Artificial Intelligence tools and its role in creating a good E-learning environment

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Abstract:

The descriptive method was used in this study, by creating a questionnaire form using Google Forms, submitted by the faculty and students' communication sites, to answer them online, Results showed that 85% of students in the pure and applied scientific departments prefer online lectures and tests, while 35% of the students in humanitarian sections preferred is not relying on it, and 65% of them preferred to use technology with education.

The study recommends that the adoption of modern technologies in educational systems it increases the comprehension of information during the lectures, through the presented ways, and following methods that make the student understanding and memorizing more easier , and the e-learning provides a virtual environment that increases the possibility of communicat the students with each other , also between students and professors, it allows the student to access educational materials at any time and anywhere, and helps the teacher to reach his students, inform them of important matters, and send educational materials to them.

Introduction

The education system is one of the basic components in the life of contemporary societies, it is the one who achieves the development of human resources and the graduation of generations that rise in society, the role of this system is not only to present and display information and its sources to students, but how to display it in a best ways, and evaluate it in a way that helps the student to comprehend and understand the educational material , so the students need a very flexible environment to communicate and collaborate with their colleagues to accomplish the tasks necessary for success, In the development of information and communication technology it became necessary to keep pace with this development and to provide an advanced environment that mimics education systems[1].

E-learning can be defined as a virtual learning environment to provide training programs and educational applications that designed electronically and in an interactive way that allows the recipient to learn anytime and anywhere by using modern information and communication technologies, as it is possible to manage this educational environment through electronic systems dedicated to that purpose [6].

E-learning systems depend on the use of modern means of communication from computer programs and networks, wich allow the exchange of resources and information,

it depends on information, communication and multimedia technologies to delivering skills and concepts to the student in a way that allows the student, teacher and colleagues to interact with educational materials at a time, place and method that suits the student's abilities and circumstances, These systems also provide all the tools for managing educational events and their requirements electronically by the teacher ,and some e-learning systems adopt the method and technologies of education based on the Internet to communicate and exchange lectures and research between the student and the teacher, where the Internet allows interaction and the adoption of direct e-learning among students within the system, this method is known as direct e-learning.

When it is not possible to apply these systems directly on the Internet and it is difficult to publish educational materials, then there are systems that can be used without relying on the Internet as they are linked to a local network.

There are two types of e-learning systems: synchronous and asynchronous[2], Synchronous systems are used to create a virtual classroom environment where all students in the same classroom have access to the same information, collaborative educational computer systems are synchronous in nature and designed to replace physical classes with virtual classes[3], whereas, asynchronous systems are the ones that provide educational materials using modern technologies, but without a connection to a network.

Keeping pace with all the rapid development in the field of information and communication technology, the use of e-learning systems has increased in recent times and have become complementary to the basic education system in universities and other educational institutions at the global level[8].

With the need to increase efficiency in teaching, the focus on providing lectures and educational materials electronically, and the Internet has become a main and effective means of communication and exchange of many types of information and sources from one computer to another[5].

Therefore, there has become a necessity in the contemporary time to use and activate e-learning systems, where it can be said that the most important advantages and benefits of e-learning are:

- The possibility of communication between students among themselves, and between students and the educational institution.
- Providing discussion forums that allow students to express their different views[11].
- Giving the student a sense of equality, as communication tools allow each student the opportunity to express his opinion at any time without embarrassment.
- Easy access to the teacher in a fast time.
- - It is possible to receive the scientific material in a way that suits the student’s capabilities, it is possible to apply e-learning systems and resources in many different ways according to the method most appropriate for the student, which contributes to taking into account the individual differences among students.

- The possibility of providing educational curricula throughout the day and all the week.
- E-learning systems allow sending and receiving via electronic tools with the ability to know the student's receipt of these documents.
- Analyzing and calculating grades, results and tests, as well as developing statistics about them for each student and keeping them in a database.

In a study by Heirdsfield et al(2011) the results indicated that students at the University of Queensland in Australia They prefer accesstion to educational materials, the scientific library database, and other materials such as homework and workshop assignments required of them at any time and place, and through the application of (Blackboard), it is one of the most popular e-learning systems that created great opportunities for cooperation between students among themselves, students and staff at the university[4].

