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The Role Of Artificial Intelligence In Improving The Quality Of Higher Education (E-Learning Platforms) -A Field Study At The Higher Normal School Of Technological Education Of Skikda– Algeria –

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Abstract:
Artificial intelligence has revolutionized various fields and has got into many aspects of our daily lives, with widespread internet applications, smartphones and even home appliances. It is starting to make the same influence in education and research, in which AI is a rapidly evolving field that will provide strong potential to expand teaching, enhance learning in higher education and support scientific research.

Artificial intelligence is one of the industrial revolution fields of the fourth generation, which aims to integrate technology into various sectors to continuously improve and develop performance. This concept relies on the shared capabilities of all robots and the capabilities of each organizational environment, contributing to the continuous assessment of organizational processes by reviewing, analysing, and searching for ways and means to enhance performance, reduce the time required to accomplish tasks, and eliminate all unnecessary tasks and functions that are not essential to the customer This latter aims at reducing costs and increasing quality, without neglecting the requirements and needs of each system at all stages of development.

Accordingly, the current study aimed to investigate the role of digital platforms in enhancing the quality of education. Employing a responsible approach, our research utilized an intentional sampling method, focusing on professors from the Higher School of Professors, comprising 100 individuals from diverse disciplines. The study yielded the following findings: Establishing an e-learning environment via digital platforms and virtual classrooms guarantees a baseline level of quality in learning outcomes encompassing knowledge, skills, values, responsibility, and independence. The university disseminates educational and academic content through digital platforms, enabling students to continuously leverage their functionalities and tools for learning purposes.

Keywords: Artificial intelligence, quality of higher education, e-learning platforms.

Introduction

Problematic:

Artificial intelligence is an advanced field of technology aimed at granting computer systems the ability to perform tasks like human intelligence. One of the promising areas where AI can have a significant impact is in the field of education. Advanced AI-driven technologies enable the enhancement of the educational experience and the development of human capabilities in multiple ways, leading to significant progress in education. AI can accurately analyse student data and track their progress and learning style. This allows for personalized education for each student according to their individual needs, level, and skills, resulting in improved success rates and understanding. AI can also be used to develop smart educational platforms that provide interactive and personalized educational content for each student. These platforms use deep learning techniques and predictive analytics to identify the best teaching methods and challenges that suit students' needs. It also leads to improved school management processes, program planning, and teacher performance analysis. This helps improve the efficiency of school management and make better data-driven decisions.

Artificial intelligence is also improving virtual education and virtual reality technologies, contributing to more realistic and interactive learning experiences. Besides, it analyses huge amounts of data related to the performance of students, teachers, and study programs. Smart analytics can help predict student performance and identify areas that need improvement.

Therefore, the future of the field of education is moving towards smarter and more personalized technology. Artificial intelligence plays a focal role in achieving this vision by improving the learning experience and developing the human capabilities of students and teachers as well.

Education specialists have praised the effectiveness of artificial intelligence in developing the sector and finding innovative solutions that enable them to use technology in teaching and scientific research. They also highlight the importance of Massive Open Online Courses (MOOCs) platforms as one of the most significant innovations in educational technology, supporting the principles of self-directed learning and lifelong learning in higher education. Abu Khattouah (2016) defines MOOCs as "intensive online courses targeting a large number of students, consisting of video lectures delivered by professors and experts, reading materials, tests, audio files, images, as well as communication forums between students and professors on one hand, and among students on the other hand.

Learning on digital educational platforms is asynchronous and does not require direct interaction between the service provider and the beneficiary (teacher-student)." Macaulay, Stewart, Siemens, and Cormier (2012) define MOOCs as "the integration of social network communications through a recognized expert in the field of study, a collection of courses that can be accessed for free online, built on thousands of active interactions by large numbers of students who organize their participation themselves based on their educational goals, prior knowledge, skills, and common interests." This led

us to pose the following question about the role of artificial intelligence in improving the quality of higher education.

