

Research Article

## E-Learning using the Blackboard system in Light of the Quality of Education and Cyber security

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### Abstract

*With the growing reliance on the Internet, and the devices connected to the global network and the increasing likelihood of attacks and cybercrime is cyber security the essential foundation of e-learning safe, so can not imagine the growth of any information activity away from achieving, and e-learning in the modern time faces many challenges, Perhaps the most important explosion information and knowledge , The most world's universities and all colleges currently provide advanced technological technologies for computer, internet and other multimedia for the development of education, and became the system Blackboard from educational systems which take an important part of the educational technological environment. It is a familiar means for most educational purposes, as well as providing and presenting courses and discussions . It also works to break the Inertia between the teacher and the student, thus developing the educational process and making it more comfortable. employment the e-learning using system safe Blackboard become The language of the age and has a significant impact in improving the quality of education, and communication between students electronically and linking it to cyber security has a significant role in maintaining the development and quality of e-learning, hence the importance of research has reached several results and recommendations was one of the most important: The linking of e-learning (Blackboard) to cybersecurity creates a safe education and provides a great opportunity to give the opportunity to education to many groups of society, providing data and information that circulates through networks for e-learning makes it more effective, As a Blackboard Collaborate tool to provide online lessons and lectures as it transcends places and times intervals, it helped distance training and spread education and made learners able to learn very effectively.*

**Keywords:** E-learning – Education- Blackboard system - Blackboard Collaborate( Virtual classes) - Cyber security.

### Introduction

The rapid development in the field of modern technologies has led to the development of the educational process and found it modern methods or so-called e-learning and the protection of its systems and programs have been achieved through cybersecurity, a set of organizational , technical and procedural tools and practices aimed at protecting computers and networks and the data from damage ,What makes e-learning effective and have been forced us the work market wide changes Procedures in the field of application of educational for courses , and the most important of these changes the need to learn many of the technological skills, which imposed by new specializations this requires the members of the faculty to review the educational courses to keep up with the developments of the modern time through the use of

the available technologies, especially e-learning represented in the Blackboard system, which provides interaction tools for the learner such as announcement, download courses , Tests, task, discussions , virtual classes.

In my research, I aim to Implementation and activation of e-learning in the light of the quality of Learning and cybersecurity.

1- Implementation of the e - learning system is represented in the system Blackboard for courses through the following tools: Presentation of content, discussions , tasks , assessment, activities, virtual classes and linking it to cybersecurity .

2- Discovering the mechanisms and preparing them to prepare the students scientifically through creativity, expressing opinion and reached a set of results, the most important of which is the teaching of courses using the Blackboard system works to improve the quality of learning and synchronization the

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development of electronic technologies and allows both teacher and student development Effective knowledge, skills and aspects if safe (linked to cybersecurity),And prefer sets of the results and recommendations.

In this paper we will discuss the following topics:

- 1- The concept of e-learning and its relation to cybersecurity, its levels, objectives, importance, benefits, advantages, blackboard system and its tools.
2. The difference between e-learning and traditional learning.
3. E-learning environments.
4. Communication types in e-learning environments
5. Standards of e-learning in light of quality and learning outcomes.
6. Major global experiences in e-learning.

So I do not lengthen you here:

1-The concept of e-learning and its relation to cybersecurity, its levels, objectives, importance, benefits, advantages, blackboard system and its tools.

### **The concept of e-learning**

E-learning is a form of Distance learning and can be defined as a way of teaching using modern communication mechanisms such as computers, multimedia and Internet gates in order to communicate information to the learner as quickly and protect the systems and programs of e-learning systems through cybersecurity are a set of organizational, technical and procedural tools, To protect computers and networks and the data from damage.

### **E-learning levels**

- Basic level: a regular classroom learning with the intervention of technology in a simple manner does not change the class presence permanently. Classroom Attendance 100%
- blend level: This level includes the combination of classroom teaching and learning through technology and combines the advantages of classroom education and education through the technology classroom attendance 25-75%
- Full level: The advantage that the classroom attendance is very little is limited to tests and some meetings and be learning through technology at a very high classroom attendance 10%
- Advanced Enrollment: E-learning is used as an alternative to classroom education. The role of the learner here is the primary role, where he or she learns self in an individual or cooperative manner with a small group of colleagues and exchanges experiences in a synchronous or asynchronous manner classroom attendance 0%.

### **E-Learning Objectives**

- 1- Work on training and continues education.

2 -Working to provide a variety of educational resources, which helps to reduce the individual differences between students

3- Developing the skills of learners, as it provides information and knowledge a lot compared to traditional teaching methods as this type of e - learning provides multiple sources of different information as well as the possibility of exchange of educational experiences.

4- E-Learning provide for women with a great opportunity to complete their education, especially university education, to overcome the difficulties of leaving the home and attending university.