It should be noted that training and development in the field of e-learning and from an administrative perspective, has helped focus on how technology can help students improve their performance and effectiveness in learning, and not on the actual use of technology [7].

Based on the data and some of the previously mentioned results, as an applied model for e-learning systems, which illustrates the most important inputs and outputs of the system and how to deal in the simplest possible way to allow its application and development of the educational system in educational institutions in Iraq, the (Moodle) is one of the most popular e-learning systems in the world[13], wich designed to be compatible with all systems, flexible and easy to modify[14], which works on any computer platform, allowing teachers to prepare the required forms using their own desktop [9].

Moodle is classified as an Open Source Content Management System , it is a free system that works in more than 75 languages around the world, including Arabic, also used by more than 85 thousand international organizations in 196 different countries, serving more than 70 million students, and more than 1.2 million teachers, through more than 8 million scientific subjects in the system, its works to transform the educational system from traditional to electronic work and can be easily applied to the Internet and local area networks, which greatly speeds up administrative work and ensures its quality greatly.

Moodle has easy-to-use interfaces for teacher and student, whereby virtual classes are created that are managed and controlled by the class teacher, the Moodle system has easy-to-use interfaces for teacher and student as virtual classes are created that are managed and controlled by the teacher, who can create online tests and give assignments and tasks to students in real time or schedule them for another time through the academic calendar tool, control how the test is performed, restrict the exam time and close it automatically, he can also directly correct each test and assignment, or he can prepare the test to auto-correct, through the discussion forums that the he creates, the scientific method can be discussed and inquiries about the

topics raised between the teacher and students, and the teacher can evaluate the student continuously and also send the evaluation to each student.

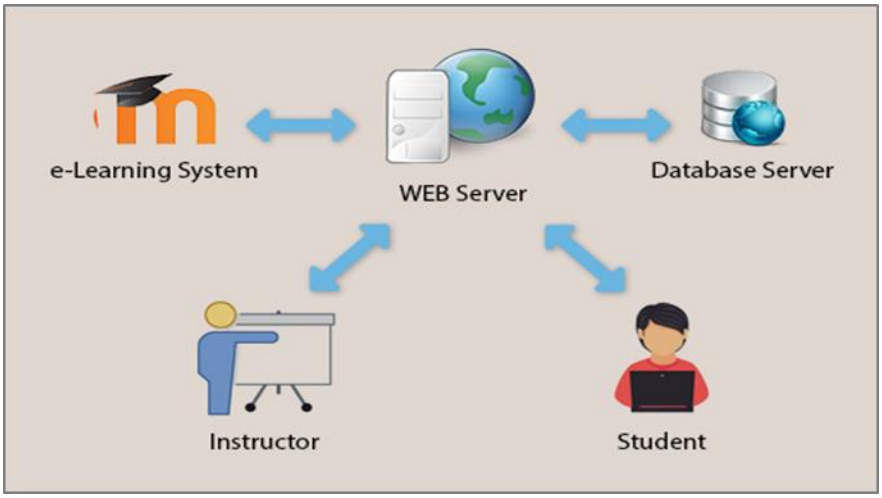

Figure 1: The contents of the system [10]

To ensure better and faster access to information, students can communicate with each other or with teachers by text, audio, or even visual, the administration can also announce assignments or notifications about specific activities and send them to students The system provides private e-mail system addresses for each student ,teacher and supervisor.

Research Methodology

In our study, we relied on distributing the questionnaire created with Google Forms [12][13], which allows any user to create any type of questionnaires and send the results in the form of tables via the Internet to know the extent of the academic community's desire for e-learning, Then, the questionnaires were emptied in Excel and percentages were calculated based on the answers sent later, the basic questions were as follows:

- Is it a scientific or a humanitarian discipline?
- What is the college section and stage of study?
- Do you support e-learning?
- Have you ever taking an online test before?
- If your answer was yes, what is your evaluation of the online test experience?
- Do you find any difficult to deal with online tests?
- Do you think that online tests are a good way to assess the scientific level?
- In your opinion, should mainstream e-learning for all stages?

