

Attitudes Of Faculty Members At Samarra University Towards Employing Artificial Intelligence Applications In The Educational Process

Abdul MUNEM Hasan Ahmed Ali.

College of Agriculture, University Of Samarra, Iraq

Email: moneim.h14@uosamarra.edu.iq

اتجاهات أعضاء هيئة التدريس في جامعة سامراء نحو توظيف تطبيقات الذكاء الاصطناعي

في العملية التعليمية.

عبد المنعم حسن احمد علي

كلية الزراعة/جامعة سامراء

المستخلص:

يهدف هذا البحث إلى التعرف إلى اتجاهات أعضاء هيئة التدريس في جامعة سامراء نحو توظيف تطبيقات الذكاء الاصطناعي في العملية التعليمية وتم اختيار كلية الزراعة في جامعة سامراء نموذجاً، ولتحقيق هذا الهدف استخدم الباحث المنهج الوصفي التحليلي وقد صمم الباحث استبانة كأداة بحث تكونت من (٢٠) فقرة تهدف للتعرف على اتجاهات أعضاء الكادر التدريسي في كلية الزراعة نحو توظيف تطبيقات الذكاء الاصطناعي في العملية التعليمية. وقد تم التحقق من الخصائص السيكومترية الخاصة بأداة البحث في جمع البيانات - صدقاً وثباتاً - قبل استخدامها. وطبق البحث على عينة قوامها (٤٠) عضواً من أعضاء الكادر التدريسي في كلية الزراعة/جامعة سامراء. ولتحليل بيانات البحث، استخدم الباحث التحليل الكمي باستخدام برنامج SPSS لتحليل بيانات الاستبانة وفق الإحصاء الوصفي، وقد تضمنت الاستبانة على محورين:

- المحور الأول: ما هي فوائد ومزايا توظيف تطبيقات الذكاء الاصطناعي في العملية التعليمية من قبل أساتذة كلية الزراعة؟
- المحور الثاني: ما هي التحديات والصعوبات المرتبطة بتوظيف تطبيقات الذكاء الاصطناعي في العملية التعليمية من قبل الأساتذة في كلية الزراعة؟
- أثبتت نتائج البحث أن هناك تحديات ومعوقات تواجه توظيف تطبيقات الذكاء الاصطناعي في العملية التعليمية في كلية الزراعة/جامعة سامراء، وبناء على هذه النتائج أوصى البحث الحالي بمجموعة من التوصيات منها:
- العمل على تقديم برامج تدريبية إلى أعضاء الكادر التدريسي في كلية الزراعة/جامعة سامراء تساعد على استخدام وتوظيف تطبيقات الذكاء الاصطناعي.
- العمل على تطوير مركز متخصص في استخدام تطبيقات الذكاء الاصطناعي في كلية الزراعة/جامعة سامراء مجهز بكافة الوسائل والتقنيات والأجهزة الحديثة. الكلمات المفتاحية: الاتجاهات، الذكاء الاصطناعي.

Abstract:

This research aims to identify the trends of faculty members at Samarra University towards employing artificial intelligence applications in the educational process. The Faculty of Agriculture at Samarra University was chosen as a model. To achieve this goal, the researcher used the descriptive analytical approach. The researcher designed a questionnaire as a research tool consisting of (20) paragraphs aimed at identifying the trends of faculty members at the Faculty of Agriculture towards employing artificial intelligence applications in the educational process. The psychometric properties of the data collection research tool have been verified - honestly and consistently - before its use. The research was applied to a sample of (40) members of the teaching

staff at the Faculty of Agriculture/University of Samarra. To analyze the research data, the researcher used quantitative analysis using the SPSS program to analyze the questionnaire data according to the descriptive statistics. The questionnaire included two axes:

- **The first axis: What are the benefits and advantages of employing artificial intelligence applications in the educational process by professors of the Faculty of Agriculture?**

- **The second axis: What are the challenges and difficulties associated with employing artificial intelligence applications in the educational process by professors in the Faculty of Agriculture?**

- The results of the research proved that there are challenges and obstacles facing the employment of artificial intelligence applications in the educational process at the Faculty of Agriculture /University of Samarra. Based on these results, the current research recommended a set of recommendations, including:

- Providing training programs for faculty members at the Faculty of Agriculture/Samarra University on the use and employment of artificial intelligence applications

- Work on developing a center specialized in the use of artificial intelligence applications in the Faculty of Agriculture/Samarra University equipped with all modern means, technologies and devices.

Keywords: Trends, Artificial Intelligence.

I. Introduction

Recent years have witnessed significant changes that have affected university education, increasing the need for artificial intelligence applications in education. There has also been a need to reskill to meet the demands of a changing labour market and support lifelong learning programmes. University education must update its programs and strategies to keep pace with recent developments, especially with the trend towards digital transformation and the use of distance education. However, universities face challenges in providing adequate computing capacity and the Internet scope necessary to run AI applications, which requires defining the requirements for employing these technologies in university education.

