JOURNAL OF INTERNATIONAL CRISIS AND RISK COMMUNICATION RESEARCH
ISSN: 2576-0017
2024, VOL 7, NO S11

The Impact of Using Learning Management System "Blackboard" on Academic Achievement and Student Learning Motivation

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ABSTRACT

The purpose of this study was to identify the impact of the use learning management system (Blackboard) on Students' learning motivation, the level of satisfaction to first-year university students and defines the degree of students' Academic Achievement after using the learning management system (Blackboard) and the level of satisfaction with them. The researchers used the semi-experimental curriculum to identify the impact of learning management system (Blackboard) on Students' learning motivation, the level of satisfaction and Academic Achievement to first-year university students. The study sample consisted of 112 students divided into two groups, the first being made up of 57 students from the engineering college, and 55 students at computer science college that used learning management systems (Blackboard). The researchers prepared the content of the communication unit to fit the Learning management system. The researchers also prepared a test on the communication skills unit as well as measure of Students' learning motivation, and the level of satisfaction. The results of the study show that the level of student learning motivation and satisfaction who used the learning management system (Blackboard)was acceptable on average "1.99 and 2.26 "at students of engineering and computer science and percentage of students' responses in terms of Agree or Disagree of the measure of learning motivation, and the level of satisfaction with the use of the learning management system (Blackboard) generally came at an agree with a percentage of (82 and 84) at students of engineering and computer science. Besides, the results indicate no statistically significant differences between students' levels of learning motivation and satisfaction between students from first year of computer science and students from first year of engineering that used learning management system (Blackboard). The results also show a statistical difference in students' achievement levels in favor of the post-test for students who used the learning management system (Blackboard). There were also no statistically significant differences in the level of the post-achievement test between students from first year of computer science and students from first year of engineering that used the learning management system (Blackboard) . The study concludes with providing some recommendations and suggestions.

KEYWORDS: Learning Management System (LMS) , Blackboard, Student Motivation , Communication Skills.

1. Introduction

Modern educational philosophy relies on frameworks and key components to formulate educational policy, achieve goals, and ensure high-quality education. The current education system faces many challenges as recent changes accelerate and transition to smart learning. Therefore, continuous development is the most important way to overcome these challenges and improve the performance of educational institutions so that they can achieve their goals. (Abdullah Al-Qaab,2021)

In previous years, there has been an increased adoption of learning management systems in all educational institutions, especially universities, where the tendency to use technology for learning has led to the adoption of learning management systems. Considering this, several studies have been conducted on the effectiveness of the use of learning management systems, and the impact of this use on the teaching and learning processes. The importance of using learning management systems and using technology and focusing on them is evident, especially as the coronavirus pandemic is spreading, which has left all educational institutions moving in one way or another to take advantage of learning management systems to achieve their objectives. (Chen et al.,2021)

For the success of the e-learning system and the achievement of maximum effectiveness, it is necessary to improve the mechanisms of work, and the creation of an interactive environment, and use appropriate systems to manage the electronic system and train administrative cadres, faculty members, and students to deal with them efficiently and effectively, Continuous follow-up from the governing body to evaluate, develop, improve and solve all problems encountered by users Higher education institutions will not be able to continue advancing in e-learning programs unless e-learning systems are used effectively. (Klobas &Renzi, McGill,2014)

1.1 Statement of the problem:

LMS aims to increase teaching efficiency, enrich student learning, and achieve increasingly profound impacts on teaching and learning processes. However, the importance of learning management systems does not lie in owning them alone. It goes beyond that to verify the extent to which they benefit from and achieve the desired goals and objectives and the satisfaction of users. This comes only by verifying the usability of these systems by their actual users. The usability of learning management systems in university education ensures the optimal use of all functions provided by these systems. (Abushamleh & Jusoh, 2021)

In the field of teaching and learning, and with the tendency of educational institutions to develop and adopt learning management systems “The study of the usability of learning management systems has become a promising research area aimed at finding ways to identify the problems of learning management systems and how to take advantage of their effects in the user experience and discover new

functions". (Jimenes et al.,2018, p.949)

Considering the above, the importance of using learning management systems in achieving a range of teaching and learning goals and overcoming some of the problems that may face the educational process, especially considering pandemics or unusual circumstances, in addition to supporting teaching and learning through various e-learning platforms. (Second language for students) for first-year undergraduate students Noting the low level of student's interaction and participation in academic activities and student-based learning because of their poor level of English language, which makes them play and afraid to participate in interactive discussions and activities. In view of this, the current study attempts to answer the following overall research question:

What has the impact of the use of LMS (Blackboard) has on learning motivation, the level of satisfaction and academic achievement?

This overall question can be divided into the following sub-research questions:

- To what extent are students' learning motivation, and the level of satisfaction with the use of the learning management system (Blackboard)?
- Are there any statistical differences in students in the learning motivation, and the level of satisfaction between the students at college of Engineering and college of Computer Science after using LMS (Blackboard)?
- Are there statistical differences in student achievement before and after using LMS (Blackboard)?
- Are there statistical differences in students' achievement levels due to the different

College (Engineering, Computer Science)?

