work, and the sufficiency of dealing with current experiences to produce them in the best possible form, such as Deep Blue devices that were developed by IBM and the AlphaGo system. Of Google.

1-Artificial intelligence with limited memory, which can store data from previous experiences for a limited period of time,

such as a self-driving system where the last speed of other cars, the distance of the car from other cars, the maximum speed limit, and other data necessary for driving across roads are stored.

2-Artificial intelligence based on the theory of mind, which is able to understand human feelings, interact with people and communicate with them, even if there are no practical applications for it currently.

3-Self-aware artificial intelligence, which indicates that many of the future expectations that they aspire to, such that machines develop self-awareness and special feelings that make them more intelligent than human beings, which does not exist in reality.

The current state of artificial intelligence in education:

Many different methods are currently being used through artificial intelligence to provide learning through robots that provide support to students throughout the entire day, to developing learning algorithms that adapt to the needs of students, while tools that operate on the artificial intelligence system are also used to automate administrative tasks, such as grading assignments. And to provide feedback. In addition, artificial intelligence is used to analyze large amounts of data to identify patterns and insights that can be useful in developing new educational strategies and policies, while there are many examples of successful educational tools and platforms that operate with the artificial intelligence system that are currently in use. Some of the most Popularity include:

Duolingo: It is one of the applications used in language learning and is supported by artificial intelligence algorithms to customize lessons for each user.

Aleks: It is a platform created for learning mathematics that is also supported by artificial intelligence and provides adaptive assessments and personalized learning plans.

Coursera: which uses artificial intelligence to recommend courses to students based on their interests and previous learning history.

“QuestionPro”: This is also a feature that allows you to create surveys and evaluations in seconds.

While there are many notable benefits from the uses of artificial intelligence in education, limitations and challenges must be addressed to ensure that all students have access to AI-powered tools and platforms, regardless of their socioeconomic status or location, in addition to concerns about biases and discrimination in education. Education.

2-3 The potential of artificial intelligence in education:

From virtual and augmented reality to customized learning algorithms, artificial intelligence has the potential to completely change the way we think about education. Artificial intelligence-driven tools and technology can offer a multitude



of benefits to students, including the opportunity to improve their learning experience in ways we never would have imagined possible. Among the many advantages of education is the potential to use artificial intelligence to personalize each student's learning process. In order to develop lesson plans and tests that are specific to each student's strengths and limitations, teachers might examine the performance statistics and preferences of their students. With its numerous educational uses, artificial intelligence has a wide range of applications as well.

One aspect of this work is that it facilitates the independence and productivity of individuals with special needs by applying the free "Artificial Intelligence to Assist the Blind" program, which was created by software engineer "Sakib Sheikh" and allows for the reading aloud of texts and the recognition of people and their emotions. who, having lost his sight at the age of seven, is directly aware of the misery endured by the blind and who is committed to leveraging technology—Microsoft Cognitive Services, Machine Learning apps, and Microsoft Cognitive Services APIs, in particular—to create a more inclusive society. When used in conjunction with Microsoft's Soundscape program, it may be turned on so that those who are blind or visually impaired can use three-dimensional sound to explore their surroundings.

In addition, artificial intelligence applications are utilized to assist underprivileged segments of society. For example, the Sage Foundation, in collaboration with the Seoul City Institute for Social Justice in South Africa, has developed an AI-supported program designed to assist victims of domestic abuse. The program involves interviewing victims of domestic abuse to gather information. Gain a better understanding of how to find help in South Africa, which ranks among the highest in the world for female homicide rates, and help marginalized groups understand their rights and support options available, and where they can easily access help.