As rapid technological developments have become one of the most important challenges that attract the attention of the world around us, the most prominent of which is the question related to understanding the nature of the relationship between humans and machine intelligence, known as artificial intelligence, which includes all technologies that simulate the capabilities of human intelligence, especially with regard to its potential for inference and self-learning. With the repercussions of the Fourth Industrial Revolution on all societies, it is expected to increase reliance on the use of artificial intelligence applications in all fields, especially in the field of education. Universities are among the most important and best enlightenment and educational centers in civilizations, as they are enlightenment institutions and knowledge and scientific centers that give birth to societies, thinkers, writers, scientists and leaders in all fields and fields of science . This makes the student responsible for developing his skills, abilities and personality and pushes him to be a cognitive role model that seeks strongly and continuously to develop his abilities and vision to qualify him to participate in the advancement of society and address its issues according to a positive and growing doctrine that does not fossilize to take the hand of others towards the optimal use of technology technologies and its new challenges and qualifies to employ them in education processes "(Al-Jayyar,2020: 15).

Accordingly, the employment of artificial intelligence and its applications in the educational process has become an urgent necessity for all countries of the world to achieve the objectives of the teaching and learning processes and to make the most of them (Mahmoud,2020: 178).

Al-Kanaan (2021) indicates that artificial intelligence has made a strong revolution in the education sector, as it has become easy to create smart content from digital evidence in educational materials and textbooks to designing interactive digital learning platforms and sites at all levels and for all educational stages. In addition, AI technologies can be used in teaching activities, such as classifying homework, activities, grades, tests, and monitoring learners' progress (Al-Kanaan,2021: 410).

Artificial intelligence can open new horizons in education in all fields of knowledge, and this allows educators to seize these services and the unique advantages provided by artificial intelligence applications for educational purposes, and be keen to adopt them well, as they are used successfully in educational programs (Mahmoud, 2020: 179)

Many studies have shown the effectiveness of the use of artificial intelligence in the educational process, as in the study of (2019).Ocana et al. , Ping (2019), Husanein Abu (2018), Ciolacu et al Linet (2018) The results of

these studies have shown the positive impact of employing different applications of artificial intelligence in student education.

Therefore, the current study seeks to identify the most important advantages and advantages of employing artificial intelligence applications in the educational process, and what are the most important challenges and difficulties of employing artificial intelligence applications in the educational process by faculty members in the Faculty of Agriculture.

Second: Research Problem

Modern technologies are one of the most important factors reshaping the educational process, prompting educational institutions to adopt them to enhance the quality of learning. In light of the digital revolution and rapid technological progress, applications of artificial intelligence have emerged as one of the most important of these factors, as they contribute to improving the educational process and making a qualitative leap in teaching methods. Understanding the attitudes of faculty members towards employing artificial intelligence applications is essential to ensure the success of this digital transformation, as its effectiveness depends on their readiness and acceptance of these technologies, which makes studying their attitudes essential.

Several studies have confirmed the importance of artificial intelligence in education, such as the study of (Popenici & Kerr, 2017) and the study of Abdul Rahman , (2020). The study of (Subhi, 2020) also recommended the need to motivate faculty members to use modern artificial intelligence applications and provide the educational environment with the necessary devices to employ those applications in the educational process. From this point of view, this study sought to identify the trends of faculty members at Samarra University towards employing artificial intelligence applications in the teaching process. In light of the above, the research problem can be identified in the following main question:

What are the trends of faculty members at Samarra University towards employing artificial intelligence applications in the educational process?

This main question is subdivided into the following sub-questions:

- What are the benefits and advantages of employing AI applications in the educational process by professors of the Faculty of Agriculture?
- What are the challenges and difficulties associated with employing AI applications in the educational process by professors in the Faculty of Agriculture?

Third: Research Objectives:

- 1- Identify the concept of artificial intelligence applications and identify the advantages of using them in the teaching process.
- 2- Identify the most important difficulties and problems faced by faculty members in employing artificial intelligence applications in the Faculty of Agriculture / University of Samarra.

Fourth: The importance of research

1. The results of this research help to familiarize specialists with the reality of employing artificial intelligence applications in Iraqi universities.
2. The results of this research help heads of educational institutions to make positive and critical decisions about the need to employ artificial intelligence applications in universities.
3. This research may be the starting point for conducting many researches and studies on the subject of artificial intelligence applications .

Fifth: Research Limits:

Objective Boundaries: This study focuses on the subject of artificial intelligence applications and the most important features of their employment, as well as the most important challenges and difficulties that hinder their employment.

Time limits: This study was applied during the first semester of the academic year (2024-2025)

Spatial boundaries Samarra University/ Faculty of Agriculture.

Human Limits: The study was limited to a sample of faculty members at the Faculty of Agriculture /Samarra University

Sixth: Search terms

1- Trends

Rajeh knows the trend as an acquired emotional predisposition that is "relatively fixed, tends to the individual to certain topics, makes him accept them, prefer them, welcome them, love them, or lean them away from them, and makes him turn away from them, reject them, or hate them. (See,95:1973).

2- Artificial Intelligence

Al-Dahshan(2019) defines: It is the science of engineering intelligent machines and computer programs, as it is based on creating computer programs and devices capable of thinking the way the human brain works and simulating the actions of humans. (Al-Dahshan 2019: 23).

