

## The Role of Learning Management Systems (LMS) in Developing Learning Skills: The Case of Blackboard

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### Abstract

The current study aims at measuring the efficiency of Blackboard in developing the collaborative and individual learning skills of Taibah University students. Moreover, it has sought to unravel the differences (if any) in the effectiveness of the system in developing the above-mentioned skills according to the change of the user (student, staff member), gender (male, female), and the change of college to which the user belongs (scientific, humanitarian). The study adopted an analytical descriptive approach as it suits the nature of the study and its variables. Doing so, the researchers have built a learning tool which consists of two lists of e-learning skills; the first is for the individual e-learning skills and is divided into three main focuses including 45 statements, and the second is for the collaborative e-learning skills and is divided into three main focuses including 26 statements. The study sample consisted of members of staff, students (males and females) distributed across colleges of Taibah University (n= 17). The study came up with some results of which the most significant were: the Blackboard's efficiency in developing the individual e-learning skills and the collaborative e-learning skills for the students is statistically high. This reflects the importance of integrating the electronic systems within the learning and teaching processes and underlines its positive role in achieving the quality learning at low cost and effort. In addition, the study came up with the absence of indicative differences statistically in developing the individual and collaborative e-learning skills as per the user (student - member staff), their gender (male-female), or the college with which the user is affiliated (scientific - humanitarian). The study recommends the conduct of periodic assessment processes for the system's efficiency in developing students' various learning skills and calls for conducting similar studies to determine the necessary technological requirements for developing Blackboard on the basis of the individual and collaborative e-learning skills.

**Keyword:** Blackboard, Collaborative learning, E-learning, Individual learning, Learning management system.

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# The Role of Learning Management Systems (LMS) in Developing Learning Skills: The Case of Blackboard

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## Abstract

*The current study aims at measuring the efficiency of Blackboard in developing the collaborative and individual learning skills of Taibah University students. Moreover, it has sought to unravel the differences (if any) in the effectiveness of the system in developing the above-mentioned skills according to the change of the user (student, staff member), gender (male, female), and the change of college to which the user belongs (scientific, humanitarian). The study adopted an analytical descriptive approach as it suits the nature of the study and its variables. Doing so, the researchers have built a learning tool which consists of two lists of e-learning skills; the first is for the individual e-learning skills and is divided into three main focuses including 45 statements, and the second is for the collaborative e-learning skills and is divided into three main focuses including 26 statements. The study sample consisted of members of staff, students (males and females) distributed across colleges of Taibah University (n= 17). The study came up with some results of which the most significant were: the Blackboard's efficiency in developing the individual e-learning skills and the collaborative e-learning skills for the students is statistically high. This reflects the importance of integrating the electronic systems within the learning and teaching processes and underlines its positive role in achieving the quality learning at low cost and effort. In addition, the study came up with the absence of indicative differences statistically in developing the individual and collaborative e-learning skills as per the user (student - member staff), their gender (male-female), or the college with which the user is affiliated (scientific - humanitarian). The study recommends the conduct of periodic assessment processes for the system's efficiency in developing students' various learning skills and calls for conducting similar studies to determine the necessary technological requirements for developing Blackboard on the basis of the individual and collaborative e-learning skills.*

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## **1. Introduction**

E-learning is considered one of the most significant features of the technology and information era, its field and functionality, included concepts, and characteristics. Over and above, educational institutions use such technologies to raise their level and the education quality. The presence of schemes that track the educational systems and fulfil the administrative and technical role in learning has become a basis for teaching and learning processes. There exists a tangible tendency for all Saudi universities and particularly Taibah University for using a system for the e-learning management system and the distance learning called (Blackboard) where there is no longer significance for the time and place obstacle in education and it becomes easy to deal with those obstacles through integrating the electronic systems.

By and large, e-learning depends on consistently updating the educational strategies and integrating more than one strategy in a single educational environment and that is to achieve typically the learning goals and to suit the various curricula presentation methods according to such strategies with different sorts of students and recipients of the learning systems. The use of Blackboard has gained a specific attention in both developed and developing countries, where universities in the developed countries concern about expanding its use through developing full curricula by it and that's what made the developing countries strive to catch up with the developed countries in that regard and to recognise the importance of the Blackboard in fostering the efficiency of the educational process in the higher educational institutions.

It should be noted that Taibah University has depended on individual learning strategies in teaching, activities execution, home works, tests and assignments, while designing the e-learning strategies through Blackboard; and has integrated into it the collaborative strategy to enhance the interaction and to share experiences and opinions across students and between students and their teachers. Individual e-learning strategy is one of the best learning strategies as it deals with every student according to his/her capabilities and learning potential, over and above it provides a suitable educational environment for self-study where the teacher guides, supervises the learning process and follows up the tests and the progress of each student separately. Collaborative e-learning, on the other hand, is also from the strategies that has proven its excellence and significance as a strategy for e-learning, and as one of the working groups' strategies where it provides participants with learning opportunities for learning and sharing the information sources as well as the possibility to exchange experiences. The primary objective for the collaborative learning is to acquire the capability to build knowledge in innovative and new ways, and until 2010, it has been one of the best supportive learning strategies within the group.

## **2. Educational Issues**

E-learning has received much attention and interest all over the world in general and particularly in the Arab World. Arab World universities have commenced competing foreign universities in that field, where most of the universities have built the pillars and centres for the e-learning as well as distance learning; through which all the leaders, the staff and students are involved in the learning process to assume their

responsibilities towards the learning and teaching processes, which assisted in developing the practices and the outcomes; and that's because these centres have capability to connect between the technological and the recent interactive resources and between the e-curricula and its design and construction in a way that serves the teaching and learning process through Blackboard.