1.2 The objectives of the study:

The current study endeavors to identify the effectiveness of using LMS (Blackboard) in teaching to develop at the motivational level of learning and academic achievement.

1.3 The importance of studying:

The importance of this study is due to its alignment with modern trends and the search for effective teaching strategies in teaching such as learning management systems. In particular, the effective use of the latest modern technology. Also this study provides practical models for lessons prepared in the teaching of communication skills by using LMS (Blackboard) and The results of this study can provide relevant recommendations for the development of teaching communication skills, This study also contributes to the activation of Blackboard learning management systems in teaching students as one of the important sources of learning.

1.4 Definition of basic term:

Learning Management System concept relates to software on digital platforms

designed to make the learning experience more efficient and aims to simplify content management and data organization.

Learning Management Systems (LMS): An online learning environment, used to manage and track learning resources, tools, and activities that can be easily shared between teachers and students. (Al-Sharhan et al., 2020)

It is known procedurally as the e-learning platforms (blackboard) that are used by Imam Abdulrahman bin Faisal University and rely on the Internet and used in university education to help manage and follow the educational process and provide educational content and activities and can be easily used by students and faculty members.

E-Learning: It can be defined procedurally as an interactive system of education provided to the learner using communication and information technology, specifically the Blackboard system, and relies on an integrated digital electronic environment that displays courses via Blackboard and provides guidance, guidance, and organization of assessment as well as the management of sources and processes and student evaluation.

Motivation: A reason or reasons for acting or behaving in a particular way. In other words, the reasons that make us do or NOT do something.

It is a set of internal and external factors that move the individual to reach the state of equilibrium and achieve the goals that satisfy his needs and desires.

Motivation is defined procedurally in the current research: The degree obtained by the student in the motivation level scale, which includes four axes, namely the value of the course, the completion of tasks, the demand for activity, and the learning environment.

2. Literature Review

Learning management systems are widely used in educational institutions and offer many services and solutions to support millions of learners worldwide. Higher education institutions seek to employ e-learning management systems in their educational system to convince them of its multiple benefits, its role in the refinement of e-learning programs, tracking students' progress in curricula, and achieving learners' needs. Different educational institutions rely on e-learning management systems for their efficiency in student learning management (Dias & Diniz,2014), results analysis, learning level prediction, and appraisal of learners' performance (Martin & Ndoye, 2016). E-learning management systems helped faculty members be more efficient (Cavus,2015) and helped students be more productive (Aparicio, Bacao, & Oliveria, 2016)

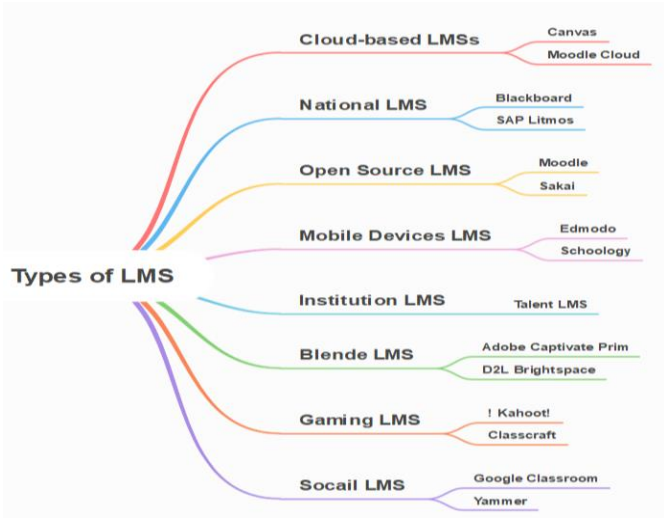
Learning management systems can be defined as systems that act to support and enhance the educational process so that teachers place teaching materials, lectures, examinations, and sources on the system's sites. There is a discussion room, a portfolio, and other electronic services in support of the subject matter and the preservation of students' work; Learning management systems can also be defined as

programs that help store and manage curriculum content electronically and facilitate the management of the learning process.

Learning management systems are an essential element in achieving the effectiveness of e-learning by providing tools for curriculum developers, teachers, and learners that increase curriculum capabilities and effectiveness in achieving their objectives (Djamla Judges, 2014). Dober (Dobre,2015) states that there are three main types of e-learning management systems; The first is open source, the second is closed source and the last is cloud-based learning management systems. The main differences between open-source e-learning management systems and closed-source e-learning management systems lie in the material cost and volume of technical support provided, continuous development, security level, and integration of the system tools (Ulker & Yilmaz, 2016).

Higher education institutions adopt online learning at an accelerated pace to reach more students if national higher education institutions compete in ways to deliver qualitative academic programs offered online with what they receive. Make you responsible for providing a successful learning experience to students through these programs. This coincides with the world facing precautionary measures to confront the coronavirus, in which learning shifted from a pattern of distance education via the Internet. Completely.