Theoretical framework and previous studies:

Conceptual Framework:

Theme 1: Artificial Intelligence:

1- Definition And Origin:

In 1956, the term "artificial intelligence" was associated with John McCarthy through a conference organized at Dartmouth College. Simultaneously, a plan for artificial intelligence known as the "Logical Theorist" was announced. By developing a program known as General Problem Solving, which has been commonly used to solve problems of all kinds, this program has been encouraged to consider proving calculus theories (2018Fahimirad, Kotamjani)

The 1960s are widely seen as the real beginning of the application of AI in AI systems. Attempts to apply these systems in accounting were significantly influenced by their successful application in medicine, engineering, chemistry, and other disciplines By the mid-1980s, systems of accounting expertise had been developed, with most focusing on management accounting (Ajam, 2018: 90).

2- Concept Of Strong Artificial:

The concept of artificial intelligence has recently received wide attention by decision-makers in various organizations, as interest in this concept has led many organizations to adopt it as a basic strategy to enhance their performance in order to ensure their survival and enhance their growth opportunities and profitability.

Starting before giving a specific concept of artificial intelligence, it should be noted that the basic principle on which the science of artificial intelligence is based does not lie in solving problems more quickly or in processing more data or in preserving as much information as possible that is derived from the human mind, but the most correct principle on which this field is based is actually the principle of processing information of whatever nature and size in an automatic or semi-automatic manner: (Deshpande, 2018:52) and is appropriate and compatible with a specific goal (called in short AL) (It is one of the sciences that resulted from the revolution in contemporary technology, it officially began in 1956 when the scientist (Alan Test) presented what is known as the (Turing Test), which means evaluating the intelligence of a computer and classifying it intelligently if it is able to simulate the human mind. (Mahmoud et al., 2021:746).

The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize or learn from past experience. Still, despite continuing advances in computer processing speed and memory capacity, there are as yet no programs that can match human flexibility over wider domains or in tasks requiring much everyday knowledge. On the other hand, some programs have achieved strong levels of performance to help humanity accomplish some of the tasks that elude them. In several areas, artificial intelligence technologies are used in transportation to manage traffic, predict flight delays, make sea freight safer and more efficient, and in medicine, currency, trade, education, and more. (A. Agresti, 2016).

3- Types Of Artificial Intelligence:

AI can be divided into three basic types, from simple reflexes to perception and self-activity as follows (Khalifa, 2012: 75):

- **Narrow AI:** It is the simplest type of artificial intelligence, programmed to perform certain functions in a certain environment, and its behavior is considered a response to a certain situation, and it can only work in its own environment.
- **Global or powerful AI:** It is characterized by the ability to collect information, analyze it, and compile experiences from acquired situations, so that you are qualified to make independent decisions.
- **Super Artificial Intelligence:** These are still proven models, and the simulations aim to find humans and can distinguish between two different modes. The first is to try to understand human thoughts and emotions that affect human behavior, and the second is the theory of the mind model.

These models can express their inner state and predict and interact with the feelings and attitudes of others, the next generation of super-intelligent machines. (Al-Mutairi,2022: 152)

4- General Characteristics of Artificial Intelligence:

1. Use intelligence to solve different problems.
2. The ability to think and perceive.
3. Ability to acquire and apply knowledge.
4. Using old experiences and employing them in new situations.
5. Ability to learn and understand from previous experiences and experiences.
6. Ability to deal with difficult and complex situations.
7. Ability to respond quickly to new situations and circumstances.
8. The ability to deal with ambiguous situations in the absence of information.
9. The ability to visualize, create, understand and perceive visual matters. (Al-Yazzy,2019),

5- Artificial intelligence models that can be employed in education:

Among the most important models of artificial intelligence that can be employed in teaching (according to 2023):

- **Robotics:** They are machines based on artificial intelligence systems that are programmed to perform multiple and different tasks and actions according to the educational situation faster, more efficiently and safely than humans , by understanding the surrounding environment and responding to external factors.
- **Intelligent Tutoring Systems:** Intelligent teaching systems that are computer-based and provide individualized guidance to each learner, operated and developed on the assumption that one-on-one learning is more effective than group learning approaches in the classroom.
- **Expert Systems:** The most powerful systems based on artificial intelligence technologies, they are systems that simulate the performance of expert human decision-making in a particular field and can integrate with information systems to improve their accuracy and performance.
- **Adaptive Learning Systems:** These are formative and corrective automated systems that can modify and adapt themselves to suit individual learners' characteristics, needs and preferences, and provide adaptive learning environments for learners to acquire knowledge and skills individually.

6- Artificial intelligence models that can be employed in education:

(Taha,2021) states that artificial intelligence varies according to the functions it performs into four different types that can be limited to:

1. **Artificial intelligence for interactive machines:** It is the simplest type of artificial intelligence because it lacks the ability to learn from previous experiences or past experiences to develop future business, and it is content to deal with current experiences to get them out in the best possible way, such as Deep Blue devices developed by IBM , and Google's Alpha Go system.
2. **Artificial intelligence with limited memory:** It can store the data of previous experiences for a limited period of time such as an autonomous driving system.
3. **Artificial intelligence based on the theory of mind:** It is the one that can understand the machine of human feelings, interact with people and communicate with them, even if there are no practical applications for it currently.
4. **Self-aware artificial intelligence:** It refers to the future expectations to which it aspires so that machines have self-awareness and special feelings that make them more intelligent than the human being, which does not exist realistically.