Objective of the study:

- Learn about the role of artificial intelligence in improving the quality of higher education.
- Digital platforms play an important role in the development of the educational process.

Theoretical Framework of the Study:

E-learning platforms are considered one of the leading applications in the field of artificial intelligence, since the development of the first successful system based on knowledge or experience is called (DENDRAL (for chemical analysis) in 1970 AD). The idea of producing systems and platforms based on human experience took place to spread quickly to other scientific fields due to the amazing results it achieved, and then the use of platforms extended to the various fields of teaching and learning during the nineties of the last century, which appeared with the establishment of virtual or electronic universities and evolved over time. Thus, digital learning platforms are one of the most widely used commercial forms of artificial intelligence, where the computer, using experience systems technology, applies inference methods in a specific field of knowledge.

In order to provide the necessary recommendations, a high level of performance in tasks, which requires many years of learning and training by people, is achieved (Othman, 2012). Besides, it is clear that modern technologies support the educational process and result in more creativity, development, and the abandonment of the traditional Ruwaid Lib which is no longer suitable for the coming generation, digital platforms, and others.

One of the non-traditional methods, social media networks, has asserted itself today as one of the most important channels for communication and interaction used by internet users of various ages and backgrounds. Its impact extends beyond the general public to the academic community, which has recently shown interest in how to activate digital platforms in the educational process to maximize their benefits.

Definition of Artificial Intelligence

• Computer systems are designed to interact with the world through capabilities that are believed to be human (Loken et al., 2016).

• Machines are capable of imitating certain functions of human intelligence including features such as perception, learning, thinking, problem solving, language interaction and even the production of creative work (COMEST 2019.)

Artificial intelligence is defined as "computing systems capable of performing human-like operations such as learning, adapting, tuning, self-correcting, and using data for complex processing tasks." Some of the associated technologies have developed our

understanding of artificial intelligence, such as Natural Language Processing (NLP) and Large Language Models (LLMs), which include the ChatGPT-4 application.

2- Types of Artificial Intelligence:

Artificial intelligence can be divided into three basic types, ranging from simple reaction to perception and self-interaction, as follows (Ehab 2018, p. 57).

A- Narrow artificial intelligence: It is the simplest type of artificial intelligence and is programmed to perform certain functions within a specific environment, and its behaviour is considered as an act on a specific situation, and it can only work in its own environment.

B- General or strong artificial intelligence: It is characterized by the ability to collect and analyse information and to accumulate experiences from the author that he acquires, which qualifies him to make independent and autonomous decisions.

C- Artificial superintelligence: It refers to the sum of models that are still under experiment and seek to simulate humans and can distinguish between two distinct patterns. The first tries to understand human emotions that affect human behaviour, while the second is a model for the theory of mind, where these models can express their internal state and predict the feelings and attitudes of others and interact with them, as they are the next generation of super-intelligent machines.

2-Quality of higher education:

a. **Concept of Education**: It is an organized process aimed at acquiring the educated person the general foundations on which knowledge is built and is carried out in an organized manner. It can be said that education is the transfer of information, banks, experiences, and skills that are acquired by the recipient in a certain way (Al-Obeidi, 2015, p. 120)
b. **Definition of Quality:** Quality is one of the basic terms in the stream of modern educational terms such as quality of teaching, quality of management, quality of teaching education, quality of management, quality of higher education, quality of quality… All these terms are taken into account by educational and administrative policymakers and implementers not in their narrow framework but at the general level (Abdul Hadi. 2000. p. 66).

1- Quality in Higher Education: The definition of the concept of quality is a significant design in itself, as despite its widespread use, researchers have not reached a consensus on a common understanding of it. However, it can be defined as follows: "The quality of higher education has a multidimensional concept that should encompass all functions and activities of education, such as curricula, educational programs, scientific research for students, buildings, facilities, and tools, while providing services to the local community and internal self-education, and defining internationally recognized quality standards" (Abdul Nour, 2004, p. 88). It is also defined as a strategy based on a set of values that derive their effectiveness from data that achieves the most successful use of capabilities and talents in a creative way that achieves continuous development of the institution. J.