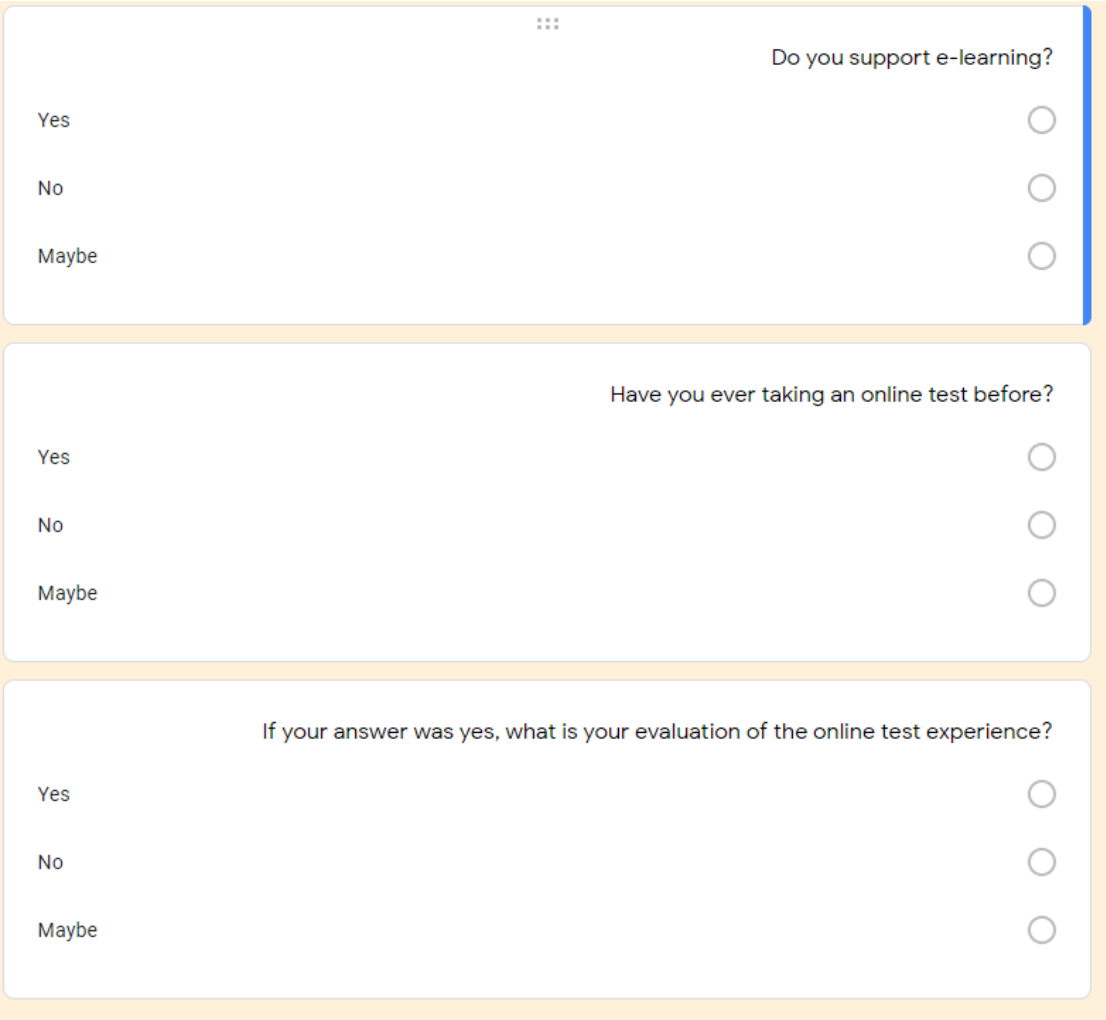

Figure 2: The questionnaire form adopted in the research study[14].

The questionnaire was applied by the participation of some students of training courses held at the Computer Center, postgraduate and elementary studies students, and the teaching staff at the University of Samarra by usuing Google Form, also the questionnaire was published in private student groups through the sites of social media.

