



## **The Importance Of E-Learning To The Students And Teachers**

**Asma Lutfi Hamad<sup>1</sup>, Hayah Mohamed Abouelnaga<sup>2</sup>, Ahmed Baz mohamed metwally<sup>3</sup>, Hany ShoShan<sup>4</sup> and Nisren Farouk Moawad<sup>5</sup>**

<sup>1,2,3 and 4</sup>Department of General courses, College of Applied Studies and Community Service, Imam Abdulrahman Bin Faisal University, Al-Dammam, Saudi Arabia

<sup>5</sup>Marketing Department, College of Applied Studies and Community Service, Imam Abdulrahman Bin Faisal University, Al-Dammam, Saudi Arabia.

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**Abstract:** The present study came through its topic: The Importance of E-learning in teaching Mathematics to explore the use of students in the educational learning process, I tried to add to the results of previous studies by revealing more the nature of the use of the Internet as well as the nature of e-learning among students. The researcher attempted to add to the challenges of the previous studies in terms of human challenges related to the personal initiative of the school and university student to use the Internet as a means to embody e-learning in mathematics. As the human side has a fundamental role the realization of obstacles towards the introduction of educational technology in the educational process such as resistance to change and the establishment of all-new, including modern technology in the introduction of the educational process regardless of its benefits or its services. The researcher also referred in this study to some experiences in the Kingdom of Saudi Arabia and other countries in the field of e-learning to add value to this study and as a case that may interest other countries to follow.

**Keywords:** E-Learning; Virtual Learning and Modern Teaching Methods.

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### **Introduction**

Today we live in an age of informatics characterized by rapid developments and changes resulting from the scientific and technological progress witnessed by the world in the last decade of the twentieth century and the beginning of the twenty-first century, most notably the development of the use of computers and information and communication technology, which was reflected in various fields of progress, especially education,

especially as this age is characterized by excellence, scientific, cultural and technological progress, and the speed of communication, and the expansion of the use of modern technologies in education; to achieve educational goals efficient and effective to cope with the rapid changes in this era.

There is no doubt that the information revolution and the increasing educational technology of our time, is a challenge for educators and those who are responsible for the educational process in light of these developments, which requires every society wants to develop and improve this process to catch up with the information age.

Al-Hamaili (2005: p. 13) explained that the use of computers has become an integral part and an important criterion for measuring progress in contemporary societies, because this technology is spreading; From an information revolution, it has made the use of computers and its technologies a skill necessary to keep pace with progress and the transition from limited to infinite use of computer with all its modern technologies, due to the emergence of the global information network, which resulted in new trends in education.

Al-Mousa and Al-Mubarak (2005: p. 111) considered that information technology represented by computers, the Internet and the multimedia attached to them is one of the most successful means to provide a rich educational environment. He pointed out that Internet communication; It has the potential to connect people, over enormous distances, to diverse information sources.

Al-Todry (2009: p. 80) emphasizes that e-learning contributes to a rich, multi-source learning environment, encourages communication between the parties of the educational system, contributes to the modeling and delivery of education in a standardized form, and contributes to the preparation of a generation of teachers and learners capable of dealing with technology armed with the latest skills of the times.

In terms of learning and teaching mathematics, Al-Mughirah (1989: p. 247) that the computer is a good mediator, and perhaps one of the most important reasons why we use the computer, in the teaching and learning of mathematics is a significant improvement in the attitudes of teachers, and students towards the study of mathematics in addition to the inevitability of confrontation Our schools and curricula for tremendous cognitive and technical development, while keeping pace with the Internet, allows the learner to self-learn and learn through peers, through the expertise of teachers, mentors, and specialists in that network.

As Abu Omayra (2000: p 42-43) stated that when the World Congress for Mathematics Education held the Eighth International Congress (1996 in Seville) ICME was one of the most important issues discussed by the role of technology in mathematics education. Simplify some difficult math courses such as differentiation by presenting them on CDs that use multimedia such as sound and motion side by side.

Salem (2004: p 283-284) considered that the use of modern technologies in the school, and with different subjects in the classroom, began with the process of designing an integrated education, based on the use and use of these techniques, and was termed e-learning, or virtual learning, E-learning differs from Education Virtual that e-learning is similar to traditional education in its steps, but it is used in e-learning means, and electronic media, and maybe done within the classroom is a real education and not a virtual education where the word "Virtual" refers to something unReal, but e-learning is one of the new trends in the education system.