Arham Jais defined it as everything that leads to the development of artistic and imaginative thinking in students and improves their understanding, comprehension, and problem-solving skills effectively, and to look at things through what they have learned from the past and what they are currently studying (Dahshan, 2020, p. 130).

2- Principles of Quality in Higher Education: There is a set of principles on which the quality of education is based, which are follows, (Hassan. 2019. p. 65)

1. The presence of full support from the leaders of educational institutions and mechanisms for total quality.
2. Encouraging and adopting creative ideas and motivating creators.
3. Comprehensiveness of quality as it must include all areas of service.
4. Integration of policies to achieve quality and excellence in the quality process chain.
5. Rational use of effective time management mechanisms and positive conflict management

3- The Importance of Quality in Higher Education:

The importance of applying quality management in higher education by working on developing administrative leaders for the future. This latter results in improving the outputs of the educational system and developing measurement and evaluation methods. Thus, the use of educational technologies get improved and the quality of the process of improving education gets enhanced with the optimal use of material and human resources.

4-Study Methodology:

The study primarily relied on the descriptive analytical approach, which focuses on describing the role of e-learning platforms in improving the quality of education from the perspective of professors at the Higher School of Teachers of Technological Education. This was achieved through analysing the phenomenon of e-learning through digital platforms, its determinants, and its academic and scientific impact. This is also evidenced by selecting a case study of "Professors at the Higher School of Teachers of Technological Education," where precise and comprehensive data was collected using targeted questionnaires. The obtained statistics were then interpreted, leading to recommendations aimed at developing the functions and tools of digital learning platforms and indicating best practices for their use by both teachers and students.

5-Study Population and Samples:

The study sample was selected using the intentional sampling. The sample included the Higher School of Professors of Technological Education, and the questionnaire was distributed directly to about 100 professors.

The questionnaire was used as a tool to collect the required data to obtain the necessary information from the members of the study sample, as the questionnaire is "an

appropriate tool for obtaining information, data and facts related to a specific reality" (Obeidat et al., 2011,)

6-Analysis of Results

Artificial intelligence is a rapidly evolving field that encompasses a range of technologies, including machine learning, natural language processing, and robotics. In higher education, artificial intelligence has the potential to revolutionize the way we teach and learn, from personalized learning experiences to automated classification and assessment. Additionally, artificial intelligence can assist educators in identifying and meeting students' needs, fostering collaboration and communication, and providing valuable insights into student performance and engagement.

One of the key advantages of artificial intelligence in higher education is its ability to adapt to individual learning styles and preferences. By utilizing AI-powered learning platforms, students can receive personalized feedback, recommendations, and resources based on their unique needs and interests. This can lead to more effective educational outcomes and increased student engagement. Additionally, artificial intelligence can assist educators in managing the growing and diverse requirements of a larger number of students by automating routine tasks and freeing up time for more meaningful interactions with students.

Artificial intelligence is already transforming higher education in several ways, from chatbots providing instant support to students, to virtual assistants aiding in administrative tasks. One of the most promising applications of artificial intelligence in higher education is personalized learning. Through AI-powered learning platforms, educators can create tailored educational experiences that adapt to the individual needs and preferences of students. Additionally, artificial intelligence can assist educators in identifying at-risk students and providing them with targeted interventions and support.

Another way in which artificial intelligence is transforming higher education is using predictive analytics. By analysing student data and behaviour patterns, artificial intelligence can help educators identify early warning signs of student disengagement or academic conflicts. This enables teachers to intervene early and provide the necessary support to help students succeed. Additionally, artificial intelligence can assist educators in identifying areas where students are struggling and provide interventions and support accordingly.

There are many benefits of artificial intelligence in higher education, including increased efficiency, enhanced student engagement, and improved learning outcomes. One of the biggest benefits of artificial intelligence is its ability to automate routine tasks, such as grading and assessment, freeing up time for teachers to focus on more meaningful interactions with students. Additionally, artificial intelligence can provide valuable insights into student performance and engagement, helping educators identify areas where students are struggling and providing targeted interventions and support.