One of the areas of its use is the field of machine learning, as one of the branches of artificial intelligence, which was introduced in 1959 by (Arthur Samuel). This means that the computer can become able to learn on its own from any previous experiences or experiences, which makes it able to predict and make the appropriate decision in an appropriate way. Fast, and this is done through developing algorithms that allow this, and discover patterns of data and information that the machine is exposed to

One of the aspects of employing artificial intelligence applications is the field of individual learning, or what is known as the individualization of learning, in order to take into account the natural differences between humans in talents, abilities, and skills, quantitatively and qualitatively, which result in differences among them in the ability and speed to learn in specific fields, such as understanding theoretical concepts and linking them, or visualization, Or memory, as well as memorizing terms, and in a way that helps in creating a

suggestion system that can predict the type of material that the learner will comprehend and increases the learner's percentage and increases his learning rate according to the highest level, and in a way that may help in each learner having his own educational path (separate curriculum and tests separated from others). In this regard, many leading companies in the field of artificial intelligence are working to solve this problem by providing an educational system that customizes the learning process according to the performance and skills of each individual learner, in what is known as specialization.

One of the areas of employing artificial intelligence applications is the field of electronic management of educational institutions, as it is a large source of data. It is based on institutional systems capable of managing employee data and storing it in the form of huge databases, which can be used to train huge neural networks that can predict weakness at the individual level of the learner, and deficiency. In material and human resources at the level of education before it occurs, which helps in making informational decisions regarding the educational institution, which increases the quality of educational outcomes and reduces costs, through storage, use and retrieval of numbers over previous years, and then predicting what the institution needs in terms of books and supplies. And others next year based on the expected number of students. One of the areas of employing artificial intelligence applications in the field of educational training and evaluation is that these applications are used to build websites and smart training programs that can identify and measure learners' methods and methods and evaluate what may be done electronically based on artificial intelligence applications in a way that eliminates many of the difficulties that face manual correction operations. And in an economical and fast way that does not cost time or effort, as specialized companies provide some programs that can conduct exercises and tests, correct answers, and inform students directly of their performance in them based on their performance, and do not stop at this, but artificial intelligence applications can identify the problem of learners' lack of understanding of each other. Questions, and the reason behind this is their inability to answer them.

Growing Interest In Artificial Intelligence In Education: 2-4

Through the many requirements required by the education process, in addition to the timely and appropriate process that may be compatible with the student's medical conditions, a person may not meet these requirements due to his inability to fulfill them. Here comes the role of artificial intelligence in order to improve the quality of education and provide the largest possible amount of information at the time. appropriate and appropriate for the student, so teachers seek to follow technology-enhanced methods to address these priorities that will be safe, effective, and scalable. Naturally, teachers wonder whether the rapid progress in technology in daily life can help teachers use artificial intelligence-supported services such as voice assistants in In their homes, and with tools that can



correct grammar and grammatical errors, complete sentences, and write essays, teachers also see opportunities to use AI-powered capabilities such as speech recognition to increase the support available to students with disabilities, multilingual learners (ANDREW TIMBRELL 7 MAY 2024), and others who could benefit from greater adaptability and personalization in Digital tools for learning, in addition to the process of searching for, selecting and adapting materials for use in explaining their lessons. Hence, some see the number of challenges and fears in order to maintain the privacy of data and information, and artificial intelligence can cause incorrect outcomes for the learner. From the above, we see that artificial intelligence is a double-edged sword that either provides correct and sound outputs that help the learner, or wrong outputs, through which the learner constructs incorrect ideas or information. From this standpoint, this department in particular must provide people with high experience and competence in the programming field. In order to explain how to use and inputs in each element separately in order to obtain sound outputs. For example, we may turn to artificial intelligence to try to know some physical symbols and what they are used for. We will notice the inability of artificial intelligence to provide all the information in its correct form, while we conclude that a machine that mimics human thinking and mind may not produce if the complete data that helps in it is not provided. Make the outputs correct.