Blackboard is one of the leading e-learning management systems established and developed in 1997 to provide learning management services to educational institutions. This program has high potential in three main areas: education, communication, and evaluation (Bradford, Porciello, Balkon & Backus, 2007)



The Blackboard system has many features that have enabled it to spread rapidly in most higher education institutions around the world. It contains many flexible and scalable interactive tools, easy access, feedback, multiple communication tools, and support for many languages, including Arabic. It provides several options for the learner and provides ongoing technical support for learners and faculty members. (Bradford, Porciello, Balkon&Backus,2007)

Green, 2013 and Hill, 2017 emphasize that Blackboard is now the most widely used learning management system in educational institutions. The E-learning management

system assists faculty members in organizing, managing, publishing, and sharing the course, and distributing scientific content (Martin, Nacu, & Pinkard, 2016) Create creative and interactive content, use and organize multimedia such as text, photos, and video effectively, as well as calendar, follow-up, and issue periodic reports of students' level of progress. Blackboard includes various methods and methods of communication, one of which is the use of the Zoom platform in providing live or recorded lectures.

Types of LMS

The types of learning management systems vary depending on who uses them and the purpose of teaching or training. For example, the learning management system used by a university is very different from that of a software company in terms of training its employees.

The importance of LMS

- LMS facilitates access to educational materials.

- LMS helps to Knowledge transfer and acquisition.

- The officials are allowed to supervise the activity of student users.

- Control the details of the course.

- The system automatically performs tasks such as grading and reporting.

- LMS enables the administrator to comprehensively manage the entire learning process.

- Provides flexibility and collaborative tools that meet the diverse needs of learners in all academic contexts.

- Adapt to different learning styles.

Blackboard

Blackboard is one of learning management systems, student follow-up, and monitoring the efficiency of the educational process. Blackboard provides great opportunities for students to communicate with the course outside anywhere and at any time, through this electronic system, which provides them with various tools to familiarize themselves with the content of the course material and to interact with them in accessible ways, in addition to communicating with the faculty and other students enrolled in the same course by various electronic means.

Blackboard Advantages:

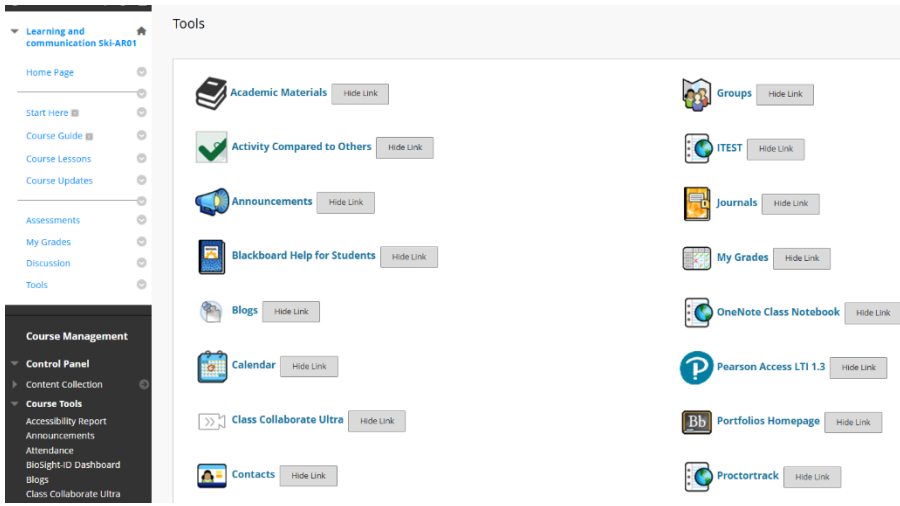
- There are tools and means that allow faculty members to build interactive courses.

- Blackboard allows the faculty members to build integrated electronic courses.

- Blackboard allows direct communication with students through discussion board and messages.

- Blackboard helps the faculty members to add all contents with simple steps.

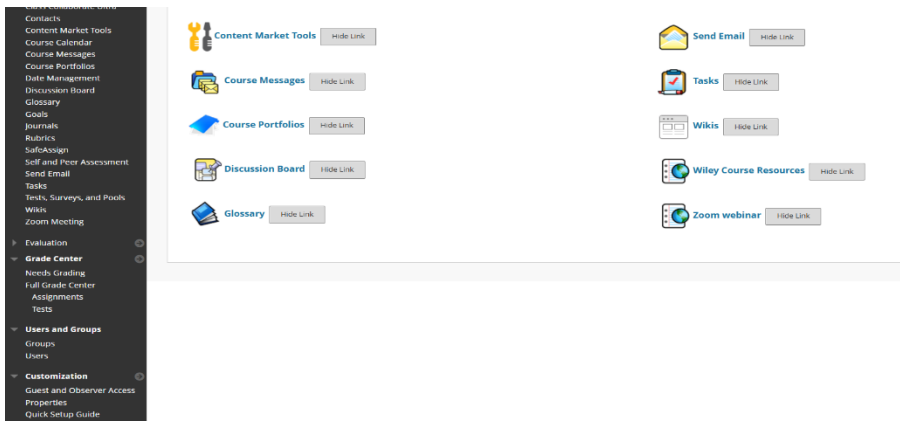
LMS in IAU



Previous Research Studies

Muhammad Furqon (2023), The study findings indicate that, overall, the utilization of Learning Management Systems (LMS) had a beneficial effect on academic performance among students and fostered a favorable perception of LMS implementation in educational endeavors.