Along with that progress, the need to integrate effective strategies in the electronic learning is necessary for the success of such systems and important to invest in the desired manner. In that regard, it's worth the mention to two important electronic learning strategies which have improved their efficiency in producing better learning and more comprehensive skills which are the individual e-learning strategy and the collaborative e-learning strategy. Based on the above-mentioned, the aim of the present study is to highlight the efficiency of the Blackboard in developing the Taibah University students' individual and collaborative learning skills.

### **3. Significance of the Study**

#### *3.1 Theoretical Significance*

The theoretical importance of the present study comes from the importance of the variables examined by the study represented in the management of Blackboard; and the individual and collaborative e-learning skills in the sample study; and these variables have importance in developing the learning skills and its outcomes in the sample study, as well as the rarity of the studies on such variables so - within the knowledge of the two researchers - there aren't any previous studies on both variables, furthermore the present study cares about connecting between Blackboard as technological inputs and between developing the intellectual, cognitive and social skills for the students using Blackboard as important requirements should be met in the learning systems to maximise the efficiency in learning and to prepare the students for the labour market to compete in the desired manner.

#### *3.2 Empirical Significance*

The practical importance of the study is to identify the strengths and weakness points of Blackboard in its capability to develop the students' individual and collaborative e-learning skills. Moreover, the results of the study may contribute to serve the designers of Blackboard and the supervisors of the e-learning management in improving the methods and practices that affect developing all the intellectual skills and particularly the individual and collaborative e-learning skills to help improving the systems and its uses.

### **4. Objectives of the Study**

The present study aims at:

- 1- Recognising the efficiency of Blackboard in developing the Taibah University students' individual skills.
- 2- Recognising the efficiency of Blackboard in developing the Taibah University students' collaborative skills.

- 3- Revealing the differences in Blackboard's efficiency in developing the Taibah University students' individual and collaborative learning skills according to the user's change (student - member staff).
- 4- Revealing the differences in Blackboard's efficiency in developing the Taibah University students' individual and collaborative learning skills according to the user's gender (male -female).
- 5- Revealing the differences in Blackboard's efficiency in developing the Taibah University students' (individual and collaborative) learning skills according to the type of college (scientific - humanitarian).

## 5. Data Collection and Analysis

### 5.1 Survey Questions

The study responds to the main question: What's the efficiency of Blackboard in developing Taibah University students' individual and collaborative learning skills? Two sub-questions branched out from the main question:

- 1- What's the efficiency of Blackboard in developing the Taibah University students' individual learning skills?
- 2- What's the efficiency of Blackboard in developing the Taibah University students' collaborative learning skills?
- 3- Does it differ the efficiency of Blackboard in developing the Taibah University students' individual and collaborative learning skills according to the user's change (student - member staff)?
- 4- Does it differ the efficiency of Blackboard in developing the Taibah University students' individual and collaborative learning skills according to the user's gender?
- 5- Does it differ the efficiency of Blackboard in developing Taibah University students' individual and collaborative learning skills according to the type of college (scientific - humanitarian)?

### 5.2 Data Analysis

The questionnaire consists of two main parts: the first for individual e-learning skills, containing (3) main sub-parts of (45) points, and the second for e-learning participatory skills, containing (3) sub-parts of (26) points and the availability of the Blackboard Management System for tools, procedures or support that develop the skill of the user whether male / female, male / female, also in the humanitarian / scientific faculties according to the research variables. This is done by means of the pentagram (very high) - medium - weak - very weak) and receive the first response to five GAT, the second gets four grades, the third gets three grades, the fourth gets two degrees, the fifth gets one grade, the first response (very high) indicates the availability of skills while the fifth (very low) indicates its lack. This questionnaire was passed electronically to faculty members and students of Taibah University. The results of the statistics were divided as follows: 1) variables of the questionnaire: independent variables, variable names of parts of the questionnaire; 2) affiliate variables. The response of the study sample to the statements of the questionnaire by 71 statements. The results were analysed using the SPSS program. The Alpha test was applied to the questionnaire to measure the stability of the questionnaire. It was 99% and was analysed based on:

- frequencies and percentages;
- mean;
- standard deviation.

Third, the adoption of the balance of appreciation according to a five-point Likert scale, as shown next.

Response	Weighted Mean		General Direction
	From	To	
Strongly Disagree	1	1.8	Strongly Disagree
Disagree	1.801	2.6	Disagree
Not Sure	2.601	3.4	Not Sure
Agree	3.401	4.2	Agree
Strongly Agree	4.201	5	Strongly Agree

**Table 1:** Likert Scale Distribution.

We will then use the weighted average of the answers to the questions using the five-point Likert scale to determine the direction of views.

First: e-learning

The definition of e-learning:

Types and systems of e-learning:

The Second Focus/Blackboard

Definition of the Learning management systems (LMS):

Learning management system functions:

Components of the Learning management systems (LMS):

Learning management system types:

- BLACKBOARD:

The Third Focus /e-learning skills

First: Individual e-learning:

Second: Collaborative e-learning.

### 5.3 Procedural Concepts of the Study:

#### 5.3.1 Learning Management Systems (LMS):

It is a set of accredited applications on the Internet used for learning planning, for its implementation, assessment, monitoring the students' participation, their interactions and for the assessment of their performance. It's equipped with communication tools and group discussions. It's controllable at any time and space without obstacles.