The researcher seeks in the current research to find out the importance of the use of e-learning in the teaching of mathematics at school stages.

### **Question of the Study:**

From the above, the problem of the present study is highlighted in the following main questions:

- What are the importance and use of e-learning in teaching mathematics to students?
- What is the importance of using e-learning in mathematics development tools for students?

### **Purpose of the Study –objectives**

The researcher seeks to achieve the following objectives in the present study :

- Recognize the importance of using e-learning in teaching mathematics
- Understand the use of e-learning.

### **The importance of the study**

The importance of this study comes from the following:

- This study may contribute to assist the developers of mathematics curricula in the development of mathematics curricula e-learning appropriate with the nature of the times and the technical development.
- This study may contribute to determining the degree of use of e-learning in teaching mathematics
- This study may contribute to support and encourage mathematics teachers to use e-learning in teaching.
- This study may contribute to help and motivate the student to rely on himself.

### **Theoretical framework**

#### **A Brief History of E-Learning:**

The e-learning did not appear by chance, but came as the Arini said (2003: p. 25) the outcome of educational and technical efforts over half a century, while AL-Namleh said (2003: p. 4) that the pillars of e-learning instilled a long time back many educators to the year 1930, when the US military produced programmed books and used by its soldiers without any teacher role.

While AL-Far said, (2004: p. 15) believes that the actual use of e-learning began in the early sixties, specifically in 1959, where each of (Leonid, Anderson, Rwat) proposed the application of the use of computers in the implementation of educational tasks and have already programmed a number of educational materials, In the early 1970s a number of large universities began in the United States, Medical, industrial and military institutions are exploring the possibilities of using computers in education. After about five years, there were about forty educational institutions in the world that use computers in teaching and learning. More than 100 programmed curricula were produced by computer.

### **Definition of E-Learning:**

E-learning can best be defined as the science of learning without using paper printed instructional material. E-learning is the use of telecommunication technology to deliver information for education and training. With the progress of information and communication technology development, E-learning is emerging as the paradigm of modern education. The great advantages of E-learning include liberating interactions between learners and instructors, from limitations of time and space through the asynchronous and synchronous learning network model (Pei-Chen Sun et al., 2008). E-learning is commonly referred to as the intentional use of networked information and communications technology in teaching and learning. A number of other terms are also used to describe this mode of teaching and learning. They include online learning, virtual learning, distributed learning, network, and web-based learning. The term E-learning comprises a lot more than online learning, as the letter “e” in E-learning stands for the word “electronic”, E-learning would incorporate all educational activities that are carried out by individuals or groups working online or offline (Som Naidu, 2006)

There was no completely agree on defining a comprehensive concept that covers all aspects of the term “e-learning”. In order to overcome the many of these definitions on the one hand and to benefit from them on the other, the researcher believes that they can be classified under two main groups, one of which looked at e-learning as a method of teaching, and the other looked to it as an integrated system, the researcher tries to gather the factors that led to this variation in the definitions, in order to reach a specific definition of e-learning. The definitions of e-learning under the two groups below as the following:

- **Group I:** The members of this group that e-learning is a teaching method to transfer content to the learner based on multimedia via electronic media. Among the definitions that represent the view of this group are the following:

1. Al-Arifi definition (2003, p. 6) for e-learning as "providing educational content with the explanations and exercises and interaction and follow-up, partial or comprehensive in the classroom or distance by advanced programs stored in the computer or over the Internet." Al-Khan (2005, p. 18) defined e-learning as "an innovative way to deliver an interactive, well-designed, accessible and interactive environment for any individual, anywhere, and at any time using the characteristics and resources of the Internet and digital technologies in accordance with educational design principles appropriate to the learning environment. Open, flexible, and distributed".
2. The definition of UNESCO as stated by Al-Khalifa (2002, p. 15) of e-learning as "an effective method of education that combines digital transmission of content and the provision of educational support and services. It is prepared and implemented in electronic form and transmitted through the information and communication network. It is noted that the previous view is that e-learning is a teaching method through which content is transferred to the learner through electronic media.

**Group II:** The members of this group believe that e-learning is an integrated system with its inputs, processes, and outputs. Among the definitions that represent the view of this group are the following:

1. Al-Shehri (2002, p. 38) defined e-learning as a "curriculum delivery system via the Internet, a local network, satellites, CDs or interactive television to reach learners".
2. Ghuloom (2003, p. 3) defines e-learning as "an educational system that uses information technologies and computer networks to strengthen and expand the educational process through a range of means, including computers, the Internet, and electronic programs prepared either by specialists in the ministry or companies."