Hajili Study (2022), which aimed to uncover the reality of assessing the usability of learning management systems (LMS) in university education, found a dearth of studies on the impact of learning management systems on certain variables relevant to teaching and learning processes.



Ardan Study (2022) also found the employment of e-education using blackboard at the University of Hail and providing scientific content, lectures, and electronic evaluation to students.

Husseini Study (2022) also aimed to attempt to identify the teaching problems related to the blackboard system in teaching practical courses at the Faculty of Science of Taiba University from the faculty's point of view. The results of the research found that there were teaching problems for faculty members when teaching practical courses through the system to a high degree.

Sana Mustafa's study (2022) showed that the degree of use of the e-learning system by the faculty of the University of Hafar Subcontractor during blackboard came high.

Dhali study (2022) The aim of the study was to identify the effectiveness of the use of the e-learning management system "Blackboard" in the development of technological innovation among female students of the Department of Chemistry of the Faculty of Science and Arts at Najran University. The results of the study revealed the superiority of the pilot group over the control group in remote application and revealed a positive impact of the use of the e-learning management system "Blackboard" in technology development.

Al-Qaab study (2021) also showed that the use of the e-learning system by faculty members at Imam Mohammed bin Saud University came with a moderate degree. The Asma Ali Study (2021) found that the use of female students of the Faculty of Education at King Faisal University for blackboard in the light of the COVID-19 pandemic came with a moderate degree, and the trends of the study sample individuals towards the use of blackboard came to a large degree.

Bradley (2021) The study aims to know Learning Management System (LMS) Use with Online Instruction. The results show to “An LMS allows instructors to facilitate and model discussions, plan online activities, set learning expectations, provide learners with options, and assist in problem-solving with processes for decision making. An instructor’s presence within an LMS creates an engaging learning environment. Students can retain their autonomy, enthusiasm, and motivation with LMS use.”

Abu Alhaji Study (2019) also showed that Blackboard needs training and assistance. Students also used similar programs in their study for at least one course. Students also described their experience using Blackboard in their research as very good.

Al-Shreida (2019) found that support devices for using Blackboard e-learning at Prince Satam University are available within the college with an intermediate degree and that the recruitment of faculty members for the e-learning system in the college's educational process was between intermediate and low.

Al-Banyan (2019) stated that the tendency of faculty at Umm al-Qura University towards the use of the Blackboard e-learning management system was moderate.

Al-Mutairi Study (2017) found that the use of Blackboard by faculty at King Saud University from the student's point of view was between weak and medium degrees, as well as the low percentage of teaching staff using virtual classes.

Zahrani Study (2017) also found that the use of Blackboard at Hail University from the faculty's point of view in the preparatory year came largely.

Comment on previous studies:

Previous studies are similar in that they are experimental alum studies, and current research is consistent with those studies being experimental research. Previous studies also aimed to reveal the effectiveness of the use of the learning management system (LMS) in student attainment and current research aims at identifying the impact of the use of the learning management system- LMS (Blackboard) in teaching the communication skills unit on the development of achievement, Learning motivation, and the level of student satisfaction.

3. Methods:

Researchers in this study have used semi-experimental design, adapted to the nature of its subject, to identify the impact of learning management system (Blackboard) on Students' learning motivation, the level of satisfaction and Academic Achievement to first-year university students and defines the degree of students' achievement after using the learning management system (Blackboard) and the level of satisfaction with them.

Research community: The study community is one of the 380 students at engineering college and 388 students at computer science college in the first year of university programs at Imam Abdulrahman bin Faisal University for the year 2022/2023.

Research sample: Study tools were applied to the study sample of 57 students from the engineering college, and 55 students at computer science college that used learning management system (Blackboard) .

Search Tool

The researchers designed the Communication skills unit within the course of communication skills to suit the learning management system (Blackboard). The researchers also prepared one questionnaire to identify Students' learning motivation and the level of satisfaction with the use of the learning management system (Blackboard), it included 22 items. Each item in the questionnaire corresponds to three levels of response, as in the following table:

High Agree	Agree	Disagree
3	2	1

Domain	Number of Items
Domain 1: Course Content Value	6
Domain 2: Task Performance	7
Domain 3: Activity Motivation	4
Domain 4: Learning Environment	5

Validity and stability of the search tool

- Stability

The stability was calculated in three different ways: Cronbach Alpha, the halftime segmentation through "Spearman-Brown Coefficient", and the internal consistency of all the resolution phrases: the "alpha" constant coefficient was "0.90" and the

halftime constant “0.89”.