### **Importance of e-learning**

1 . It is a good confirmed of traditional education can be blended it's method with the usual teaching will be supportive and in this case the teacher refers students to some activities or duties based on electronic media.

2.Benefits from Learning and learning resources are available on the Internet, where millions of sites provide courses and information that can be utilized within the limits of efforts and possibilities available to learners.

3.Supports cooperative learning through communication and consultation with colleagues through communication and interaction tools on the Internet.

### **Benefits and advantages of e-learning**

E-learning has several benefits and advantages

- 1 - makes chance for everyone to get the education
- 2 - Increasing the ability of learners to communicate with each other by provide of this education from the communication in many directions such as discussions and e - mail, which would support the contribution of learners to raise their views and participate in the discussion.
- 3 - Provide courses in any time.
- 4 - Achieves what is known as self-education where any student's reliance on himself and this makes it The student is looking for information rather than just receiving it as is the case with traditional education.
5. Able to overcome many barriers to access to traditional education such as Presence, time, place, working conditions

### **Blackboard system and tools**

Is learning management system from the company Blackboard is characterized by strength for other systems, where the system provided a variety of educational opportunities through the solution of educational problems and related administrative aspects and helps To break all barriers to face educational institutions and learners, and helped the system educational institutions to spread education

strongly through the Internet. The system provides multiple tools that support the teacher and learner and is easy to browsing. It allows students quick access to content, discussions, tests, tasks, announcements, virtual classes, e-mail and assessments, tools for student assessment.

2. The difference between e-learning and traditional learning, for example, but not limited to the following:

A - the method of education used

### **E-Learning**

It employs technological tools , where depend on multimedia presentations, discussion method and web pages.

### **Traditional education**

Depends on the book does not use any means or methods of technology only sometimes.

B- Interaction

### **E-Learning**

Based on interactive, where the use of multimedia to the learner for the electronic presentations, and deal with it as he wants, and allow discussions over the web interactively

### **Traditional education**

Does not depend on interaction, since it is done only between the teacher and the learner, but is not always between the learner and the book, as a traditional method that does not attract attention.

C-Availability

### **E-Learning**

Available at any time, so flexible and available anywhere, where you can enter the Internet from anywhere, so his education opportunities are available worldwide.

### **Traditional education**

It has a specific time in the table, places are designed, and educational opportunities are limited to those located in the area of education.

E-learning environments: are represented below

### **Basic components**

A) Teacher: Should be able to use modern teaching techniques.

B) Learner: to have the skills of self-learning and familiar with the use of the computer.

C) Technical support staff: Must be a specialist in computer and Internet components and education technology and can be provided through training programs or workshops or seminars and others.

D) Technical Support Manager

### **Basic equipment**

A) Service devices. B) Internet use.

4. Communication types in e-learning environments

There are two categories of e-learning division as follows:

- Synchronous e-learning: This is an electronic instruction in which the teacher meets the learners simultaneously, so that they have simultaneous communication as well as virtual classes

- Asynchronous e-learning: A communication between the teacher and the student, and asynchronous teaching. The faculty member can develop sources with a teaching and evaluation plan on the learning management system. Then the student enters any time and follows the teacher's instructions to complete the learning without simultaneous communication With the teacher as tasks , discussion and e-mail.

5. Standards of e-learning in light of quality and learning outcomes.

The success of any educational and training system depends largely on promise to internationally agreed quality standards. To achieve quality in e-learning, quality matters consist from eight criteria As follows.

### **Course Overview and Introduction**

The overall design of the course is made clear to the learner at the beginning of the course

### **Learning Objectives**

Learning objectives or competencies describe what learners will be able to do upon completion of the course

### **Assessment and Measurement**

Assessments are integral to the learning process and are designed to evaluate learner progress in achieving the stated learning objectives or mastering the competencies .

### **Instructional Materials**

Instructional Materials enable learners to achieve stated learning objectives or competencies.

### **Course Activities and Learner Interaction**

Course activities facilitate and support learner interaction and engagement.

## Course Technology

Course technology support learners achievement of course objectives or competencies.

## Learner Support

The course facilitates learner access to institutional support services essential to learner success.

## Accessibility and Usability

The course design reflects a commitment to accessibility and usability for all learners.

### 6. Major global experiences in e-learning.

There are a number of countries in the developed world have carried out experiments in the application of different systems of e-learning started using tools to illustrate some of the concepts and experiences and finally Implementation with the application of advanced systems, the following are some of these experiences:

#### University of Eastern Finland: Transition from Traditional to E-Learning

By the beginning of the academic year in 2013, the school bag for about half of the students and teachers has become half the weight of the past years, due to the use of personal computers(tablets) rather than textbooks. This project includes a group of first grade students who started their education that year and all seventh grade students. Seventh grade students will complete their secondary education with this new system. The aim of this financially costly experiment is to transform from traditional to e-learning and to develop education from the point of view Digital Age Information Society.