It is clear that the owners of the previous view that e-learning is an integrated system is not only concerned with the provision of content but concerned with all elements of the curriculum (objectives, content, activities, and methods of evaluation). From the above, the most important factors leading to the variation in the definition of e-learning can be identified as below:

- Diversity of backgrounds for those interested in e-learning: since e-learning as a new trend, most of those interested in it received their training in other areas of knowledge such as (mathematics - technology - communication - education - libraries – geography - ..... ) and each of these areas have his own theoretical interests and his systematic orientation which made each of them look at e-learning from the angle that serves his specialty and agree with him.
- The newness of e-learning and its link to the technology of education, which grows and develops day by day.

- Multiple names of e-learning where it is called several names, including e-learning, virtual education, digital education, distance education, As can be seen from the previous definitions.

### **Teaching mathematics with educational techniques:**

Salem (2004: p. 225) refers to the term technology in education that the British Council of Educational Technology (BCET) defines it as "the development and application of systems, methods, and means to improve the process of human learning."

Salama (2003) stated that educational techniques "are of great importance in the development of curriculum elements in general and mathematics in particular where it works to reduce the effort and save time for the teacher and the learner to access mathematical knowledge".

Salem (2004: p. 57) defines educational technologies as "a subset of the teaching technology system that includes the educational tools and devices used by the teacher or the learner or both in educational situations in a systematic manner to facilitate the process of teaching and learning." As Salem (2004: pp. 58-64) Education technologies offer many advantages to teaching and learning and the importance of using them is as follows:

1. Learning techniques help to overcome the problem of increasing the number of learners.
2. Learning techniques help in addressing individual differences between students.
3. Learning techniques help to achieve learning with its different mental, skills and emotional aspects.
4. Learning techniques help overcome difficulties in learning certain topics.
5. Educational techniques help increase students' motivation to learn, participate and pay attention.
6. Educational techniques help self-learning.

### **The importance of using educational techniques in mathematics:**

The importance of using educational techniques in mathematics is due to the following:

1. Stir students' interest and satisfy their needs towards learning AL- Al-Dahsh (2001).
2. It helps to diversify the teaching methods, which makes it effective in addressing the problem of individual differences between students, Salem (2004: p. 58).
3. Helps to transfer and establish mathematical knowledge because mathematics inherently deals with abstract symbols and concepts.
4. Techniques increase students' motivation to education, participation, and attention Salem (2004: p. 62). Many studies have shown that the relationship between motivation towards achievement and achievement is positive.

### **Computer and Mathematics Teaching:**

The National Council of Teachers of the United States (NCTM National Council of Teachers of Mathematics) adopted the principle of technology as one of the principles underlying school mathematics. Improving student learning, facilitating the organization and analysis of data, the ability to perform calculations accurately and quickly, and helping researchers in all branches of mathematics.

### **The Importance of Using Computers in Teaching Mathematics**

The importance of using computers in teaching mathematics as explained by Raphael and Youssef (2001: pp. 217-219) is due to the following:

1. Encourage individuals to effectively participate in the educational process.
2. The computer helps individual learning and develop self-learning skill in learning mathematics
3. Computer is used in the process of training to solve problems and solve mathematical problems, which helps to reach the level of proficiency in teaching and learning mathematics
4. The computer gives immediate feedback, which helps encourage students to study mathematics.
5. The computer is used in the design of a lot of educational games that help students study mathematics in an interesting and fun way
6. The computer assists in the study of different engineering and statistics
7. The computer helps achieve integration between different subjects such as integration between science, mathematics, and technology
8. The computer assists in achieving the educational objectives of mathematics
9. The computer helps in developing positive attitudes among students towards the study of mathematics.

### **Areas of using the computer in teaching mathematics:**

The areas of computer use in teaching mathematics mentioned by Raphael and Youssef (2001: pp. 219-221) can be summarized as follows:

1. The use of computers in training, the learner is trained on what the teacher taught in the classroom
2. Computer can be used in teaching a curriculum or lesson in mathematics through the method of solving problems.
3. The computer is used in the process of evaluating and teaching mathematics
4. The computer is used to simulate some concepts or theories or deduce some rules
5. The computer can be used to modify some misconceptions among students (such as graphs in three dimensions and geometric shapes in three dimensions).
6. The computer is used to draw some geometric shapes
7. A mathematics teacher can use a computer to record students' progress in studying mathematics, and in identifying their strengths and weaknesses.