The algorithms used by artificial intelligence to provide data are similar to the following:

One of the common algorithms in artificial intelligence that are used in education processes are machine learning algorithms. There are several types, including:

2-5 Classification Algorithms:

Classification Algorithms are computer tools used in the field of education to classify data and determine relationships between them. These algorithms aim to classify data into specific categories based on certain attributes, in order to better understand the data and extract knowledge from it. Classification algorithms are used in the field of education for many applications, such as improving the educational guidance system, analyzing student performance, directing students towards appropriate educational paths and classifying data into specific categories. For example, they can be used to classify students into certain levels based on their performance. Its use extends to identifying classifications for students and providing appropriate instructional guidance for each category. "Classification algorithms rely on advanced mathematical and statistical techniques to determine the relationship between data. Some of the most popular classification algorithms include: (Decision Tree Algorithm), (Neural Network Algorithm), (Support Vector Machine Algorithm), and others" [7].

2-6 Clustering Algorithms:

These are techniques in the field of computer science that are used to divide a set of data into subgroups, or "similar elements," based on common characteristics among these data. Dividing data into groups is used in many applications, including education and research.

These algorithms group data into similar groups based on common characteristics, which can be used to help understand patterns and similarities between students and separate them accordingly [4].

Clustering algorithms are used in student education for several purposes, including:

Performance analysis: Data segmentation is used to understand students' performance and identify areas where they may need additional support.

Sequencing optimization: Dividing students into groups is used to determine their proficiency and adjust the course of their studies.

Talent detection: Student segmentation is used to discover individual talents and abilities and direct them towards appropriate areas.

Improving interaction: Student division is used to create interactive groups that contribute to stimulating learning.

2-7 Artificial Neural Networks Ann

Artificial neural networks (ANN) are a computing model inspired by the structure and function of the human brain. These networks are composed of small computational units called neurons, which work together to process information in a manner similar to the human brain. Artificial neural networks are widely used in the field of education for students, as they are used in several scenarios such as predictive analysis, classification, and improving system performance[5]. These networks also imitate the design of brain functions to simulate the way individuals learn. They are also used in fields such as risk analysis, Data classification, behavior prediction, and image analysis. Neural networks are used in teaching students by providing interactive models to improve understanding of educational materials and provide accurate estimates of student performance. For example, ANN is used to identify the needs of each individual student and adjust the instructional approach accordingly. It is also used to create an automated grading system based on student performance on assignments and tests [6]. In addition, ANN is used to create interactive programs to improve thinking and problem-solving skills through continuous interaction with the student. Also, ANN is used to improve the guidance and counseling process to direct students towards appropriate majors based on their abilities and skills.

2-8 Natural Language Processing (Nlp) Algorithms

These algorithms represent a small part of a wide range of tools and techniques that can be used to improve learning and teaching processes in the educational context. Natural language

processing (NLP) algorithms are a set of technologies and methods that aim to enable computers to understand, analyze and produce human language naturally. In the field of education, NLP is widely used for students to improve the learning process and provide more effective educational experiences. Here is a detailed explanation of some NLP algorithms used in education [3].

Keyword Extraction: This algorithm is used to extract keywords from learning texts, which helps in understanding key topics and identifying important concepts.

Text Classification: This type of NLP algorithm is used to classify articles or text clips into different categories, for example, classifying educational articles according to educational level.

Text Generation: This algorithm is used to generate new texts automatically, for example, creating test questions or explanations of its interpretations.

Translation: This type of NLP algorithm is used to translate texts from one language to another, for example, study tips from one language to another.

Sentiment Analysis: This system is used in the NLP algorithm to reveal the users' opinion about a text, which expresses the feelings received from the individual towards the thing or service provided.

These tools and technologies are useful for enhancing learning processes and improving the learning experience for students in schools and universities.