* Another benefit of AI in higher education is its ability to enhance student engagement. With AI-powered learning platforms, students can receive personalized feedback,

recommendations, and resources based on their unique needs and interests. This can lead to more effective learning outcomes and greater student engagement. AI can also help teachers enhance collaboration and communication among students, using virtual learning environments and social learning platforms.

In addition to the mentioned advantages, which are comprehensive across different levels of education, here are some specific ways in which artificial intelligence can benefit the higher education sector.

The responses from the sample indicate that a large percentage of teachers believe that artificial intelligence has an impact, enabling teachers to improve their lessons. Additionally, a significant proportion of them agree that teachers play a primary role in the education process. These findings align with those identified by UNESCO in 2021, where it was deemed impossible to replace the role of the teacher with AI technologies and applications. The results show that the main goal of these technologies is to assist teachers and alleviate their burden, rather than entirely replacing their role. As indicated, the sample responds that the teacher is no longer solely responsible for transferring knowledge to the learner; rather, it is the responsibility of both the learner, with the assistance of the teacher and using necessary technologies. This is facilitated through platforms such as Moodle and Open edX.

Conclusion:

In conclusion, artificial intelligence has the potential to revolutionize higher education, making it more efficient, personalized, and accessible. It enhances the quality and ease of education, saving time and effort. However, teachers must be aware of the challenges of artificial intelligence, including the possibility of bias and over-reliance on technology. By harnessing artificial intelligence in a responsible and ethical manner, educators can enhance their teaching and engage their students in new and exciting ways. As a teacher, I am excited to see how artificial intelligence will continue to change higher education in the coming years.

References

- Abu Khawa, Mr. Abdel Mawla (2016), MOOC and the globalization of education, link:
  http://emag.mans.edu.eg /index. php?page=news&task=show&id=466
- Hassan, Flowers, ,2019 Following the Use of an Artificial Intelligence Chatbot to Develop the Cognitive Aspects of Science among Primary School Students," Saudi Journal of Educational Sciences, King Saud University
- Khalifa Ehab. (2018). Opportunities for AI threats in the next ten years. Events Magazine
- Al-Dahshan, Jamal Ali Khalil, "2020Arabic Language and Artificial Intelligence: How to Benefit from Artificial Intelligence Techniques in Enhancing the Arabic Language," Educational Journal Faculty of Education, Sohag University, May
- Abdul Nour, Adel, "Artificial Intelligence," Riyadh, Dar Al-Faisal Cultural

- Obeidat, Zoukan and Adas, Abdul Rahman and Abdul Haq, Kayed. (2011.) Scientific research: concept - e tools - methods i. 12, Amman: Dar Al-Fikr for Publishing and Distribution.
- Al-Obeidi, Raafat Assem, "The Role of Artificial Intelligence in Achieving Green Production", An Exploratory Study of the Performance of Managers in a Sample of Operating Industrial Companies", Kirkuk University Journal of Administrative and Economic Sciences, University of Kirkuk, Iraq
- Othman, Mahdi Salah (2012) Using Expert Systems as an Input to Develop External Auditor Performance, Amman Arab University, Jordan.
- Alamri, H., Lowell, V., Watson, W., & Watson, S. L. (2020). Using personalized learning as an
- Roll, I., & Wylie, R. (2016). Evolution and revolution in artificial intelligence in
- UNISCO (2021). AI and education: guidance for policy-makers. Retrieved from62-78
- Alamri, H. A., Watson, S., & Watson, W. (2021). Learning Technology Models that Support.
- education. International Journal of Artificial Intelligence in Education, 26(2), 582-599. https://unesdoc.unesco.org/ark:/48223/pf0000376709
- instructional approach to motivate learners in online higher education: Learner self-determination and intrinsic motivation. Journal of Research on Technology in Education, 52(3),
- Personalization within Blended Learning Environments in Higher Education. TechTrends, 65(1),