8. The computer is used in training to master the educational skills such as the skills of solving computational and mathematical exercises, and in the understanding of mathematical concepts
9. Computer is used in the management of educational games targeted in mathematics, which increases the trend of students towards the study of mathematics.

### **Types of software and programs in teaching mathematics**

Educational software means those lessons, packages or activities that have been organized, produced and computerized to achieve specific objectives in a prescribed learning situation and for a specific audience of learners.

Examples of computer software used in school mathematics include:

- (**Microsoft Math 2007**) is a program for solving math problems with clarification of solution steps.
- (**Universal Math Solver**) is a program to solve mathematical problems even if they are taken from the book or a new problem.
- (**Mathematica**) is a software program that is widely used in the field of mathematics, physics, engineering, and various sciences, As well as the ability to allow editing or building additional information.
- (**MATLAB**) is a programming and numeric computing platform used by millions of engineers and scientists to analyze data, develop algorithms, and create models.
- (**GeoGebra**) software so that the characteristics and features of the software are shown below:

It is a program based on the scientific standards of mathematics and the curriculum adopted by the Ministry of Education and not a substitute for it.

It is designed in a way that enables students to develop a deep understanding of mathematical theories and facts through practical application and discovery of concepts by themselves. It is a set of tools that contribute to the student's mathematical skills and includes all the necessary aids to make the learning process easy and interesting and where the student constantly builds on his previous learning, and this is fully consistent with the constructive approach to learning.

The areas addressed by GeoGebra are:

- It Is an engineering program presented in an algebra way.
- points, lines (arrows and signals), circles, polygons, holograms, functions.
- Derivation and integration, difficult and easy problems, difficult numbers where they can be displayed algebra and geometry, schematic algebra, groups, vectors, matrices, discrete mathematics.



- Statistics, random numbers, probability calculations, probability of multiple distributions, graph probabilities, theory test. And much different mathematics uses.

### **Successful experiences of some countries in the field of e-learning in mathematics:**

#### **1- Experience of the Kingdom of Saudi Arabia in E-Learning:**

Conscious of the Government of Saudi Arabia believes that the advancement of the information technology system is a guarantee for the success of comprehensive economic and social development programs, the Kingdom's leadership was represented by the approval of His Royal Highness Prince Abdullah bin Abdulaziz, Crown Prince, Deputy Prime Minister and President of the National Guard in 2001. The Ministry of Communications and Information Technology was commissioned to establish the National Plan for Communications and Information Technology in the Kingdom of Saudi Arabia. The seven-general plan of the plan as stated in the National Plan for Communications and Information Technology Commission (2006, p. 36) are as follows: "Optimum employment of ICT in education and training at all stages".

The introduction of computer courses as an academic subject dates back to 1985/1986 as part of the developed secondary education program, then it was introduced into secondary education as a subject. The Kingdom of Saudi Arabia has also adopted several projects, including:

- Prince Abdullah bin Abdulaziz and his sons students computer project (Watani), which is the first educational website of its kind in the Arabic language, which aims to establish a national communication network linking educational institutions and all education departments and schools and connected to the Internet and the creation of scientific and educational content from curricula and information sources. related to them, establishing local networks in schools and education departments and providing computers in schools (Al-Jazirah Newspaper 2001: Issue 10610).
- Experience of the joint program between government educational institutions and the private sector to teach computer for primary and intermediate levels, it aims to give opportunities for the private sector to participate in education has been the application of the experiment in the first semester of the academic year 1999/2000 in five schools in Riyadh.
- The computer as an educational Method, it aims to use the computer as a means of learning and self-interaction.
- Future projects, the Ministry seeks through a number of future projects:
  - Creating a new technical guide for the management of each school and its teachers to employ information technology in the educational process in the Kingdom of Saudi Arabia
  - Project for teacher guide to employ one of the programs in providing lessons

- Project for teacher guide for the use of information on the Internet in the educational process, and aims to create a reference for the use of the Internet in the teaching of subjects and reference sites educational.
- The project of employing information technologies in the teaching of science and mathematics in secondary education in cooperation with UNESCO.