- The validity of internal consistency

Validity was calculated to identify student learning motivation, and the level of satisfaction with the use of the learning management system (Blackboard) by establishing the correlation factor between each of the terms of the identification and the overall degree of the questionnaire, as shown in the following table:

Table 1: Internal consistency of the questionnaire to identify students' learning motivation, and the level of satisfaction with the use of the learning management system (Blackboard)

	Items	Correlation
Domain 1: Course Content Value		.862**
1	Skills included in the communication skills course will help me in the future.	.799**
2	The nature of practices and activities included in the communication skills course helps us to learn to solve problems.	.804**
3	A course in communication helps us to acquire and grow our communication ability	.735**
4	A course in communication helps us to acquire effective skills to communicate in workplace.	.791**
5	A course in communication contains a lot of knowledge and information that is useful in everyday life.	.764**
6	A course in communication includes various important and useful topics.	.766**
Domain 2: Task Performance		.884**
7	Using LMS “Black Board “increases my participation in discussions.	.582**
8	Using LMS "Black Board "increases my learning motivation.	.788**
9	Using LMS "Black Board "helps me to gain a lot of experience in a short time.	.801**
10	Using LMS "Black Board "helps me to increase the level of achievement in the course	.757**
11	Using LMS "Black Board "helps me to develop the level of writing communication.	.641**
12	Using LMS "Black Board "may be delayed and complicated the simple scientific experiences	.356**
13	Using LMS "Black Board "helps me to achieve assignments.	.492**
	Domain 3: Activity Motivation	.671**
14	Using LMS "Black Board "eliminates the sense of tension and psychological pressure.	.734**
15	Using LMS "Black Board "does not have a positive impact on the learning process.	.598**
16	I see using a "Discussion Board" contributed to getting rid of the dread of participation.	.774**
17	Using LMS "Black Board "contributes to participation at any suitable time.	.444**
Domain 4: Learning Environment		.873**
18	Discussions and participation through LMS "Black Board "are useful.	.776**
19	I see using LMS "Black Board "as one of the types to use modern technologies in supporting teaching and learning processes.	.651**
20	Using LMS "Black Board " helps me in academic achievement.	.801**
21	Using LMS "Black Board " provides me with a clear plan and procedures to learn.	.770**
22	It is necessary to use the LMS "Black Board “effectively in all courses.	.665**

From table (1), all items of the questionnaire are statistically significant to the overall degree of the questionnaire at an indicative level (0.01), indicating the instrument's sincerity.

Statistical Analysis and Processing

The researchers used the relatively gradual statistical model; With a view to judging the computational averages of learning motivation, and the level of satisfaction with the use of the learning management system (Blackboard), as follows:

High	Accept	Low
2.3-3	1.8-2.29	1-1.79

The researchers used the statistical program (SPSS) to process the study's data and answer its questions.

4. Results and Discussion:

-To what extent are students' learning motivation, and the level of satisfaction with the use of the learning management system (Blackboard)?

To answer this question, the percentage of students' responses in terms of approval or disapproval, calculation of averages and standard deviation for each item has been calculated and arranged between all items of the questionnaire.

Table (2): Percentage of students' responses in terms of Agree or Disagree of the measure of learning motivation, and the level of satisfaction with the use of the learning management system (Blackboard)

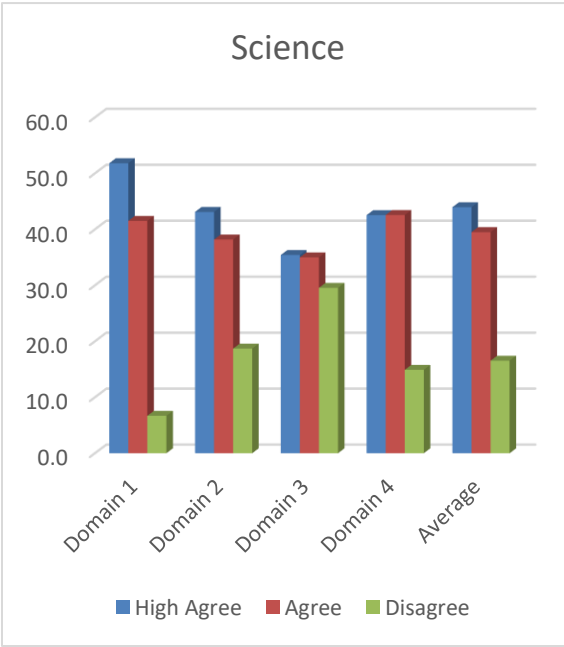
Items		Engineering			Computer Science		
		High Agree	Agree	Disagree	High Agree	Agree	Disagree
Domain 1: Course Content Value		25.2	63.5	11.4	51.8	41.5	6.7
1	Skills included in the communication skills course will help me in the future.	28.1	64.9	7.0	65.5	29.1	5.5
2	The nature of practices and activities included in the communication skills course helps us to learn to solve problems.	26.3	61.4	12.3	49.1	45.5	5.5
3	A course in communication helps us to acquire and grow our communication ability	22.8	66.7	10.5	52.7	43.6	3.6
4	A course in communication helps us to acquire effective skills to communicate in workplace.	28.1	61.4	10.5	43.6	50.9	5.5
5	A course in communication contains a lot of knowledge and information that is useful in everyday life.	21.1	64.9	14.0	49.1	41.8	9.1
6	A course in communication includes various important and useful topics.	24.6	61.4	14.0	50.9	38.2	10.9
Domain 2: Task Performance		14.8	59.6	25.6	43.1	38.2	18.7
7	Using LMS "Black Board "increases my participation in discussions.	21.1	59.6	19.3	50.9	40.0	9.1
8	Using LMS "Black Board "increases my learning motivation.	10.5	54.4	35.1	43.6	40.0	16.4
9	Using LMS "Black Board "helps me to gain a lot of experience in a short time.	5.3	68.4	26.3	49.1	27.3	23.6
10	Using LMS "Black Board "helps me to increase the level of achievement in the course	12.3	73.7	14.0	41.8	41.8	16.4
11	Using LMS "Black Board "helps me to develop the level of writing communication.	12.3	66.7	21.1	41.8	45.5	12.7
12	Using LMS "Black Board "may be delayed and complicated the simple scientific experiences	7.0	33.3	59.6	18.2	30.9	50.9
13	Using LMS "Black Board "helps me to achieve assignments.	35.1	61.4	3.5	56.4	41.8	1.8
	Domain 3: Activity Motivation	19.8	51.8	28.5	35.4	35.0	29.6