Results and Discussion

The participants' answers were divided on the basis of gender and specialization, whether it is scientific, applied, or humanitarian, to find out which is more preferable to apply e-learning systems in education after collecting (115)posts and (11) posts of them were excluded because they were not logically connected.

The results showed that 81% of males and 68% of females expressed their support for e-learning systems(Figure 3- A), in general, 92% of those with scientific specializations have previously taking an online tests(Figure 3-B) ,but only 85% of them supported the application of e-learning systems in education(Figure 4-b), and 65% of those with humanitarian specializations support the application of e-learning

systems in education (Figure 4-b), although only 50% of them had previously taking an online tests (Figure 3-B).

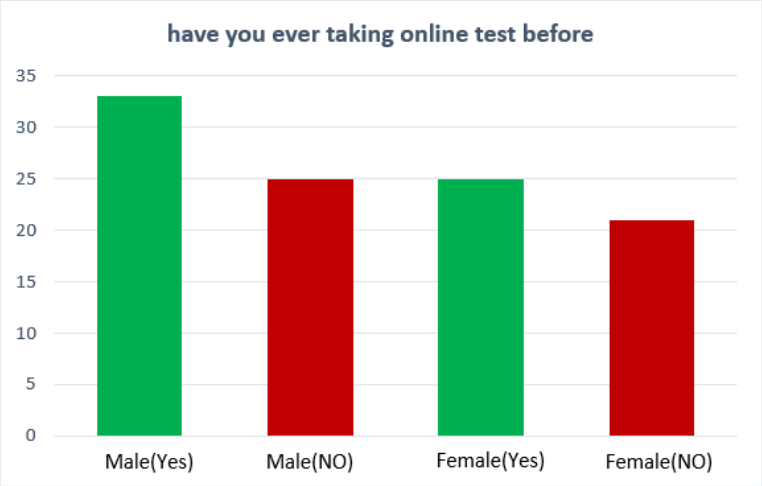

Figure 3-A: Male and female students taking an online test

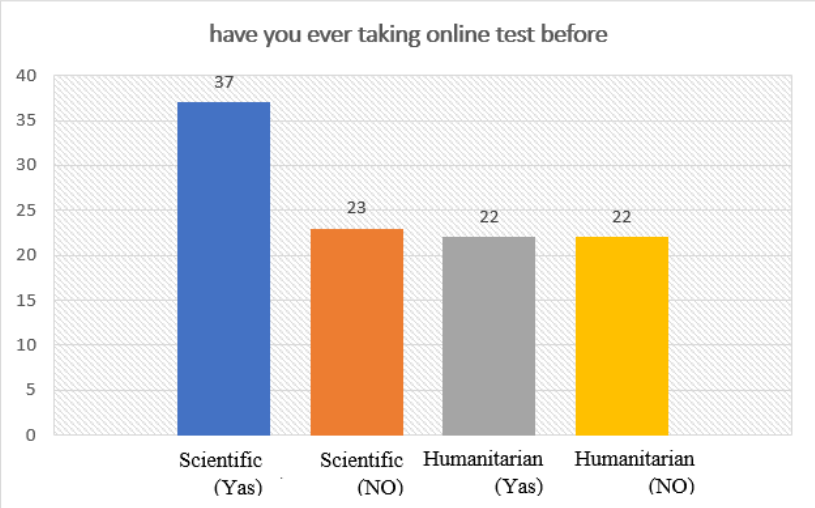

Figure 3-B: Students with academic specializations and taking an online test

In figures (6-a) and (6-b), the results of the questionnaire indicate that 51 out of 60 people with scientific specializations and 29 out of 44 people with humanitarian specializations preferred to apply the e-learning system for all school levels, also, 45 out of 60 people with scientific specializations and 25 out of 44 people with humanitarian specializations believed that e-learning systems were a good way to assess the scientific level of the educational institution.