7- Areas of employment of artificial intelligence applications in education:

The employment of artificial intelligence applications in the educational process is new and the focus of attention of many researchers, as Taha(2021) and Shaltut(2023) point out that artificial intelligence applications in education are emerging and are new to practitioners in each of the four main educational areas of learning, teaching, evaluation and management.

1. **Employing AI applications and roles in learning:** Distributing tasks in light of individual competence, providing human-machine conversations, and analyzing students' work in order to provide feedback and increase the cost of adaptation and interaction in digital environments.

2. **Employing AI applications and roles in teaching:** providing adaptive teaching strategies, enhancing teachers' teaching capacity, and supporting teachers' professional development.

3. **Employing AI applications and roles in assessment: Providing electronic correction, and predicting future student performance.**

4. **Employing applications and roles of artificial intelligence in educational administration:** It is to improve administrative performance and various administrative platforms, provide appropriate and personal non-academic and academic services and support educational decision-making.

8-The importance of employing artificial intelligence applications in university education:

Artificial intelligence is one of the most important modern technologies that have brought about a great transformation in education, as it contributes to improving the quality of teaching and providing a customized and effective learning environment, including:

A- Personalized Learning:

Artificial intelligence allows each student to customize the learning experience based on their performance and needs by analyzing student data and providing customized learning paths, which improves the absorption and increase of academic achievement. (Zawacki, et al. 2019).

b. Automatic assessment and feedback: Teachers face a significant challenge in marking tests and providing feedback individually to each student. AI helps automate assessment processes, whether through automatic correction of multiple-choice tests or analysis of textual answers using natural language processing. For example, some AI systems such as Grammarly and Turnitin rely on text analysis techniques to provide immediate feedback to students about their writing, which increases the efficiency of faculty members.

C - Smart aids and interactive chat:

AI technologies provide virtual assistants such as Chatbots that help students answer their questions at any time without the need for teacher intervention. These systems improve the learning experience by providing immediate answers, and guiding students (Chen, et al., 2020)

D- Data analysis and decision making:

Educational institutions use artificial intelligence to analyze student data with the aim of improving curricula and teaching methods through big data analysis. Intelligent systems can identify students' behavioral patterns, predict performance levels, and provide targeted educational strategies to improve academic results (Lu et al,2021).

E- Improving interaction using modern technologies:

Artificial intelligence improves the learning experience by integrating virtual reality (VR) and augmented reality (AR) technologies, providing interactive learning environments that simulate reality.

F- Promoting innovation in university education:

- **Scientific Research:**

Artificial intelligence contributes to the acceleration of research processes through data analysis tools (Luckin, et al., 2016)

- **Curriculum Design**

A study (2019 Holmes et al.) Artificial intelligence helps universities design curricula that are in line with labor market requirements.

G- Facing contemporary challenges:

- **Crisis Management:**

During the Corona pandemic, a study (2020, Chen, et al) showed. that AI has helped support distance education by analyzing student behavior and improving the online learning experience.

- **Enhancing skills**

A study (2019 .Zawacki-Richteretal.) that AI contributes to preparing students for the job market by providing learning environments that enhance critical thinking and analysis skills.

H- Enhancing student participation:

A study (2020, Chen et al.) showed that virtual reality and augmented reality supported by artificial intelligence make education more attractive to students, which enhances students' participation and motivation to learn.

8-The importance of artificial intelligence applications in improving learning outcomes:

Artificial intelligence technology has become an essential part of daily life in many fields, including education. The application of artificial intelligence in the field of education is one of the most important developments in the modern era, as it contributes significantly to improving learning outcomes by customizing education and

providing innovative ways to deliver content. Through technologies such as machine learning and intelligent data analysis, artificial intelligence can provide effective solutions to improve students' understanding and interaction, which helps to enhance educational achievement and develop their skills in a way that suits their individual needs.

Artificial intelligence plays a pivotal role in improving learning outcomes through several mechanisms (Eguchi et al., 2021), including:

1. **Customizing learning:** AI improves the learning experience by adapting learning content and methods to each student's needs, analyzing their data, and assessing their abilities and preferences; enabling the delivery of personalized learning and immediate support in line with their individual potential
2. **Providing advanced educational resources:** Artificial intelligence can process huge amounts of information and compile educational content from a variety of sources, which contributes to the development of advanced educational platforms that include virtual reality and augmented reality simulations, interactive educational games, and content tailored to each educational level.
3. **Data analysis and evaluation: Artificial intelligence allows** accurate analysis of educational data, enabling it to provide a comprehensive assessment of students' performance, identify their strengths and weaknesses, and identify their individual educational needs. It also provides immediate feedback and guidance to students and teachers, helping to improve performance and enhance learning effectiveness.
4. **Promoting effective communication:** Artificial intelligence facilitates communication between students, teachers and educational institutions, by providing interactive platforms that enhance cooperation and enable the effective exchange of resources and knowledge, which supports a participatory learning environment.
5. **Promoting continuous learning:** Artificial intelligence supports continuous learning and professional development for both teachers and learners by providing updated educational resources and dedicated professional guidance that helps develop teaching and learning skills in line with educational and technological developments.