#### Abu Dhabi Experience:



The Higher Colleges of Technology, which implemented a mobile learning model during the 2009 academic year, is a mobile learning model that utilizes 3G mobile technology and enables students to deal with the subject using the technical advantages of mobile phones such as storage speed, operating efficiency, clarity of images, scientific designs, charts and graphs. Presented with the scientific article. The model benefits about 16,000 students at higher education colleges at the state level. The new technology enables the student to view live presentations of the lectures, discuss the teacher and interact with him electronically from anywhere. It also authorizes the student to access the sources of information in the library of the colleges and the review of e-books, bulletins and periodicals.

#### The University of Taibah Experience in Kingdom of Saudi Arabia



A research team at Taibah University, Faculty of Computer Science and Engineering, implemented project in the development of the learning environment using mobile learning, with the support of the Deanship of Scientific Research and the Deanship of University Development. Mobile Learning Technology to improve the student's learning environment at Taibah University. The project has been implemented at the College of Computer Science and Engineering through a wireless network called Mobile Learning, both inside and outside the campus, so that students can access the e-learning system and other services through mobile devices such as mobile or mobile Or digital personal aids and others.

#### King Khalid University Experience in Kingdom of Saudi Arabia



King Khalid University, represented by the Permanent Committee for Computer, Education and Electronic Training, has prepared and formulated an plan to activate the methods of e-learning at the university. The objectives of this project and the stages of its implementation have been determined. The infrastructure of the project has been completed, represented by the provision of computer laboratories and their accessories. The main network of the university was also supported to meet the needs of this project. And the training of university professors and students to activate and develop computer skills and exploitation of the World Wide Web has started the use of e-learning at the beginning of the academic year 1425/1426.

#### Previous studies

1. The results of the 2008 study The Effect of Using Courses and Designing Electronic Courses on the Internet on the Achievement of Students in the Faculty of Specific Education showed that the use of electronic courses increases students' academic achievement compared to the usual method.
- 2- The results of the study conducted by one of the researchers from Sultan Qaboos University in Amman showed that they started using electronic courses in 2001, where 8 electronic courses were introduced, with 981 students. The number of courses in 2002 increased to 40 electronic courses were introduced, with 3001 students .

3 - The results of the study 2007 The use of the Blackboard system in improving the quality of e - learning in Arab universities The value of e - learning by the Blackboard system lies in providing time and effort to the student and professor, In terms of encouraging innovation, stimulating mind and thought, it provides communication between student and professor at all times and everywhere.

4- A study entitled Information security and cybersecurity by Dr. Adnan Mustafa Al-Bar, Dr. Khalid Ali Al-Marji at King Abdulaziz University, in which he mentioned the future of cybersecurity in the Kingdom of Saudi Arabia and the protection of information security.

Results:-

1 - The importance of linking e-learning to cybersecurity There is a safe learning and provides a very great opportunity to give the opportunity of education to many groups of society

2 - Working to secure and safety the data and information that circulates through networks for e - learning makes it more effective .

3 - Statement of the value of e-learning by the system Blackboard lies in the provision of time and effort to the student and professor and also provides the University's expenses, and is an effective system in the educational process.

4 - The use of electronic courses is working to increase the academic achievement of students compared to the traditional way

5 - The importance of blackboard collaborate virtual classrooms as it is one of the main means to provide online lessons and lectures on the Internet as they transcend temporal and spatial separations and working on distance training and helped to spread education and made the learner able to learn very effectively.

6. E-learning is compatible with modern technology in education in the process of transferring knowledge and information as well as relying on printed sources of books, magazines ,journals, and researches, which in turn encourages the possibility of expanding this type of education and spreading its benefit to all members of society.

### Recommendations

1- Developing education in general through improving the institutional and professional capacities and developing the academic and leadership skills of human resources through the principle of modernization of elements of the educational process since its initial stages and linking them to cybersecurity.

2. Provide students with the necessary knowledge and skills to protect information from the growing threat of cybercrime.

3 - Develop solutions to protect computer networks and information from threats and breakthroughs.

4 - Find ways to qualify university professors to apply cybersecurity for e - learning in the educational

process through training programs or workshops or seminars.

5 - Developing the capacity of the faculty to improve the quality of education outputs in order to achieve the demands of the Saudi work market .

6. Providing an integrated educational electronic environment (computers, internet, software)

7. To identify technical, organizational and administrative means to prevent unsafe use of electronic information retrieval

8. Ensuring the continuity of e-learning and taking the necessary measures to enhance its protection.

9 - Work on the rehabilitation and empowerment of university professors and stimulate innovation in the field of cybersecurity to contribute to achieving access to secure electronic education.

10. Combating electronic crimes through the identification of safe programs.

11. Suggestion development mechanisms for transition from traditional to safe e-learning.

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