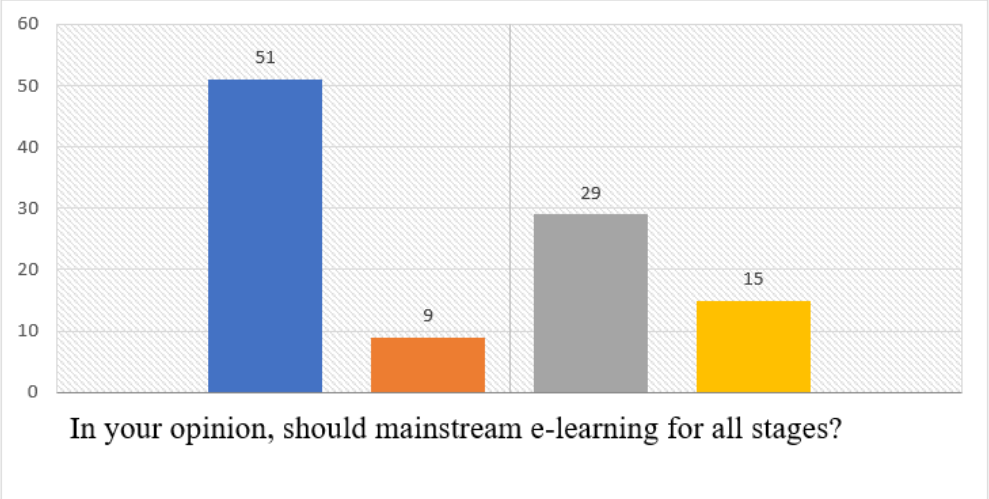

Figure 6-A: The opinion of male and female students on the application of e-learning system

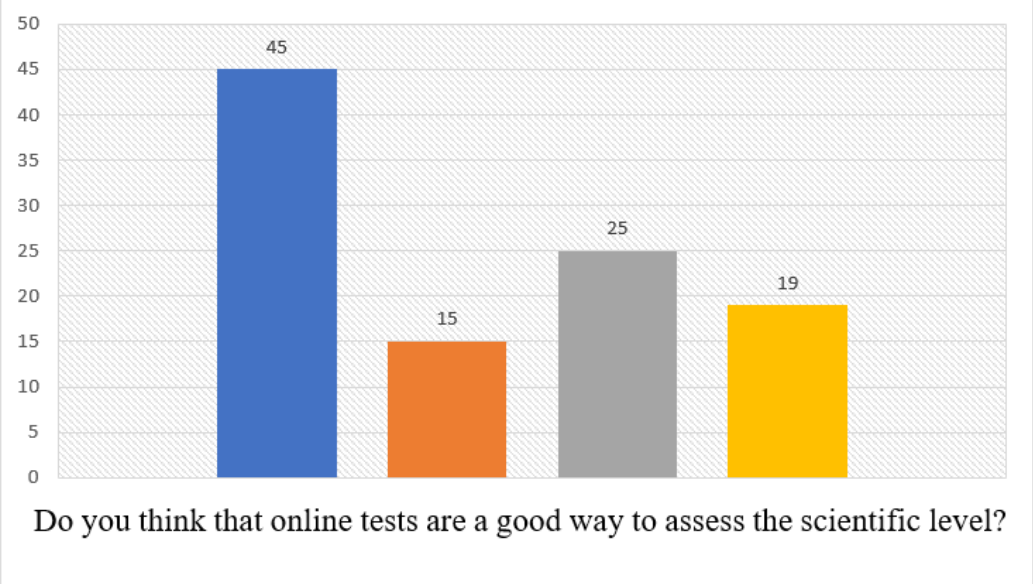

Figure 6-B: The opinion of students with scientific and humanitarian specializations on the application of the e-learning system.

Relying on international and standards data that determine the quality of education systems in general and e-learning in particular, and after reviewing the results of this study the experience of a large segment of the student population is evident in the positive application of e-learning systems ,also, the open source system model Moodle conforms and simulates the basic and desirable specifications in e-learning systems globally.

We recommend applying the Moodle system within local networks or by connecting it to the Internet in all educational institutions to improve the educational process and keep pace with the progress in the field of information and communication technology

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