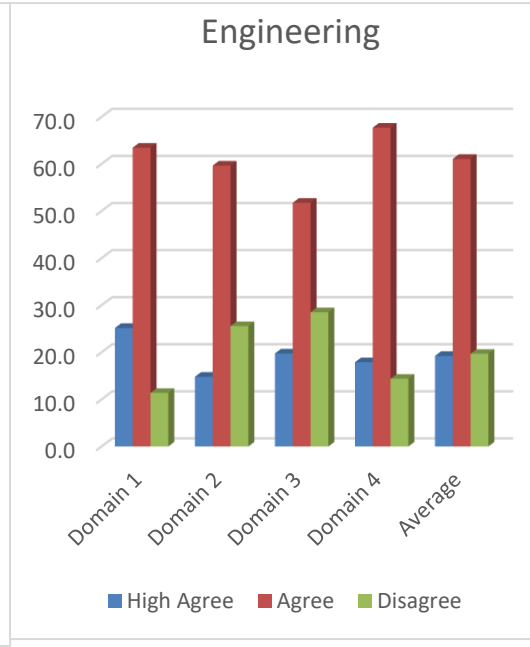
14	Using LMS "Black Board "eliminates the sense of tension and psychological pressure.	10.5	52.6	36.8	34.5	36.4	29.1
15	Using LMS "Black Board "does not have a positive impact on the learning process.	7.0	38.6	54.4	12.7	27.3	60.0
14	I see using a "Discussion Board" contributed to getting rid of the dread of participation.	21.1	64.9	14.0	34.5	43.6	21.8
17	Using LMS "Black Board "contributes to participation at any suitable time.	40.4	50.9	8.8	60.0	32.7	7.3
Domain 4: Learning Environment		17.9	67.7	14.4	42.5	42.6	14.9
18	Discussions and participation through LMS "Black Board "are useful.	12.3	78.9	8.8	47.3	45.5	7.3
19	I see using LMS "Black Board "as one of the types to use modern technologies in supporting teaching and learning processes.	26.3	64.9	8.8	47.3	43.6	9.1
20	Using LMS "Black Board " helps me in academic achievement.	17.5	75.4	7.0	40.0	47.3	12.7
21	Using LMS "Black Board " provides me with a clear plan and procedures to learn.	21.1	68.4	10.5	43.6	45.5	10.9
22	It is necessary to use the LMS "Black Board "effectively in all courses.	12.3	50.9	36.8	34.5	30.9	34.5
Average		19.2	61.1	19.7	44.0	39.5	16.5

Table (3): Averages and standard deviation per item and level of all satisfaction measure items with the use of the learning management system (Blackboard)