9- Advantages of using artificial intelligence applications in teaching:

With the rapid technological progress, artificial intelligence has become one of the effective tools in the development of the educational process, as it has provided unprecedented opportunities to improve the quality of teaching and facilitate learning. Artificial intelligence applications have contributed to providing smart solutions that help teachers and students achieve more effective educational outcomes, by automating tasks, customizing educational content, and providing interactive learning environments.

Thanks to these applications, it has been possible to accurately analyze the performance of students and identify their strengths and weaknesses, which helps to design more appropriate educational strategies. These technologies also contribute to reducing the burden on teachers and reshaping traditional teaching methods in line with the needs of the digital age. According to (2020, Aldosari), the use of artificial intelligence in teaching achieves many benefits, the most prominent of which are:

1. Ability to automate basic tasks in education, such as marking tests and monitoring scores; saving teachers time and effort.
2. Assist in identifying aspects that need to be developed within the curriculum, as these systems contribute to monitoring educational gaps and working to address them.
3. . Providing a more interactive learning environment through trial and error-based learning techniques, which reduces the feeling of fear during learning.
4. Make a change in the role of the teacher, as technological developments affect the nature of his tasks and teaching methods.
5. Reshaping the learning environment, both in terms of place and in terms of the teaching process, as well as influencing the methods of acquiring basic skills.
6. Analyze students' weaknesses and provide customized educational plans to fill knowledge gaps in areas such as interpretation, jurisprudence, and doctrine
7. Providing an interactive learning environment through simulations and educational games, which encourages students to interact with religious content in an interesting way
8. Strengthening the role of the teacher by making him/her a guide and facilitator of the educational process rather than limiting himself/herself to conveying information, which allows him/her to focus on educational and guidance aspects.

9. Reshaping the learning environment so that learning becomes more flexible, by making content available via artificial intelligence applications, allowing students to learn at any time and place and according to their individual abilities.

10-The most important challenges facing the investment of artificial intelligence in various educational institutions:

The challenges of using artificial intelligence applications in university education Despite the advantages of artificial intelligence, there are many challenges facing the use of its applications in education, as follows:

1. **Legal and ethical challenges:** The use of artificial intelligence applications in university education raises many ethical concerns, which has placed university education in front of ethical challenges that the world has never seen before, which may have a real impact on higher education. Neutral algorithms pose one of the most important ethical challenges, especially if they are used in admission or evaluation processes (Slimi & Carballido, 2023), which can expose learners to biased results based on their personal characteristics. In addition, legal and ethical challenges related to privacy and security of learners' data and other legal challenges related to plagiarism, intellectual rights, and copyright.

2- **Financial challenges and funding difficulty:** Lack of funding hinders universities' efforts to prepare and equip modern classrooms, weakens their ability to purchase applications and educational programs based on artificial intelligence and hinders the provision of training requirements, technical support and continuous maintenance (Konecki et al, 2023:137). This limits the ability of universities to employ AI applications in the educational process.

3- **Challenges related to infrastructure:** These challenges are represented in the shortcomings in the provision of modern classrooms, in addition to the weakness of the Internet and wireless communications, and the deficit in computers and advanced software that support the employment of artificial intelligence applications in university education (Abdul Rahim and Hassaain,320:2022).

4- Challenges related to qualification and training The challenges related to qualification and training vary, including the lack of the necessary skills that enable faculty members to use artificial intelligence applications in education effectively (2024:183, Rakuasa et al.). In addition to the shortage of experts and qualified cadres capable of providing training and continuous maintenance.

Previous Studies:

1- A study (2017) Popenici & Kerr : It aimed to identify the emergence of artificial intelligence and its use in teaching and learning in higher education, and ways to integrate technology in student education, and reached the importance of artificial intelligence in guiding scientific research in higher education, and that the adoption of this modern technology supports teaching, education and management in universities as well as directing scientific research.

2- Shaaban Study (2021): It aimed to employ artificial intelligence applications in higher education, by reviewing the concept of artificial intelligence, its characteristics, reasons for interest in it, its positive effects on education, its applications in higher education and the most important challenges facing these applications in education. The study used the descriptive approach in collecting and analyzing everything related to artificial intelligence. It concluded that many applications of artificial intelligence can be used in higher education.

3- Waldockery study (2023): This study aimed to find out the opportunities and challenges of using artificial intelligence applications in developing the teaching skills of faculty members in the faculties of engineering in Yemeni universities. The researchers used the descriptive analytical approach. The study tool was a questionnaire that was applied to a random sample of faculty members in the faculties of engineering in Yemeni universities in Ibb. The results of the study showed a set of challenges, including the weakness of the infrastructure necessary to use artificial intelligence applications in the faculties of engineering in Yemeni universities, in addition to the lack of training of faculty members, and the lack of confidence in artificial intelligence outputs.