### 5.3.2 Blackboard:

It's one of e-learning platforms and accredited learning management system and e-learning content by the deanship of e-learning Taibah University in Saudi Arabia.

### 5.3.3 E-Learning skills:

They're the skills which enable performing the tasks and achieve perfectly the required educational goals using the available e-learning methods within (Blackboard) in Taibah University.

### 5.3.4 Individual Learning Skills:

They're skills which enable the student to learn individually according to his capabilities and his potential in learning to achieve independently the educational goals. Moreover, (Blackboard) enables the student to communicate constantly with his teachers through means of individual communication e.g. (E-Mail) and personal messages within Blackboard. The teacher's role is only limited to monitoring, guidance and assessment.

### 5.3.5 Collaborative Learning Skills:

They're the skills which enable students to learn within big or small homogeneous groups and fulfill teamwork skills to enable all the students together to learn in an appropriate manner which suits every student to achieve the educational goals and to carry out the educational tasks and activities within learning groups, where (Blackboard) links students to appropriate and different collective telecommunication, for example: forums, discussions and collective messages.

## 6. Study Procedures:

### 6.1 Study Community:

Study community consists of all students who studied e-curricula through (Blackboard) and all staff who supervises teaching e-curricula through (Blackboard); in Taibah University– Saudi Arabia.

### 6.2 Study Sample:

Current study sample consists of 50 members of staff, and 154 students distributed across the different faculties of Taibah University.

### 6.3 Approach of the Study:

The current study depended on the analytical descriptive approach as it suits the nature of the study and its variables.

### 6.4 Delimitation of the Study:

- **Objective Limits:** The current studying is limited to the individual and collaborative e-learning skills.
- **Space Limits:** Taibah University is in the Western region of Saudi Arabia and it covers five governorates: Madinah, Al-`Ula, Badr, Khaybar and Yanbu.



- **Time Limits:** The second term of the academic year 2017/2018.
- **Other Limits:** Blackboard users are students, members of staff and who are like them in Taibah University.

## 7. Study Tools:

After reviewing the literary theory, the questionnaire has been prepared to measure the efficiency of (Blackboard) in developing the individual and collaborative learning skills for students studying e-curricula through system.

### 7.1 Overview of the Questionnaire:

The questionnaire consists of two main parts; the first is for the individual e-Learning skills and contains (3) main focuses including (45) statements, while the second one is for the collaborative e-Learning skills and contains (3) main focuses including (26) statements. Each paragraph will be answered through determining the degree of provision and availability of (Blackboard) to the tools and procedures or support that develop the learner's skills through Liker scale (Very High- High- Medium - low- very low), the first response gets five degrees, the second gets four degrees, the third gets three degrees, the fourth gets two degrees and the fifth gets one degree, and first response indicates (Very High) that skills are available while the fifth indicates (Very low) which means lack of skills.

Way of preparing the questionnaire: To prepare the study tool, the two researchers followed the following steps:

- 1- Reviewing the previous studies and researches on the individual and collaborative e-learning skills and benefit from them.
- 2- Preparing the first vision of the questionnaire main focuses and the sub-focuses of each focus and elaborating its statements.
- 3- Presenting the questionnaire to specialists in the field of teaching techniques, curricula and teaching methodologies for judgment.
- 4- Reviewing the study arbitrators observations and suggestions and take advantage of them, and conduct processes of omissions and appropriate additions, modifying wording and then rebuilding the questionnaire in its final image as shown below in table (2).

<b>M</b>	<b>Individual learning skills</b>	<b>Number of Statements</b>
1	First focus/ Personal and Ethical Aspect	7
2	Second focus/ Cognitive and Educational Aspect	26
3	Third Focus /The Electronic technical Aspect	8
	<b>Total</b>	<b>45</b>



M	Collaborative Learning Skills	Number of Statements
1	First Focus/ Group Ethics	8
2	Second Focus / The study within the group	11
3	Third Focus / Group learning tools	7
	<b>Total</b>	<b>26</b>
	<b>Questionnaire's Statements</b>	<b>71</b>

**Table (2):** Detailed description of the questionnaire in its final image.

**7.2 Validity and Reliability of the Questionnaire:**

Five competent arbitrators in Information, Learning Resources and Educational Technology have reviewed the questionnaire in its primary form to judge the validity of the questionnaire's statements at measuring the availability of the individual and collaborative learning skills. The percentage of agreement on the questionnaire's statements has ranged from 90-100% which indicates an acceptable degree of trust while handling the questionnaire.

**7.3 Internal Consistency of the Questionnaire:**

The internal consistency coefficient of the questionnaire's focuses has been calculated collectively and with its total score, the two researchers have used the Pearson correlation coefficient's (PCC), all values were characterized by a considerable value of internal consistency as the three focuses for each section was related to the other focuses to the other section and the overall degree of the consistency coefficient was at a significance value (0,01) which indicates an acceptable degree of trust while handling the questionnaire.

Table (3) shows correlation coefficient values:

Questionnaire's focuses	Personal and Ethical Aspect	Cognitive and Learning Aspect	Electronic technical aspect	Skills of individualistic learning	Group Ethics	Study within the group	Group Learning Tools	Collaborative Learning Skills	Total score
Personal and Ethical Aspect	1	**871.	**825.	**776.	**753.	**747.	**733.	**776.	**883.
Cognitive and Learning Aspect	**871.	1	**846.	**883.	**854.	**867.	**821.	**883.	**968.
Electronic technical aspect	**825.	**846.	1	**841.	**813.	**806.	**802.	**841.	**911.
Skills of individualistic learning	**776.	**883.	**841.	1	**949.	**975.	**837.	1	**962.