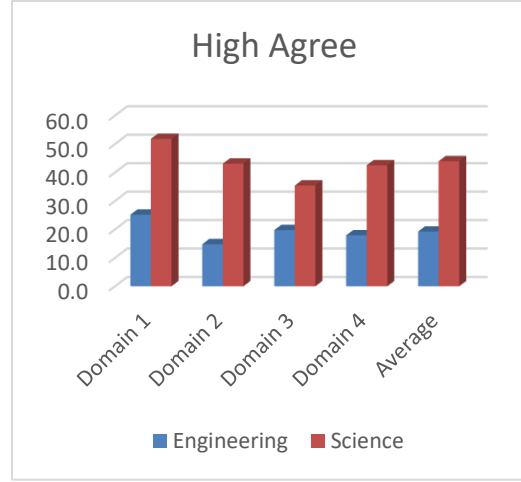
Items		Engineering			Science		
		Mean	Std. Deviation	Level	Mean	Std. Deviation	Level
1	Skills included in the communication skills course will help me in the future.	2.2105	.55860	Accept	2.6000	.59628	High
2	The nature of practices and activities included in the communication skills course helps us to learn to solve problems.	2.1404	.61058	Accept	2.4364	.60135	High
3	A course in communication helps us to acquire and grow our communication ability	2.1228	.56915	Accept	2.4909	.57325	High
4	A course in communication helps us to acquire effective skills to communicate in workplace.	2.1754	.60127	Accept	2.3818	.59289	High
5	A course in communication contains a lot of knowledge and information that is useful in everyday life.	2.0702	.59341	Accept	2.4000	.65546	High
6	A course in communication includes various important and useful topics.	2.1053	.61772	Accept	2.4000	.68313	High
Domain 1: Course Content Value		2.1377	.45649	Accept	2.4513	.46241	High
7	Using LMS "Black Board "increases my participation in discussions.	2.0175	.64063	Accept	2.4182	.65802	High
8	Using LMS "Black Board "increases my learning motivation.	1.7544	.63473	Low	2.2727	.73168	Accept
9	Using LMS "Black Board "helps me to gain a lot of experience in a short time.	1.7895	.52566	Low	2.2545	.82143	Accept
10	Using LMS "Black Board "helps me to increase the level of achievement in the course	1.9825	.51725	Accept	2.2545	.72567	Accept

11	Using LMS "Black Board "helps me to develop the level of writing communication.	1.9123	.57572	Accept	2.2909	.68510	Accept
12	Using LMS "Black Board "may be delayed and complicated the simple scientific experiences	1.4737	.62977	Low	1.6727	.77111	Low
13	Using LMS "Black Board "helps me to achieve assignments.	2.3158	.53977	High	2.5455	.53811	High
Domain 2: Task Performance		1.8926	.33274	Accept	2.2438	.43749	Accept
14	Using LMS "Black Board "eliminates the sense of tension and psychological pressure.	1.7368	.64160	Low	2.0545	.80319	Accept
15	Using LMS "Black Board "does not have a positive impact on the learning process.	1.5263	.62977	Low	1.5273	.71633	Low
14	I see using a "Discussion Board" contributed to getting rid of the dread of participation.	2.0702	.59341	Accept	2.1273	.74671	Accept
17	Using LMS "Black Board "contributes to participation at any suitable time.	2.3158	.63127	High	2.5273	.63405	High
Domain 3: Activity Motivation		1.9123	.38525	Accept	2.0591	.47620	Accept
18	Discussions and participation through LMS "Black Board "are useful.	2.0351	.46155	Accept	2.4000	.62657	High
19	I see using LMS "Black Board "as one of the types to use modern technologies in supporting teaching and learning processes.	2.1754	.57080	Accept	2.3818	.65237	High
20	Using LMS "Black Board " helps me in academic achievement.	2.1053	.48859	Accept	2.2727	.67918	Accept
21	Using LMS "Black Board " provides me with a clear plan and procedures to learn.	2.1053	.55691	Accept	2.3273	.66818	High
22	It is necessary to use the LMS "Black Board “effectively in all courses.	1.7544	.66227	Low	2.0000	.83887	Accept
Domain 4: Learning Environment		2.0351	.37440	Accept	2.2764	.51279	Accept
	Average	1.9949	.32139	Accept	2.2671	.38765	Accept

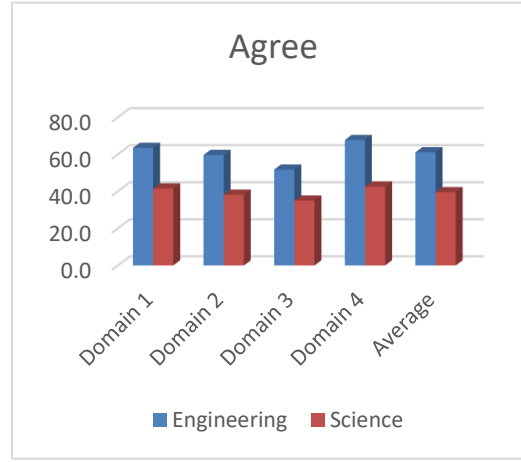




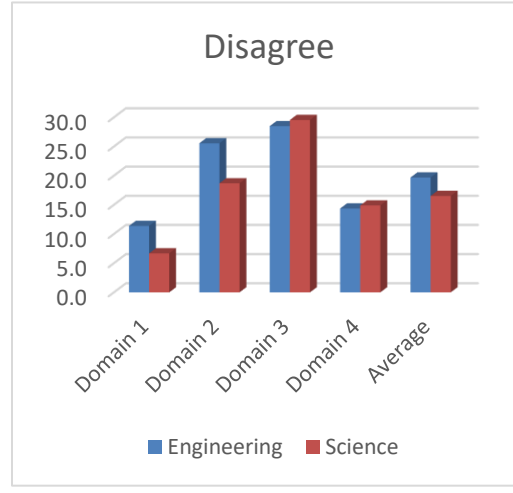
From tables (2) that Percentage of students' responses in terms of Agree or Disagree of the measure of learning motivation, and the level of satisfaction with the use of the learning management system (Blackboard) generally came at an agree with a percentage of (82 and 84) at students of engineering and computer science. The results showed that students' level of learning motivation and satisfaction at computer science came at an agree with a percentage of (93.3, 81.3, 70, and 85) with the domains 1,2,3, and 4 While the results showed that students' level of learning motivation and satisfaction at engineering came at an agree with a percentage of (88.7, 74.4, 72, and 85).