According to Al-Eqtisadiyah Newspaper (No. 4332: 2006), the Ministry of Education started in that year 2006 an experiment related to the application of the e-learning system in 180 schools for boys and girls. The Ministry seeks to disseminate the experience to the Kingdom's schools, that after making sure the success of the experiment, in order to activate the digital curriculum by providing advanced educational techniques and materials and multimedia in the educational process, so it has developed a number of programs and plans aimed at enhancing the role of educational technology in the development of educational work inputs and practices. Education programs focus on providing students with computer skills and exploring their diverse applications in various educational and life fields.

So E-Learning in the Kingdom of Saudi Arabia can change Higher Education adequately with regards to the Arab world, prompting upgrades in the learning background and mapping out pathways to progress for everybody resolved to mixed learning. As indicated by most recent examinations, practically 97% of understudies in Saudi Arabia are outfitted with PCs with unflinching Internet association however just 54% of them communicated premiums to learn courses over Internet with students of different colleges. "The vast majority of the understudies are great clients of utilization programming and apparatuses however they don't have autonomous learning capacity. Practically 50% of the respondents communicated their inconvenience to speak with other online understudies from various nations around the globe because of shortcoming in English language and social preclusions. Understudies likewise demonstrated assortment of decisions for understanding materials and learning strategies". countless Saudi understudies 73% still lean toward study hall educating to free examination at home.

As per the Saudi Arabian Ministry of Higher Education's vision, "the instructive apparatuses and present-day teaching method techniques are understanding the capability of instruction process. Actually, they have more noteworthy effect and critical impact upon training. We are completely mindful that neither «eLearning» nor «distance learning» ought to be straightforward instructive objectives. Accordingly, we have made our principal objective is to have the most precise structure utilizing the best apparatuses and teaching method to accomplish the society and network needs in the advanced education segment in the Kingdom of Saudi Arabia".

The new innovation has increased the students' confidence in their abilities. Where Al-Harthy (2006) reported that ,students' attitudes and perceptions towards the effectiveness of mobile learning in King Saud University, Saudi Arabia is positive.

Al-Fahd study (2009) concluded the same conclusion, as it confirmed that students' motivation has actually increased since the start of applying the mobile learning strategy at King Saud University.

## **2- Experience of other countries in e-learning:**

In the Malaysian Experience, higher education institutions began implementing e-learning in the late 1990s (Bunyarit and Hussein, 2009). At the time, there were execution issues such as the lack of trained lecturers, facilities and infrastructures, students' preparedness, and students' resistance to adopt e-learning and the Learning Management System (LMS) tools. Nonetheless, its demand continued to rise due to its capability to reach global audiences, and its unique functionality, accessibility, and flexibility at the end (Azhari and Ming, 2015).

However, there are persistent concerns about the quality of e-learning relative to a face-to-face learning environment (Panyajamorn et al., 2018). Macher, Paechter and Maier (2010), in their study, found that Austrian students still preferred face-to-face learning for communication purposes, and the preservation of interpersonal relations. Another study by Orton-Johnson (2009) in the UK found that students did not accept online materials, and preferred traditional text materials as the medium for their education.

On the contrary, in Bernard et al.'s (2016) meta-study, students in blended programs achieved better results than students in traditional classrooms. Similar results were found in other studies. for example, (Northey et al. 2015), (Ryan et al. 2016), (Southard, Meddaug and Harris 2015), and (González-Gómez et al. 2019). In Malaysia, Lau and Shaikh (2012) found that students' computer and internet efficiency, and personal characteristics such as gender, ethnicity, course year level and financial aid status resulted in a significant difference in students' e-learning readiness.

In line with these educational developments, one of the main initiatives of the Malaysian Ministry of Education under the Malaysian Education Blueprint 2015-2025 (Higher Education) is the use of E-learning as a conduit for transforming existing education. "E-learning models will become a main educational approach in all HLIs [Higher Learning Institutions]. Key initiatives include: Making online learning an integral component of higher education and lifelong learning, requiring up to 70% of programs to use blended learning models" (Malaysian Education Blueprint 2015-2025 (Higher Education)).

The Malaysian Government has been working on the quality of university education to:

1. Adopting international standards in teaching, study systems, and defining disciplines and curricula (intensive use of English).
2. Encourage relationships and links between local and international universities in order to gain experience and develop further.
3. The private sector plays a key role in the quality of university education.

4. Design programs and curricula that relate to the global educational environment and its relationship to modern technologies and information systems (Example: Fiber optic Digital).
5. The Ministry of Education established the National Accreditation Council to outline the academic process of public and private higher education institutions.
6. The government has established an extensive information network in university institutions and provided it with knowledge and environment resources necessary infrastructure.
7. The government supports scientific research efforts in universities (e.g., Malaysian Technology Development Corporation).