<b>Group Ethics</b>	**753.	**854.	**813.	**949.	1	**900.	**837.	**949.	**923.
<b>Study within the group</b>	**747.	**867.	**806.	**975.	**900.	1	**903.	**975.	**939.
<b>Group Learning Tools</b>	**733.	**821.	**802.	**954.	**837.	**903.	1	**954.	**906.
<b>Collaborative Learning Skills</b>	**776.	**883.	**841.	1	**949.	**975.	**954.	1	**962.
<b>Total score</b>	**883.	**968.	**911.	**962.	**923.	**939.	**906.	**962.	1

\*\* Which means that the numbers are indicative at a significance value (0, 01)

**Table (3)** Correlation coefficient's Matrix between the questionnaire focuses each other and the total score of the individual and collaborative e-learning skills.

The tool’s consistency has been verified using “Cronbach's alpha” for the questionnaire’s focuses and for questionnaire overall. All the coefficient's consistency were very high which indicates an acceptable measure of reliability while handling the scale. Table (4) shows the coefficient's consistency of “Cronbach's alpha” questionnaire and its focuses:

Focus	Number of Statements	Coefficient's Consistency of “Cronbach's Alpha”
<b>Part I/ Individual e-learning skills</b>	45	0.988
The first focus/ Personal and Ethical Aspect	7	0.915
Second focus/ Cognitive and Educational Skills	27	0.985
The Third Focus /The Electronic technical aspect	11	0.957
<b>Part II/ Collaborative e-learning skills</b>	26	0.985
First Focus/ Group Ethics Skills	8	0.957
Second Focus / Study within the group	11	0.970
Third Focus / Group learning tools	7	0.961
<b>Questionnaire's Overall Consistency</b>	71	0.915

**Table (4)** Coefficient's Consistency - Cronbach's Alpha.

## 8. Results and Discussion

### 8.1 Interpretation of the Study Findings:

To interpret the results of the study the two researchers have identified a standard for interpreting and discussing the results according to the grades of the answers and in a mathematical manner as follow:

$$\text{Range} = \text{Biggest value for answer Classes} - \text{Smallest value for answer Classes} = 5-1 = 4$$

$$\text{Class length} = (\text{Range} \div \text{No. of Classes}) = 4 \div 5 = 0.80$$

So the standard of judgment on the arithmetic average value will be as shown below in the table:

Response criterion	Arithmetic average
Very High	From 4,20 to 5
High	From 3,40 to 4,20
Average	From 2,60 to less than 3.40
Low	From 1,80 to less than 2.60
Very Low	From 1 to less than 1.80

**Table (5):** Responses criterion and the arithmetic average for the five-level Liker grades.

Accordingly:

- The individual and collaborative learning skills that Blackboard contributes to develop are those that average responses of the individuals vary from (2.60 to 5) which means at a very high, high or average degree.
- The individual and collaborative learning skills that Blackboard doesn't contribute to develop are those that average responses of the individuals vary from (1 to less than 2.60) which means at a low or very low degree.

**Responses to the survey questions:**

**First: Response to the first question**

To answer the first question which is: "What's the efficiency of Blackboard in developing the Taibah University students' individual learning skills?"; The two researchers have used the percentages and the frequencies to recognize the efficiency of Blackboard in developing the Taibah University students' individual learning skills. Table (6) shows the efficiency of Blackboard in developing the Taibah University students' individual learning skills in descending order in each focus according to the frequencies and the percentages.

No	Aspect	Element	Number					Weighted Mean	standard deviation	General Direction
			Strongly Disagree	Disagree	Not Sure	Agree	Agree Strongly			
1	The personal and moral aspect	The system develops the skill of decision making by giving it the freedom to choose some educational	8	22	64	50	60	3.65	1.13	Agree

	and study decisions								
	The system contributes to the development of the student's time management skills	10	12	30	66	86	4.01	1.12	Agree
	The system helps to develop the skill of accuracy and speed of the student	6	8	52	78	60	3.87	0.98	Agree
	The system helps to enhance the value of the student's scientific trust	18	10	58	58	60	3.65	1.20	Agree
	The system encourages students to experiment and discover	6	24	46	58	70	3.79	1.13	Agree
	The system helps to develop the values of preserving the university's gains	12	24	58	58	52	3.56	1.16	Agree

		The system helps to develop students' love of learning	16	16	52	56	64	3.67	1.22	Agree
General Weighted Mean								3.74	Agree	

**Table (6)** Efficiency of Blackboard in developing students' individual learning skills.

The table shows that Blackboard efficiency of developing individual learning skills of the students at Taibah University was between Very High and Very Low; and it is rational and predictable outcome. The two researchers interpret the quality of Blackboard, its relevance to the students' terminus and their understanding to its mechanism and requirements, so that was reflected in their ability to make decision to learn and manage well their time.