Challenges And Concerns About Artificial Intelligence In 2-9 Education:

While there are many benefits to using AI in education, there are also ethical issues that need to be addressed. One of the biggest concerns is the potential for AI to perpetuate existing bias and discrimination in education. In addition, there are concerns about the impact of artificial intelligence on student privacy and data security. Teachers also cited the ability of Chabot's to provide meaningful answers to questions related to assessments and exams. It is often impossible to attribute these responses to a specific source, making plagiarism difficult to detect [1]. Another concern is that jobs in the education sector may be replaced as technology continues to advance. As many administrative tasks become automated, there may be fewer positions available for teachers and support staff. Ensuring equal access to AI education for all students is a challenge that must also be addressed. As the availability of online education

and online educational resources continues to increase, it is important to ensure that all students, regardless of socioeconomic status or location, have access to these resources [11].

3. 3- POSITIVE EFFECTS OF ARTIFICIAL INTELLIGENCE IN EDUCATION:

Modern technology and artificial intelligence applications provide tremendous opportunities to improve education and enhance the student experience. Among the positive effects of artificial intelligence in education:

Personalize learning: AI can provide personalized learning according to the needs and abilities of each student. Data is analyzed and relevant and appropriate educational resources are provided for each individual, which increases the effectiveness and effectiveness of the learning process. Improve performance assessment: Artificial intelligence can analyze student performance and provide comprehensive and detailed assessments. The strengths and weaknesses of each student are identified, which helps improve learning and achieve better results.

Promote creativity and innovation: Artificial intelligence can help motivate students and develop their creativity and critical thinking abilities. Artificial intelligence technologies can be used to create interactive and motivating learning environments that encourage students to think outside the box and develop innovative solutions.

3-1 Study methodology and procedures:

The study population consists of all computer and information technology teachers for the secondary stage in schools in the Baghdad region, Iraq, and they number (410) teachers.

While the study sample consisted of (95) computer and information technology teachers for the secondary stage of the 2024 academic year, in the city of....., the respondents to the study tools after excluding questionnaires with incomplete information, and keeping only those from the study population that fulfilled all their data.

The research sample was selected by a simple random method, which is a method in which every individual in society has the same opportunity to choose, without that choice being linked to the choice of another individual from society [2]. Table (1) shows the characteristics of the study sample in terms of qualifications and years of experience Table No. (2): Represents the stability coefficient of the tool and its axes



The main axes	Number of phrases	Stability coefficient
The first axis: Using artificial intelligence applications in education	11	0.85
The second axis: Challenges facing the use of artificial intelligence applications in education	12	0.91
Overall stability of the tool	23	0.88

Table (2) shows that the reliability coefficient for the tool's axes ranged between (0.85 - 0.91), and the overall reliability coefficient for the tool reached (0.88), which indicates the possibility of dealing with the tool with a high degree of confidence, because the reliability coefficient is higher than (0.87), and this is evidence of The reliability coefficient is acceptable ([4];[5]).

3-4 Search Application Procedures:

The study procedures consisted of the following steps:

- 1- Determine the themes of the study to answer its questions, in a way that is consistent with the reality of artificial intelligence applications in education and its circumstances in the Republic of Iraq, Baghdad Governorate, through a review of previous studies.
- 2- The questionnaire was chosen to include tools and phrases that are compatible with the desired goal in order to achieve the results of the study correctly, and after ensuring the validity of the questionnaire and the validity of its application.
- 3- The researcher designed the questionnaire, distributed it randomly, and sent it to the study population of secondary school computer teachers.
- 4- Transcribing the data and then analyzing and processing it statistically by using the arithmetic mean and standard deviation for each paragraph of the tool and for each of its axes.
- 5- Writing and discussing the results, in addition to writing recommendations and proposals.

STATISTICAL METHODS:

The data was processed using the Statistical Package for the Social Sciences (SPSS) program, as follows:
 Percentages and frequencies.
 Arithmetic averages.
 Standard deviations.
 The "Alpha Cronbach" equation to measure the stability of the resolution.

Conclusion:

Even while AI has the ability to completely change the way we look about education, there are still a lot of issues and problems that need to be resolved.