Research procedures:

1- **Research Methodology:** The researcher used the descriptive analytical method.

2- **Research community:** The research community was damaged by all members of the teaching staff at the Faculty of Agriculture, Samarra University during the academic year (2024-2025).

3- **Research sample:** To ensure the homogeneity of the research sample, the researcher selected (20) male teaching staff at the Faculty of Agriculture at the University of Samarra. In addition, (20) female teaching staff were selected, bringing the total sample of the study to (40) participants distributed by gender

Table No. (1) Distribution of the research sample by gender and specialization variable

| Variables | Gender |
|----------------|--------|
| Male members | 20 |
| Female members | 20 |
| Total | 40 |

4- Search Tool:

- To achieve the objectives of the study, the questionnaire was used as a data collection tool. The questionnaire items were formulated according to Likert's five-point hierarchy. The questionnaire was prepared in the first form and consisted of two axes:

- The first axis: What are the advantages and positives of employing artificial intelligence applications in the educational process by members of the teaching staff in the Faculty of Agriculture. This axis consists of (10) paragraphs.

- The second axis: What are the challenges and difficulties of employing artificial intelligence applications in the educational process by members of the teaching staff in the Faculty of Agriculture. This axis consists of (10) paragraphs.

Table (2) Cronbach's alpha stability coefficient for the questionnaire axes

| Questionnaire axes | Number of Clause | Cronbach alpha stability coefficient |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------------------|
| first axis: What are the advantages and positives of employing artificial intelligence applications in the educational process by members of the teaching staff in the Faculty of Agriculture. | 10 | 0.87 |
| the second axis: What are the challenges and difficulties of employing artificial intelligence applications in the educational process by members of the teaching staff in the Faculty of Agriculture. | 10 | 0.85 |

Results:

-Presentation and discussion of the results related to the first question: What are the advantages and positives of employing artificial intelligence applications in the educational process by members of the teaching staff in the Faculty of Agriculture.

To answer this question, the researcher calculated the arithmetic mean and standard deviations of knowledge. The answers of the research sample on the advantages and positives of employing artificial intelligence applications in the educational process.

Table No. (3) The arithmetic means and standard deviations of the answers of the study sample on the advantages and advantages of employing artificial intelligence applications in the educational process.

| Order of the paragraph after the questionnaire statistical processing | Paragraph | arithmetic mean | standard deviation |
|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------|--------------------|
| 6 | Use of "artificial intelligence applications" contribute to overcoming the problem of the shortage of teachers. | 4.71 | 0.66 |
| 8 | Use of "artificial intelligence applications" can help students learn anytime and anywhere in the world. | 4.68 | 0.58 |
| 1 | "Artificial intelligence applications" help improve the quality of the educational process in universities. | 4.66 | 0.68 |

| | | | | |
|----|----|---------------------------------------------------------------------------|------|------|
| 4 | 4 | ificial intelligence applications" provide feedback teachers and students | 4.59 | 0.63 |
| 3 | 5 | AI Apps Helps Increase Self-Learning Opportunity for Students | 4.52 | 0.72 |
| 2 | 6 | I applications help fulfill course requirements in universities. | 4.51 | 0.75 |
| 7 | 7 | ificial intelligence applications" help to evaluate students objectively | 4.50 | 0.74 |
| 10 | 8 | plications help simplify students' complex scientific concepts. | 4.48 | 0.73 |
| 9 | 9 | I applications help teach courses in universities | 4.46 | 0.83 |
| 5 | 10 | ificial intelligence applications" help students with special needs. | 4.44 | 0.84 |

- Presentation and discussion of the results related to the second question: "What are the challenges and difficulties of employing artificial intelligence applications in the educational process by members of the teaching staff in the Faculty of Agriculture."

To answer this question, the researcher calculated the "arithmetic mean and standard deviations of the research sample's answers about the problems and difficulties of employing artificial intelligence applications." In the educational process

Table No. (4) Arithmetic means and standard deviations of the responses of the study sample for: " What are the challenges and difficulties of employing artificial intelligence applications in the educational process by members of the teaching staff in the Faculty of Agriculture "

| Order of the paragraph in questionnaire | Paragraph order after statistical processing | Paragraph | Arithmetic (mean) | Standard deviation |
|-----------------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------|
| 7 | 1 | lack infrastructure supporting AI applications in universities | 4.63 | 0.61 |
| 3 | 2 | lack of good knowledge of artificial intelligence applications among university teachers | 4.62 | 0.62 |
| 6 | 3 | lack of training for faculty members on how to employ artificial intelligence applications in the teaching process | 4.60 | 0.75 |
| 8 | 4 | insufficient cadres specialized in the use and maintenance of devices for the employment of artificial intelligence in universities | 4.58 | 0.72 |
| 10 | 5 | inability of universities to provide financial incentives. Main reason why teachers are reluctant to employ AI applications. | 4.57 | 0.70 |
| 9 | 6 | lack of applications in Arabic related to artificial intelligence applications in universities | 4.56 | 0.71 |
| 2 | 7 | lack of technical support for the successful use of artificial intelligence applications in the teaching process in universities | 4.56 | 0.72 |
| 4 | 8 | excessive use of artificial intelligence applications represent an additional burden on university teachers | 4.46 | 0.90 |
| 1 | 9 | lack of teaching skills for employing artificial intelligence applications in universities | 4.45 | 0.66 |
| 5 | 10 | excessive use of artificial intelligence applications hinders the completion of teaching courses according to the set time | 4.42 | 0.88 |