No	Aspect	Element	Number					Weighted Mean	standard deviation	General Direction
			Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree			
1	Knowledge and e academic skills	The student system can self-evaluate according to its level	16	12	40	78	58	3.74	1.17	Agree
		The system develops the skill of retrieving information through educational tasks and activities	18	12	32	74	68	3.79	1.22	Agree
		The system develops the skill of preparation by providing the content of the lessons before	24	14	26	74	66	3.71	1.31	Agree

	the date of to see its study .content								
	The system takes into account the individual differences so that each student learns according to his abilities	20	30	54	48	52	3.40	1.28	Agree
	The system helps to develop the skill of knowledge building on the information previously studied and employed in following the stages	6	24	46	58	70	3.50	1.19	Agree
	The system enhances the logical of rendering topics from one segment to the next	18	18	54	62	52	3.55	1.21	Agree
	The system develops the skill of logical interconnection between information and knowledge	18	18	56	68	44	3.50	1.18	Agree

		The system develops the skill of conclusion through the gradient from year to year	18	18	52	64	52	3.56	1.21	Agree
		The system helps to develop good skills planning for learning tasks and responsibilities	16	8	42	84	54	3.75	1.13	Agree
		The system develops writing skills the through tasks and activities required in courses	18	8	44	80	54	3.71	1.16	Agree
		The system provides flexibility in organizing content in the way the student wishes	16	20	32	70	66	3.74	1.23	Agree
		The system provides the student with the opportunity to discuss and express the content in question	22	20	26	64	72	3.71	1.33	Agree



		The system enables the use of different senses in the observation to promote reflection on the educational situation and to arrive at some hypotheses related to the problem and prediction	26	18	46	50	64	3.53	1.35	Agree
		The system develops the skill of the analyzing content into pieces to reach logical conclusions	22	16	52	62	52	3.52	1.25	Agree
		The system includes innovative ways to stimulate student motivation towards learning	16	12	70	60	46	3.53	1.14	Agree
		The system helps to develop the student's thinking and scientific thinking skills	18	14	56	62	54	3.59	1.20	Agree

	The system helps to develop the critical thinking skills of the student	14	28	64	44	54	3.47	1.21	Agree
	The system promotes new (original) ideas about learning topics	18	32	44	56	54	3.47	1.28	Agree
	The system helps to develop 'students reasoning skills	16	22	64	52	50	3.48	1.20	Agree
	The system helps to diversify ideas and alternatives as the subject of learning changes	12	20	66	56	50	3.55	1.14	Agree
	The system develops judgmental skills by providing the necessary criteria for judging different answers or solutions to the problem or issue at hand	16	12	66	48	62	3.63	1.20	Agree
	The system develops the	14	18	60	54	58	3.61	1.18	Agree

	skill of distinguishing between similar and different phenomena								
	The system helps to develop 'students creative thinking skills	20	20	54	54	56	3.52	1.26	Agree
	The system enhances the skills of generating ideas and creating solutions for activities and duties	18	8	62	54	62	3.66	1.20	Agree
	The system helps to develop the skill of experimentation through conducting applied experiments to test hypothesis validity	22	16	62	60	44	3.43	1.22	Agree
	The system helps to develop the student's communication skills	20	20	48	64	52	3.53	1.25	Agree
	The system helps to	18	26	44	58	58	3.55	1.27	Agree

		develop the student's dialogue skills								
General Weighted Mean								3.58	Agree	

**Table (7)** Second focus for the individual e-learning skills.

In the Second Focus /Cognitive and learning aspect, the presence of average and low percentages in achieving the efficiency of some skills can be interpreted that Blackboard didn't focus in developing the methods of developing the cognitive and learning aspects and relied on fixed methods and imposed them on the students. It didn't even permit the student to choose the method that suits him and it primary relied on how the lecturer performed through the audio attached to the e-curriculum by only the lecturer without the interactions of students.

No	Aspect	Element	Number					Weighted Mean	standard deviation	General Direction
			Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree			
3	Electronic Technical Skills	The system helps to develop skills in dealing with electronic devices and .programs	10	2	24	56	112	4.26	1.04	Strongly Agree
		The system provides a special password for each student to save privacy and .security	10	4	10	50	130	4.40	1.02	Strongly Agree
		The system provides access to the texts of presentations and can be read at any .time	10	4	32	58	100	4.15	1.07	Agree

		The system provides the teacher with tools to manage the learning process and guide each student electronically.	16	8	44	56	80	3.91	1.18	Agree
		The system provides tools for monitoring interactions within the system for each individual student to contribute to continuous effective evaluation.	16	8	44	56	80	3.86	1.21	Agree
		The system promotes effective communication skills between the student and the teacher through the communication tools available to him.	16	4	56	48	80	3.84	1.20	Agree

	System tools enable the student to determine the appropriate time schedule to achieve learning tasks and .objectives	18	12	32	58	84	3.87	1.26	Agree
	The system provides technical support and appropriate channels to ask questions .and queries	16	12	30	58	88	3.93	1.23	Agree
	The student system can navigate the net and follow the new in his .specialty	20	28	32	62	62	3.58	1.31	Agree
	The system diversifies into e-learning resources so that the student can choose the appropriate resources	18	22	48	50	66	3.61	1.28	Agree
	The system enables students to create their own stores to	20	18	40	50	76	3.71	1.31	Agree

		save their desired educational .files								
General Weighted Mean								3.92	Agree	

**Table (8):** Third focus for the individual e-learning skills.

In the Third Focus /The electronic technical aspect. To supplement the two researchers have reached an average of efficiency of each aspect from the three aspects and the average of the individual skills in general as shown below in table (9).