#### **Previous studies:**

1. **Study of Khaled Youssef Al-Qudah and Bassam Al-Maqableh (2013)** on “E-learning challenges facing faculty members in private Jordanian universities”, the study relied on the descriptive method based on a sample of (113) faculty members. The results showed the following descending order of challenges: The results revealed that (73%) participated in ICDL courses and (14.2) participated in WORLDLINK courses. The results showed that there are statistically significant differences in the challenges due to gender and grade academics and experience, as well as the existence of differences due to the type of college in favor of humanitarian colleges.
2. **Study of Ali Muhammad Ali Al-Zoubi and Hassan Ali Ahmad Bani Doumi(2012)** on “The effect of using the blended learning method in Jordanian schools on the achievement of fourth-grade students in mathematics and their motivation towards learning it”.  
The aim of this study was to investigate the effect of the blended learning method on the achievement of fourth-grade students in mathematics and their motivation towards learning it. The sample of the study consisted of (71) pupils distributed among four classrooms (38) of them in the experimental group and (33) pupils in the control group. To achieve the objectives of the study, the achievement test and the measure of motivation were used after verifying their reliability and reliability. For statistical processing, arithmetic averages, standard deviations, and binary variance analysis were used.
3. **Study of Maha bint Omar bin Amer Al-Sufyani and Nawal Hamid Yassin (2008)** “The Importance and Use of E-Learning in Teaching Mathematics at the Secondary Stage from the Point of View of Female Teachers and Educational Supervisors”.The study aims at identifying the importance and use of e-learning in teaching mathematics at the secondary stage from the point of view of teachers and supervisors of education in public and private schools, Taking into account the functional specialization of the teacher and supervisor, years of experience, the number of courses attended.

Where the study questions were as follows:

- 1) What are the importance and use of e-learning in teaching mathematics in secondary schools in public and private schools from the point of view of teachers and supervisors?
  - 2) How important is the use of e-learning in mathematics development tools at the secondary stage from the point of view of teachers and supervisors?
4. **Study of Nguyen, D., Hsieh, Y., & Allen, D. (2006).** On “The impact of web-based assessment and practice on students’ mathematics learning attitudes”. This study aimed to analyze the effects of the assessment process (i.e., achievement level) and exercises (exercises that train students on tests and how to solve problems) through the Internet on improving the academic level of middle school students in the mathematics curriculum. The study followed the experimental method and the group of quantitative and qualitative methods, and the study compared the change in the achievement level of students when they use the process of assessment and training through websites compared to students who used the traditional method of assessment, training, and exercises in the usual methods. For two groups of students of both sexes and from different ethnic origins, the evaluation and e-training method was applied to the first group. The traditional evaluation and training were used in the second group through a variety of statistics, factor analyses, and transcripts of observations from interviews using SPSS. The researcher has reached a number of results including the following:

1. The use of computers and the inclusion of e-learning should be imposed on students, with room for comments and recommendations.
2. The extent to which students benefit from these electronic exercises, which led to their improvement in mathematics where their intelligence grew and increased their understanding and ability to solve problems.

## Conclusion

To sum up the research study, the importance of using educational techniques in mathematics is due to motivate students' interest and satisfy their needs towards learning, and to helps to diversify the teaching methods, which makes it effective in addressing the problem of individual differences between students, in addition it helps to transfer and establish mathematical knowledge because mathematics inherently deals with abstract symbols and concepts.

E-learning increases students' motivation to education, participation, and attention. Many studies have shown that the relationship between motivation towards achievement and achievement is positive.

There are many programs used in e-learning in school mathematics, such as GeoGebra, Universal Math Solver and others mentioned previously, designed to achieve specific goals in a specific educational situation and for a specific audience of learners, facilitating the educational process and can be used in this field.

### Recommendations:

After this study the Researcher comes up with some suggestions and recommendations:

1. Need to hold training courses for mathematics teachers, in the use of modern programs in the teaching of mathematics; because it provides real support for the mathematics curriculum, in addition to holding training courses in the design of teaching aids and how to use them in teaching; to facilitate the process of teaching and learning.
2. Attention should be paid to the availability of the role of the teacher in the teaching of mathematics using e-learning at the secondary level.
3. Use the practice and the experience of western countries and given the importance of the teachers of mathematics there.
4. Enriching the curriculum books with computerized educational software, with a number of websites related to the mathematical content that students study during the academic year.

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