- Discussion on The Research Findings:

With the help of research questionnaires, a number of findings related to current research areas were identified, namely:

- Regarding the first axis of the research: "What are the advantages and positives of employing artificial intelligence applications in the teaching process by faculty members in the Faculty of Agriculture": The results of the study revealed the most important of these advantages: The use of "artificial intelligence applications contributes to overcoming the problem of the shortage of teachers. Table (3), as well as the fact that the use of "artificial intelligence applications" can help students learn at any time and anywhere in the world. Table (3), as well as artificial intelligence applications help improve the quality of the educational process in universities., Table No. (3), in addition to artificial intelligence applications that provide feedback to teachers and students, Table No. (3), as well as the use of "artificial intelligence applications help to increase self-learning opportunities for students, Table No. (3).
- As for the second axis of the research: " What are the challenges and difficulties of employing artificial intelligence applications in the teaching process by faculty members in the Faculty of Agriculture": The results of the study revealed the most important of these problems: the weakness of the infrastructure supporting artificial intelligence applications in universities. Table (4), as well as the lack of good knowledge of artificial intelligence applications among university teachers, Table (4), as well as the lack of training for faculty members on how to employ artificial intelligence applications in the teaching process, Table (4), in addition to the insufficiency of specialized cadres in the use and maintenance of devices for employing artificial intelligence applications in universities, Table (4), as well as the inability of universities to provide financial incentives is the main reason for the reluctance of teachers to employ artificial intelligence applications. Table (4).

Ninth: - Recommendations:

- 1- Working to provide Internet services at appropriate and continuous speeds in the computer laboratories of universities
- 2- Raising the awareness of university professors of the importance of employing artificial intelligence applications in the teaching process.
- 3- Encouraging colleges and universities to provide a financial reward to faculty members in the event of employing artificial intelligence applications.
- 4- Conducting training courses to qualify and train faculty members in universities to employ artificial intelligence applications.
- 5- Conduct more research and studies on the employment of AI applications in other academic settings

Sources:

1. Al-Jayyar, Salwa Ali Ibrahim: Recent Trends in Research on the Impact of Artificial Intelligence on the Media Product Journal of Public Relations Research Middle East Special Issue/ 35, p. 11 October
2. According to Alia Abbas Mohammed (2023), the awareness of social studies teachers of the applications of artificial intelligence in teaching, Journal of Research in Education and Psychology, Faculty of Education, Minya University, 38, 4,Part 2, 1-44.
3. Khalifa, Ihab (2018) Opportunities and Threats of Artificial Intelligence in the Next Ten Years, Journal of Events (27).
4. Al-Dahshan, Jamal Ali (2020) Arabic Language and Artificial Intelligence: How can artificial intelligence technologies be used to enhance the Arabic language?, Educational Journal, Faculty of Education, Sohag University, 73 (9) , 1-9.
5. Rajeh, Ahmed Ezzat: The Origins of Psychology, The Modern Egyptian Office, Alexandria, 1973, p. 95
6. Shakra, Fouad Naji, and Al Dokri, Ali Hassan (2023). Opportunities and challenges of using artificial intelligence applications in developing teaching skills for faculty members in faculties of engineering in Yemeni universities. YES Journal of Engineering Scieuer Dhamar University,2(2)
7. Shaaban, Amani Abdul Qader Mohammed (2021) Artificial Intelligence and its Applications in Higher Education Educational Magazine on April 10 (18) , Faculty of Education, Sohag University
8. Shaltut , Muhammad (2023) : Applications of Artificial Intelligence in Education , Riyadh : King Fahd National Library