The results showed that the first domain "Course Content Value "came at first rank with a percentage "93.3 and 88.7 ", this result means understanding students to the importance of soft skills for their future and the building of course by using Blackboard motivate student to learn more and a quire experiences through different station available in blackboard.



From tables (3) that the level of student Learning motivation level and satisfaction in the current study with the use of LMS generally came at an acceptable level with an average of "1.99 and 2.26 "at students of engineering and computer science. The level of student learning motivation level and satisfaction in all items of the learning motivation and satisfaction questionnaire varied between (low, acceptable, and high) in items of identification. The results showed that student's level of learning motivation and satisfaction with the item "Skills included in the communication skills course will help me in the future" was high and ranked first with an average of 2.6 at students of computer science ,While the results showed that student's level of learning motivation and satisfaction with the two items "Using LMS "Black Board "helps



me to achieve assignments “ and “ Using LMS "Black Board "contributes to participation at any suitable time “ were high and ranked first with an average of 2.5 at students college of engineering , reflecting students' motivation and satisfaction to use LMS in courses in the student's specialization that may be important from their perspective. And followed by the item " A course in communication helps us to acquire and grow our communication ability" was high level of satisfaction and an average of 2.4 reflects students' willingness to use LMS. And the results showed understanding of students to the important of LMS by answering with low level for the following items “Using LMS "Black Board "may be delayed and complicated the simple scientific experiences” and “Using LMS "Black Board "does not have a positive impact on the learning process” this means the student aware with the useful of using LMS to study courses.

- Are there any statistical differences in students in the learning motivation, and the level of satisfaction between the students at college of Engineering and Computer Science after using LMS (Blackboard)? To answer this question, the t-test was used to determine the significance of differences in the level of learning motivation across the students at college of Engineering and Computer Science after using LMS (Blackboard)

Table (4) : Independent Samples Test (Learning Motivation)							t	df	Sig. (2-tailed)
	Engineering			Computer Science					
	N	Mean	Std. Deviation	N	Mean	Std. Deviation			
Domain 1	57	2.1	.45649	55	2.5	.46241	-3.611	110	.000
Domain 2		1.9	.33274		2.2	.43749	-4.792		.000
Domain 3		1.9	.38525		2.1	.47620	-1.797		.076
Domain 4		2.0	.37440		2.3	.51279	-2.851		.006
Mean all		2.0	.32139		2.3	.38765	-4.051		.000

Table (4) shows that there are statistically significant differences at the “0.05” indicative level of students in learning motivation. The level of satisfaction among the students at the College of Engineering and Computer Science after using LMS (Blackboard) in the mean overall, domains 1,2, and 4 but there are no statistically significant differences at the “0.05” indicative level in domain 3.

- Are there statistical differences in student achievement before and after using LMS (Blackboard)? To answer this question, the t-test was used to determine the significance of differences in the level of Academic Achievement before and after using LMS.

Table (5) : One-Sample Statistics (Academic Achievement)												
	Engineering						Computer Science					
	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Pre-test	57	12.2	4.80334	19.2	56	.000	55	7.8	2.87647	20.1	54	.000
Post test		20.4	3.47692	44.2				19.1	4.53902	31.2		

Table (5) shows that there are statistically significant differences at the “0.05” indicative level of student achievement after using after using LMS (Blackboard) in favor of post-test. These results are consistent with Studies of Muhammad Furqon (2023), Hajili (2022), Ardan Study (2022) and Sana Mustafa's (2022) .

- Are there statistical differences in students' achievement levels due to the different College (Engineering, Computer Science)? To answer this question, the t-test was used to determine the significance of differences in the level of Achievement across

the students at college of Engineering and Computer Science after using LMS (Blackboard)

Table (6): One-Sample Statistics

	N	Mean	t	df	Std. Deviation	Sig.
Engineering	57	20.3509	1.653	110	3.47692	.080
Comp. Science	55	19.0909	1.645		4.53902	

Table (6) shows that there are no statistically significant differences at the "0.05" indicative achievement levels due to the different colleges (Engineering, Computer Science) after using LMS (Blackboard).

5. Conclusion

The main results of the current study have indicated that there is considerable learning motivation, and the level of satisfaction among students towards the use of Learning Management System (Blackboard), and there is a statistically significant difference in the level of student achievement in favor of the post-application of the achievement test for students who used the Learning Management System (Blackboard). However, the content and learning materials should be well-prepared and appropriate to meet the requirements of Learning Management System (Blackboard). Faculty members need to be trained in using the Learning Management System in their teaching. For students to benefit from the use of active learning and modern technologies, they need to be trained in this kind of learning strategy.

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