No	Aspect	Element	Number					Weighted Mean	standard deviation	General Direction
			Strongly Disagree	Disagree	Not Sure	Agree	Agree Strongly			
1	Group ethics skills	The system develops a responsible attitude in learning for .students	14	4	26	70	90	4.07	1.13	Agree
		The system helps to develop the of qualities commitment and respect rules or follow .instructions	12	0	32	72	88	4.10	1.06	Agree
		The system helps to develop the skills of cooperation between students to achieve .common goals	18	4	40	62	80	3.89	1.21	Agree



	The system helps instill the principles of meaningful dialogue among .students	18	8	46	64	68	3.76	1.21	Agree
	The system helps to develop 'students leadership .skills	14	12	40	66	72	3.83	1.18	Agree
	The system helps to develop the value of accepting criticism and respecting .others	18	14	60	54	58	3.59	1.22	Agree
	The system helps to develop Shura .skills	18	20	46	64	56	3.59	1.23	Agree
	The system helps overcome isolation and individual action problems	20	16	40	56	72	3.71	1.29	Agree
General Weighted Mean							3.82	Agree	

Table (9) Efficiency arithmetic average of Blackboard in developing the individual learning skills.

**Second: To answer the following question which is** what's the efficiency of (Blackboard) in developing the Taibah University students' collaborative learning skills. Table 10 below shows for First focus the collaborative e-learning skills.

No	Aspect	Element	Number					Weighted Mean	Standard Deviation	General Direction
			Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree			
2	Study skills within the group	System tools allow for synchronization in discussion and commentary on others' publications	14	10	44	66	70	3.82	1.16	Agree
		The system provides tools for monitoring the shares of each group	16	14	54	50	70	3.71	1.23	Agree
		The system allows all members of the to group participate in all tasks equally and balance among themselves	18	10	46	68	62	3.72	1.20	Agree
		The system allows brainstorming in parallel with other online learners	16	16	52	48	72	3.71	1.24	Agree
		The system provides opportunities to and tools support and support group decision making	12	20	46	62	64	3.72	1.18	Agree

		The system allows students to participate in building and organizing content .collaboratively	18	14	52	58	62	3.65	1.23	Agree
		The system encourages creative thinking and creative solutions to problems in a group interactive manner	18	8	62	54	62	3.66	1.20	Agree
		The system supports drawing and entering mental maps for the process of thinking, starting from presenting the to the problem solution in .common	20	22	50	54	58	3.53	1.28	Agree
		The system allows each group to create own its schedule to accomplish common tasks .and activities	14	20	54	54	62	3.64	1.21	Agree
		The system provides the	18	16	60	60	50	3.53	1.20	Agree

		possibility of mutual evaluation between different groups and members of a .group								
		The system allows for the exchange of in the roles leadership of group .members	12	16	60	58	58	3.66	1.14	Agree
General Weighted Mean								3.67	Agree	

**Table 10:** First focus the collaborative e-learning skills.

The above-mentioned table shows that the degree of Blackboard's efficiency in developing the Taibah University students' (collaborative) skills ranged from very high to very low and it makes sense. The results of the First Focus/ Group Ethics Skills were the highest efficiency degree was for the skill of Overall at the focus level, the focus arithmetic average has reached ... and the researchers interpret that Blackboard has succeeded in distributing the tasks.

No	Aspect	Element	Number					Weighted Mean	standard deviation	General Direction
			Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree			
3	Group learning skills	The tools within the system enable a group of people to edit same the document at .one time	18	12	56	52	66	3.67	1.23	Agree

		The system provides synchronization for on tools discussion and dialogue between groups and within a .group	16	6	64	58	60	3.69	1.16	Agree
		The system provides tools for group communication between members of one group and between different .groups	22	6	60	56	60	3.62	1.24	Agree
		The interaction tools vary to deal with each group with the appropriate .tools	14	4	56	70	60	3.77	1.10	Agree
		The system helps keep notes related meetings to so that they can be referenced and used .later	14	8	58	54	70	3.77	1.17	Agree

		The group system can create their online own space to save their own content-specific educational .files	14	12	68	50	60	3.64	1.16	Agree
		Stimulates the system to create and your manage favorite sites and share them with others over .the Internet	16	12	56	64	56	3.65	1.17	Agree
<b>General Weighted Mean</b>								<b>3.69</b>	<b>Agree</b>	

**Table (11):** Second focus for the collaborative e-learning skills.

In the Second Focus/The Study within the group the highest efficiency degree was for the skill of. Which means that Blackboard develops highly these skills. Although the lowest efficiency was in the skill. Which means that Blackboard develops at a low level these skills. Overall at the focus level, the focus arithmetic average has reached, and the researchers interpret that Blackboard.

No	Aspect	Element	Number					Weighted Mean	standard deviation	General Direction
			Strongly Disagree	Disagree	Not Sure	Agree	Agree Strongly			
<b>Part I Individual e-learning skills</b>										
1	The personal and moral aspect	The system develops the skill of decision making by giving it the freedom to choose some educational and study decisions	8	22	64	50	60	3.65	1.13	Agree