9. Al-Subhi, Sabah Abdul Raja (2020) The Reality of Faculty Members at Najran University Using Artificial Intelligence in Education, Journal of the Faculty of Education in Educational Sciences, vol. 11, Ain Shams University - Faculty of Education, 368-319.
10. Taha ,Magdy Salah (2021) : Education and the Challenges of the Future in the Light of the Philosophy of Artificial Intelligence, Journal of Teaching Technology and Digital Learning, Egyptian Association for Technological Development, Part (2) , p. 5) , pp. 140-970.
11. Abdul Rahman, Maryam Shawky (2020) Applications of Artificial Intelligence and Acceleration in the Process of Education Patch, First International Conference under the title of Digital Education in Light of the Corona Pandemic, August 15, Supplement to the Journal of the Iraqi University, Issue (15/2), Iraqi University.
12. Abdul Rahim, Mohamed Abbas, and Hassanein Alaa Ahmed. (2022). Proposed scenarios for digital transformation in Egyptian university education using artificial intelligence applications. *مجلة العلوم الفيوم جامعة مجلة والنفسية التربوية*
13. Ajam, Ibrahim Mohammed (2018). Artificial Intelligence and its Implications for High-Performance Organizations: An Exploratory Study at the Ministry of Science and Technology. Journal of Management and Economics, Al-Mustansiriya University, 21 (110), 88-102
14. Al-Kanaan, Huda Muhammad Nasser (2021) The level of awareness of pre-service science teachers by employing artificial intelligence applications in science education. Journal of Education, Al-Azhar University, (191), Volume 3, 409 - 429.
15. Mahmoud, Iman Abdel Wahab (2020). The impact of the interaction of some artificial intelligence systems and the academic level on the self-awareness and quality of life of a sample of students of the age group (16-17) Arab studies in education and psychology 1 (119), 259-298
16. A. MEHMOOD ET AL. Developing a Proposed Model on Artificial Intelligence and Its Effectiveness in Developing Programming Skills among Students of the University College of Science and Technology in Khan Younis, Journal of the Islamic University for Educational and Psychological Studies, 29 (2) 743-772
17. Al-Mutairi, Alia Zaid (2022). The impact of an e-learning environment based on artificial intelligence on the development of e-learning skills among female students of the Faculty of Education at Umm Al-Qura University. Journal of Curriculum and Teaching Methods, Volume 1 (7) , 145 176.
18. Al-Yazzi, Faten Hassan (2019). Using Artificial Intelligence Applications in Support of University Education in the Kingdom of Saudi Arabia, Arab Studies in Education and Psychology, (112)257-282.
19. A. Agresti. (2016). Categorical data analysis. Statistical Papers. 57 (2016). pp. 849. 10.1007/s00362-015-0733-8
20. Abu Husanein, H. (2018). An Intelligent Tutoring System for Developing Education Case Study (Israa University). Athesis Submitted for the Degree of Master. Al-Zhar University Gaza
21. Aldosari, S. A. M. (2020). The future of higher education in the light of artificial intelligence transformations. International Journal of Higher Education, 9(3), 145-151.
22. Chen, X., Xie, H., Zou, D., & Hwang, G. (2020). Application and theory of artificial intelligence in education. Educational Technology & Society, 23(4), 23-36.
23. Ciolacu, M. , Tehrani,A. F., Binder, L. & Svasta, p.m. (2018). Education 4.0 - Artificial Intelligence Assisted Higher Education: Early recognition System with Machine Learning to support Students' Success, "IEEE 24th" International Symposium for Design and Technology in Electronic Packaging (SIITME), Iasi, Romania, 2018, pp. 23-30
24. Deshpande, Anand, and Manish Kumar. "Artificial Intelligence for Big Data: Complete guide to automating Big Data solutions using Artificial Intelligence techniques." (2018).
25. Eguchi, A., Okada, H., & Muto, Y. (2021). Contextualizing AI education for K-12 students to enhance their learning of AI literacy through culturally responsive approaches. KI-KünstlicheIntelligenz, 35(2), 153-161.
26. Fahimirad, M., & Kotamjani, S. S. (2018). A review on application of artificial intelligence in teaching and learning in educational contexts. International Journal of Learning and Development, 8(4), 106-118.
27. Holmes, W., Bialik, M., & Fadel, C. (2019). Artificial Intelligence in Education: Promises and Implications for Teaching and Learning. Center for Curriculum Redesign.
28. Konecki, M., Konecki, M., & Biskupic, I. O. (2023) Using Artificial Intelligence in Higher Education. In CSEDU (2). -141

29. Lu, H., Li, Y., Chen, M., Kim, H., & Serikawa, S. (2021). Brain intelligence: Go beyond artificial intelligence. *Artificial Intelligence Review*, 54(2), 1053-1075.
30. Luckin, R., Holmes, W. Griffiths, M., & Forcier, L. (2016). *Intelligence Unleashed: An Argument for AI in Education*. Pearson Education.
31. Ocaña, Y., Valenzuela, L. A. & Garro, L. L. (2019). Artificial Intelligence and its Implications in Higher Education, *Propósitos y Representaciones*, 7(2), 536-568.
32. Ping Mu.(2019). Research on Artificial Intelligence Education and Its Value Orientation.1 st International Education Technology and Research Conference (IETRC2019), 771- 775.
33. Popenici, S. & Kerr, S. (2017). Exploring the Impact of Artificial Intelligence on Teaching and Learning in Higher Education. *Research and Practice in Technology Enhanced Learning*, 12(1), 22.
34. Rakuasa, H., Faris, D. A., & Hidayatullah, M. (2024). Transforming Education in the Age of Artificial Intelligence: Challenges and Opportunities in Indonesia, A Literature Review. *Journal Education Innovation (Jei)*, 2(1), 180-186.
35. Slimi, Z., & Carballido, B. V. (2023). Navigating the Ethical Challenges of Artificial Intelligence in Higher Education: An Analysis of Seven Global AI Ethics Policies. *Tem Journal*, 12(2), 590-601
36. Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education. *International Journal of Educational Technology in Higher Education*, 16(1), 1-27.