As artificial intelligence (AI) continues to advance and be incorporated into the present educational system, it is critical that researchers and developers keep investigating the possibilities of AI in education and seek to resolve any obstacles or worries that may surface. On the other hand, artificial intelligence, no matter how advanced its science is, can never, in any way, replace a person or the human mind, as it is a product of it and receives information through it. Therefore, the teacher, in any place or time, will remain the main and important source in education, specifically education. Which receives the practical, applied aspect, but on the other hand, artificial intelligence is considered one of the main factors contributing to the development of education, providing a wider scope for obtaining information, and also providing information throughout the day, which makes it easier for the student or learner to choose the appropriate time for him to obtain it. And also interaction and improvement. On the other hand, the long time that students spend in front of computers to obtain information may affect the mental and physical health of some of them.

Research Results And Discussion:

Answer To The First Question:

To answer the first question, which is: "What are the implications of using artificial intelligence applications in education from the point of view of computer teachers?" The arithmetic means and standard deviations were used to determine the degree to which computer teachers use the artificial intelligence applications mentioned in the study tool. Table (3) shows the arithmetic means and standard deviations for each item in the axis of the degree of computer teachers' use of artificial intelligence applications.



Table (3) : The degree to which computer teachers use artificial intelligence applications from their point of view.

No	Para	Average	standard deviation	Degree of use	Arrangement
1	Using educational robots as an educational means to facilitate education and develop the educational performance of learners.	1.53	0.474	very low	6
2	Highlight the strengths and weaknesses in learners' performance through smart assessment applications.	1.65	0.587	very low	5
3	The availability of smart adaptive learning to meet the educational needs of every learner.	1.39	0.412	very low	8
4	I provide appropriate solutions for learners with little experience through expert systems programs.	1.29	0.299	very low	10
5	The learner was given the opportunity to interact in the course, immerse himself, control and navigate within it using virtual reality technologies.	1.8	0.87	very low	2
6	Respond to learners' inquiries by employing smart Chabot's.	1.66	0.591	very low	4
7	Written texts in the course are converted into audio files through audio production applications.	1.48	0.452	very low	7
8	Summarize long texts accurately and in an easy-to-read manner using text summarization applications.	1.33	0.382	very low	9
9	Convert printed images or handwritten texts into text files that can be modified using character recognition and reading applications.	1.09	0.151	very low	11
10	Using smart educational games based on suspense, challenge, imagination, and competition in the educational process.	1.91	0.905	very low	1



11	Enhancing the explanation of various topics by adding an information layer, in multi-dimensional forms, to the digital content of the course through augmented reality applications.	1.75	0.604	very low	3
	the axes	1.52	0.153	very low

Table No. (3) shows the averages of the sample members responding to the study regarding the use of artificial intelligence applications from their point of view. It is clear that the averages range from (1.91) with a low degree to (1.91) with a very low degree, and no application received a very high degree in use. Rather, the degree of use of artificial intelligence applications ranges between low and very low. The results also indicate that the computer teachers among the sample members estimated the overall average for the axis of use of artificial intelligence applications at an arithmetic mean value of (1.52), which corresponds to a very low degree of use, which it indicates that computer teachers use artificial intelligence applications to a very low extent. While the highest average was for the paragraph “Using smart educational games based on suspense, challenge, imagination, and competition in the educational process,” with a very low score, the average for this paragraph was (1.91), while the other paragraphs achieved a very low score for the use of artificial intelligence applications, with an arithmetic average of (1.09).) for the paragraph “Converting printed images or handwritten texts into text files that can be modified using letter recognition and reading applications” to (1.80) for the paragraph “It gives the learner the opportunity to interact in the course and immerse himself, control, and navigate within it using virtual reality technologies.”

Due to the lack of training plans and ongoing development to use artificial intelligence techniques in education, as well as the inadequacy of educating specialists and teachers interested in the reality of local education about the foundations of scientific artificial intelligence and its practical application, joint programs and training courses and workshops with bodies specialized in applying artificial intelligence in education are deficiencies. The results of the educational process indicate that the degree to which instructors used artificial intelligence apps in the classroom was quite low.