		The system contributes to the development of the student's time management skills	10	12	30	66	86	4.01	1.12	Agree
		The system helps to develop the skill of accuracy and speed of the student	6	8	52	78	60	3.87	0.98	Agree
		The system helps to enhance the value of the student's scientific trust	18	10	58	58	60	3.65	1.20	Agree
		The system encourages students to experiment and discover	6	24	46	58	70	3.79	1.13	Agree
		The system helps to develop the values of preserving the university's gains	12	24	58	58	52	3.56	1.16	Agree
		The system helps to develop students' love of learning	16	16	52	56	64	3.67	1.22	Agree
2	Knowledge and academic skills	The student system can self-evaluate according to its	16	12	40	78	58	3.74	1.17	Agree



	level								
	The system develops the skill of retrieving information through educational tasks and activities	18	12	32	74	68	3.79	1.22	Agree
	The system develops the skill of preparation by providing the content of the lessons before the date of to see its study .content	24	14	26	74	66	3.71	1.31	Agree
	The system takes into account the individual differences so that each student learns according to his abilities	20	30	54	48	52	3.40	1.28	Agree
	The system helps to develop the skill of knowledge building on the information previously studied and employed in the	6	24	46	58	70	3.50	1.19	Agree

	following stages								
	The system enhances the logical of rendering topics from one segment to the next	18	18	54	62	52	3.55	1.21	Agree
	The system develops the skill of logical interconnection between information and knowledge	18	18	56	68	44	3.50	1.18	Agree
	The system develops the skill of conclusion through the gradient from year to year	18	18	52	64	52	3.56	1.21	Agree
	The system helps to develop good planning skills for learning tasks and responsibilities	16	8	42	84	54	3.75	1.13	Agree
	The system develops writing skills the through tasks and activities required in courses	18	8	44	80	54	3.71	1.16	Agree

		The system provides flexibility in organizing content in the way the student wishes	16	20	32	70	66	3.74	1.23	Agree
		The system provides the student with the opportunity to discuss and express the content in question	22	20	26	64	72	3.71	1.33	Agree
		The system enables the use of different senses in the observation to promote reflection on the educational situation and to arrive at some hypotheses related to the problem and prediction	26	18	46	50	64	3.53	1.35	Agree
		The system develops the skill of the analyzing content into pieces to reach logical conclusions	22	16	52	62	52	3.52	1.25	Agree

		The system includes innovative ways stimulate to student motivation towards learning	16	12	70	60	46	3.53	1.14	Agree
		The system helps to develop the student's thinking and scientific thinking skills	18	14	56	62	54	3.59	1.20	Agree
		The system helps to develop the critical thinking skills of the student	14	28	64	44	54	3.47	1.21	Agree
		The system promotes new (original) ideas about learning topics	18	32	44	56	54	3.47	1.28	Agree
		The system helps to develop 'students reasoning skills	16	22	64	52	50	3.48	1.20	Agree
		The system helps to diversify ideas and alternatives as the subject of learning changes	12	20	66	56	50	3.55	1.14	Agree

		The system develops judgmental skills by providing the necessary criteria for judging different answers or solutions to the problem or issue at hand	16	12	66	48	62	3.63	1.20	Agree
		The system develops the skill of distinguishing between similar and different phenomena	14	18	60	54	58	3.61	1.18	Agree
		The system helps to develop 'students creative thinking skills	20	20	54	54	56	3.52	1.26	Agree
		The system enhances the skills of generating ideas and creating solutions for activities and duties	18	8	62	54	62	3.66	1.20	Agree
		The system helps to develop the skill of experimentation through conducting	22	16	62	60	44	3.43	1.22	Agree

		applied experiments to test hypothesis validity								
		The system helps to develop the student's communication skills	20	20	48	64	52	3.53	1.25	Agree
		The system helps to develop the student's dialogue skills	18	26	44	58	58	3.55	1.27	Agree
3	Electronic Technical Skills	The system helps to develop skills in dealing with electronic devices and .programs	10	2	24	56	112	4.26	1.04	Agree Strongly
		The system provides a special password for each student to save privacy .and security	10	4	10	50	130	4.40	1.02	Agree Strongly
		The system provides access to the texts of presentations and can be read .at any time	10	4	32	58	100	4.15	1.07	Agree
		The system provides the teacher with to manage tools the learning process and guide each	16	8	44	56	80	3.91	1.18	Agree

	student .electronically								
	The system provides tools for monitoring interactions within the system for each individual student to contribute to continuous effective .evaluation	16	8	44	56	80	3.86	1.21	Agree
	The system promotes effective communication skills between the student and the teacher through the communication available tools .to him	16	4	56	48	80	3.84	1.20	Agree
	System tools enable the student to determine the appropriate time schedule to achieve learning tasks and .objectives	18	12	32	58	84	3.87	1.26	Agree
	The system provides technical support and appropriate	16	12	30	58	88	3.93	1.23	Agree



		channels to ask questions and queries								
		The student system can navigate the net follow the and new in his specialty	20	28	32	62	62	3.58	1.31	Agree
		The system diversifies into e-learning resources so that the student can choose the appropriate resources	18	22	48	50	66	3.61	1.28	Agree
		The system enables students to create their own stores to save their desired educational files	20	18	40	50	76	3.71	1.31	Agree
<b>Part 2: Participatory e-learning skills</b>										
1	Group ethics skills	The system develops a responsible attitude in learning for students	14	4	26	70	90	4.07	1.13	Agree
		The system helps to develop of the qualities commitment and respect rules or follow instructions	12	0	32	72	88	4.10	1.06	Agree

		The system helps to develop the skills of cooperation between students to achieve .common goals	18	4	40	62	80	3.89	1.21	Agree
		The system helps instill the principles of meaningful dialogue among .students	18	8	46	64	68	3.76	1.21	Agree
		The system helps to develop 'students leadership .skills	14	12	40	66	72	3.83	1.18	Agree
		The system helps to develop the value of accepting criticism and respecting .others	18	14	60	54	58	3.59	1.22	Agree
		The system helps to develop .Shura skills	18	20	46	64	56	3.59	1.23	Agree
		The system helps overcome isolation and individual action problems	20	16	40	56	72	3.71	1.29	Agree
2	Study skills within the group	System tools allow for synchronization in discussion and	14	10	44	66	70	3.82	1.16	Agree

	commentary on others' publications								
	The system provides tools for monitoring the shares of each group	16	14	54	50	70	3.71	1.23	Agree
	The system allows all members of the to group participate in all tasks equally and balance among themselves	18	10	46	68	62	3.72	1.20	Agree
	The system allows brainstorming with in parallel other online learners	16	16	52	48	72	3.71	1.24	Agree
	The system provides opportunities to and tools support and support group decision making	12	20	46	62	64	3.72	1.18	Agree
	The system allows students to participate in building and organizing content collaboratively	18	14	52	58	62	3.65	1.23	Agree

		The system encourages creative thinking and creative solutions to problems in a group interactive manner	18	8	62	54	62	3.66	1.20	Agree
		The system supports drawing and mental entering maps for the process of thinking, starting from presenting the to the problem solution in .common	20	22	50	54	58	3.53	1.28	Agree
		The system allows each group to create own its schedule to accomplish common tasks .and activities	14	20	54	54	62	3.64	1.21	Agree
		The system provides the possibility of mutual evaluation between different groups and members of .a group	18	16	60	60	50	3.53	1.20	Agree

		The system allows for the exchange of in the roles leadership of .group members	12	16	60	58	58	3.66	1.14	Agree
3	Group learning skills	The tools within the system enable a group of people to edit same the document at .one time	18	12	56	52	66	3.67	1.23	Agree
		The system provides synchronization for tools discussion and dialogue between groups and within a .group	16	6	64	58	60	3.69	1.16	Agree
		The system provides tools for group communication between members of one group and between different .groups	22	6	60	56	60	3.62	1.24	Agree
		The interaction tools vary to each deal with group with the appropriate .tools	14	4	56	70	60	3.77	1.10	Agree

	The system helps keep notes related to meetings so that they can be referenced and used later	14	8	58	54	70	3.77	1.17	Agree
	The group system can create their own online space to save their own content-specific educational files	14	12	68	50	60	3.64	1.16	Agree
	Stimulates the system to create and manage your favorite sites and share them with others over the Internet	16	12	56	64	56	3.65	1.17	Agree
General Weighted Mean							3.70	Agree	

**Table (12):** Third focus for the collaborative e-learning skills.

In the Third Focus/Group Learning Tools the highest efficiency degree was for the skill. Overall at the focus level, the focus arithmetic average has reached, and the researchers interpret that Blackboard. To supplement, the two researchers have reached an average of efficiency of each aspect from the three aspects and the average of the individual skills in general as shown below. Through the previous table, the general average for the system's efficiency in developing the individual learning skills.

**Third: To answer the following question which is** Does it differ the efficiency of (Blackboard) in developing the Taibah University students' individual and collaborative learning skills according to the user's profile change (student - member staff). The two researchers have used a test for two independent sample tests (T-Test); to determine the differences and their directions and it revealed the quality of (v) and its statistical significance in determining Blackboard's efficiency in developing the Taibah University

students' individual and collaborative learning skills according to the user's profile change (student - member staff).

**Fourth:** To answer the fourth question which is “Does it differ the efficiency of Blackboard in developing the Taibah University students' individual and collaborative learning skills according to the user's gender (male -female). The two researchers have used a test for two independent sample tests (T-Test); to determine the differences and their directions and it showed the value of (w) and its statistical value in determining the (Blackboard's) efficiency in developing the Taibah University students' individual and collaborative learning skills according to the user's gender male -female).

**Fifth: To answer the fifth question which is** does it differ the efficiency of Blackboard in developing the Taibah University students' individual and collaborative learning skills according to the type of college (scientific - humanitarian). The two researchers have used a test for two independent sample tests (T-Test); to determine the differences and their directions, as shown below in table (15) which reveals the quality of (w) and its statistical significance in determining the (Blackboard's) efficiency in developing the Taibah University students' individual and collaborative learning skills according to the type of college (scientific - humanitarian).

## 9. Recommendations:

According to the results of the present study the two researchers recommend the following:

- 1- The periodic assessment for the Blackboard's efficiency in developing the learning and thinking skills for various students by the deanship of e-learning university.
- 2- Direct the employees working on developing the system to the results of the study so that Blackboard can assess the individual and collaborative e-learning skills, to overcome the weakness points and to support the points of strength and to improve them.
- 3- Train the students and inform them about the different components of the system and its mechanism so they can use it effectively.
- 4- Train the staff, who are responsible for supervising the e-curricula, on the individual and collaborative learning skills strategies via (Blackboard).
- 5- Modifying the (Blackboard) system in consistent with developing the individual and collaborative learning skills to achieve the University's higher goals.

## 10. Suggestions for Future Practice

In order to develop Blackboard's systems, and according to what the researchers have reached, they propose the following:

- 1- Determining the technological requirements to improve (Blackboard's) system on the basis of the individual e-learning skills.
- 2- Determining the technological requirements to improve (Blackboard's) system on the basis of the collaborative e-learning skills.

- 3- Blackboard's efficiency to develop Taibah University students creative and critical thinking.
- 4- Staff turning to developing the student skills by e-learning.

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