Answer to the second question:

To answer the second question, which is: “What are the challenges facing the use of artificial intelligence applications in education from the point of view of computer teachers?” Arithmetic means and standard deviations were used to determine the degree to which the challenges mentioned in the study tool contributed to computer teachers not using artificial intelligence application techniques. Table No. (4) shows the arithmetic means and standard deviations for each paragraph of the axis of challenges facing computer teachers while using applications. artificial intelligence.

Table (4) : Challenges facing computer teachers while using artificial intelligence applications

No	PARA	Average	standard deviation	Degree of use	Arrangement
1	The belief that using artificial intelligence applications in education requires more effort than teaching in the traditional way.	4.5	0.49	Too High	1
2	Lack of necessary technical support as required	4.25	0.94	Too High	3
3	Lack of awareness of the importance of using artificial intelligence applications	3.78	1.15	High	7



4	Towards awareness of the importance of using artificial intelligence applications	4.21	0.87	Too High	4
5	Weak ability of learners to solve the problems they face while using artificial intelligence applications in education	3.49	1.25	High	11
6	The number of learners at a non-accredited university controlling the use of artificial intelligence applications in education	3.87	1.21	High	5
7	Weak learners' connection to new learning and their interaction with it	3.84	1.2	High	6
8	The large burden placed on teachers, which prevents them from using artificial intelligence applications in education	3.47	1.19	High	12
9	The overall financial cost of wing equipment for artificial intelligence applications	4.32	0.92	Too High	2
10	Lack of sufficient programs to use artificial intelligence applications in education	3.69	1.16	High	8
11	Lack of sufficient information for learning and training on the use of artificial intelligence in education	3.57	1.23	High	9
12	Not having enough time to use artificial intelligence applications during class	3.53	1.19	High	10
13	The Axes	3.79	0.57	HIGH	

Table No. (4) shows the averages of the sample members responding to the study on the challenges of using artificial intelligence applications according to their point of view, and from here it is clear that the averages range from (4.50) with a very high degree to (3.47) with a high degree, and no challenge received a low degree. Very high. Rather, it ranged between very high and high. The results also indicate that the computer teachers from the sample estimated the overall average for the axis of the challenges of using artificial intelligence applications with an arithmetic average value of (3.79), which corresponds to a high degree of agreement, which indicates The

computer teachers' point of view was that the challenges facing the use of high-impact artificial intelligence applications were.

Four items achieved a very high degree of being one of the challenges of using artificial intelligence applications for teachers. These items, according to the arithmetic mean, are respectively as follows: The belief that using artificial intelligence applications in education requires more effort than teaching in the traditional way, and a high financial cost. Accompanying the preparation of the classroom to use artificial intelligence applications, the lack of the necessary technical



support in the required manner, and the weak ability of learners to solve the problems they face while using artificial intelligence applications in education, the researcher explains that this is due to the recent use of these applications in the education system with a lack of awareness and lack of Seeking the assistance of experts in artificial intelligence applications in order to develop learning environments based on artificial intelligence under the supervision of the Ministry of Education, in an effort to create smart scientific environments that support teachers and facilitate their use of artificial intelligence applications, which is reflected in stimulating the minds of students.

As for the items with the lowest average, they were: "The large number of burdens placed on the teacher, which prevents them from using artificial intelligence applications in education," with a high degree, and an average of (3.47), and it was ranked (12), followed by "The number of learners in the classroom." It is not allowed to control the use of artificial intelligence applications in education." The score was high and the average reached (3.49), and it came in the rank (11). The researcher attributes this result to the large number of classes assigned to computer teachers during the week, as it amounts to twenty-four classes per week, which require... To be compensated if she participates in seminars and courses on artificial intelligence, in addition to other burdens that burden teachers outside of official working hours in terms of preparation, which reduces their desire to use artificial intelligence applications.

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