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How Do Teachers and Students Perceive The Utility of Blackboard as a Distance Learning Platform? (Case Study from Taibah University, Saudi Arabia)

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How Do Teachers and Students Perceive The Utility of Blackboard as a Distance Learning Platform? (Case Study from Taibah University, Saudi Arabia)

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A dissertation submitted in partial fulfilment of the requirements of Dublin Institute of Technology for the degree of
M.Sc. in Computing (Information and Knowledge Management)

January 2016

I certify that this dissertation which I now submit for examination for the award of MSc in Computing (Information and Knowledge Management), is entirely my own work and has not been taken from the work of others save and to the extent that such work has been cited and acknowledged within the test of my work.

This dissertation was prepared according to the regulations for postgraduate study of the Dublin Institute of Technology and has not been submitted in whole or part for an award in any other Institute or University.

The work reported on in this dissertation conforms to the principles and requirements of the Institute's guidelines for ethics in research.

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ABSTRACT

This research explores the role of Knowledge Management within the education field with a specific focus on the use of Learning Management Systems in the Distance Learning (e-learning) process. The aim of this study is to thoroughly examine how teachers and students perceive the utility of the Blackboard system as a distance learning platform. To achieve this, the study conducted qualitative interviews and quantitative questionnaire surveys with the teachers and students of Taibah University, Saudi Arabia. Questions in both data collection tools were geared towards gaining insight about how these two groups of Blackboard users view its usefulness as a distance learning tool. The results of the research revealed that Blackboard is viewed as a positive influence on distance learning, and that students view this application as an opportunity to avoid traditional, classroom learning activities. Also, the research discovered that teachers generally have a positive viewpoint about Blackboard, and believe it makes teaching a lot easier.

Nevertheless, few issues were also mentioned by both groups of users, particularly the challenge of slow internet connections and difficulty of creating exams (teachers) or accessing and completing exams in a time-effective manner (students). To address these challenges, and any other as well, this research recommended that universities or learning institutions that decide to adopt LMS systems such as Blackboard for distance learning have to conduct a thorough analysis of their current structure, and determine how this new method of teaching/learning can be integrated into existing learning activities in a seamless manner. A thorough investigation will aid in forestalling any future challenges such as poor internet connections, as the school would have implemented measures to ensure this does not occur.

Keywords: Blackboard; distance learning; e-learning; knowledge management; Taibah University.

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1 INTRODUCTION

1.1 Overview of the Project Area

This research is concerned with knowledge management within the education field. The main aim for this research is to investigate the utility of using the Blackboard system as a distance learning platform. Both types of users for this system, namely teachers and students, will be considered during the research process in order to achieve a comprehensive answer for the research question.

In recent years, the effect of ICT (Information and Communication Technology) on the educational sector has progressively grown (Hussein, 2011). According to Zaki and El Zawaidy (2014), one of the reasons for this is the increasing awareness of the need to develop new and more efficient methods for teaching and learning.

Similarly, the value of adopting technology within this field has also been studied (Allen, 2005; Alhbabi, 2013), with various studies mentioning more positive impacts than negative. For instance, distance learning has been established as being very valuable for learners, educators and the entire learning procedure (Ally, 2008; Hussein, 2011; Isman et al, 2012).

An example of a distance learning platforms is Blackboard, which is commonly referred to as a learning management system (Coopman, 2009). Blackboard Support (2014) defines Blackboard as a tool that permits learning institutions to add resources online, to which students can easily gain access. Observed instructor proximity and transactional remoteness (i.e. the proximity of students to their instructor and how the student feels about the distance) are challenges to online learning, as some studies suggest that the remoteness could make students feel isolated and not part of a larger group (Coopman, 2009; Zaki & El Zawaidy, 2014). An example of a Blackboard platform is shown in Figure 1 below:

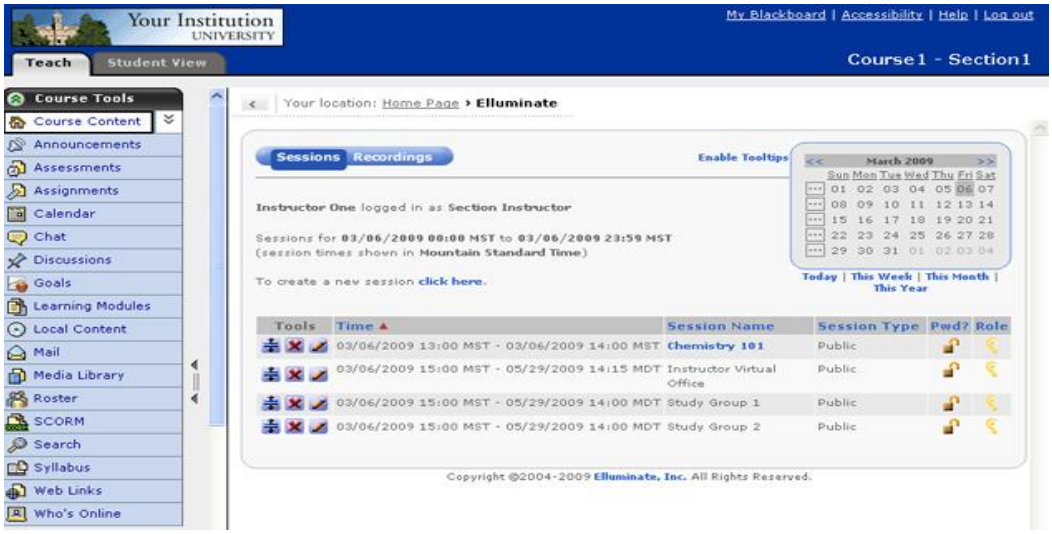


Figure 1: Blackboard Platform

Source: (Blackboard, 2015)

As can be seen above, this platform provides all the information required by students to ensure that they attain their academic aspirations. Students can easily log online and instantly gain access to a wide range of resources, as well as their lecture notes or discussion boards where they can share knowledge with their colleagues. Taibah University in Saudi Arabia, which will be used as a case study in this research, is one of the universities that has implemented Blackboard for distance learning. The Blackboard system implemented by the university has an Arabic interface, and the university's students have been using this platform for a period of time. This research aims to evaluate the application of this system, which is vital to thoroughly comprehend how its users perceive the utility of it and how it affects the distance learning process.

1.2 Background

Various researches have established positive opinions about the application of technology (specifically distance learning applications) in education (Cornelius & Marston, 2009; Guy, 2009; Zawacki-Richter et al, 2009; Cochrane & Bateman, 2010; Demirbilek, 2010). On the other hand there have also been various studies that have implied that distance learning, or using technological applications for teaching, and circumventing the traditional method of in-class teaching has some inherent issues, due to insufficient conceptualisation (El-Hussein & Cronje, 2010; Park, 2011).

Regardless of the debates on this subject, learning management systems like Blackboard (Blackboard LearnTM, 2009) are currently some of the major technological developments in higher education. Blackboards have been implemented by various universities (for both within campus learning and distance learning). One such university is Taibah University in Saudi Arabia, which will be used as a case study in this research.

Aside from facilitating easy access to resources for distance learners, Blackboard adds a virtual element to conventional campus-based learning (Coates, 2007) and also enables hybrid or merged studies, with a combination of online and class-based modules (Malikowski et al, 2007). Masi and Winer (2005) add that the effects of learning management systems have been such that the lines between distance learning and class-based learning have become unclear and are being substituted by hybrid approaches or 'disseminated learning', whereby technology-focused learning is the standard. As proposed by DeNeui and Dodge (2006), new technologies have the prospective to alter how teachers teach and how students learn; they provide a highly collaborative mode of learning, which can easily be tailored to meet the personal requirements of students (Levine & Sun, 2003).

However, almost all the previous studies have been focused on the distance learning and have compared it with traditional learning, whilst this research will focus on Blackboard as a distance learning platform by gathering the opinions of teachers and students who are teaching or studying online via the Blackboard system.

This research intends to contribute to the existing body of knowledge in this field by examining the utility of Blackboard as a distance educational platform. In fact, this research aims to provide another viewpoint to existing literature. The research will examine the usefulness of this system by finding out the viewpoint of the users of the system, namely the teachers and students of Taibah University. Both primary and secondary data will aid in drawing comprehensive and valid conclusions about the utility of Blackboards for distance learning.

The question this research attempts to answer is *How do teachers and students perceive the utility of Blackboard as a distance learning platform?* This will be answered using the case study of Taibah University, with an aim of assessing four aspects of Blackboard adoption in the university, namely:

1- **Students:** The people using the application for distance learning.
2- **Teachers**: These are also users of the application, as they give online lectures, allowing their students to gain easy access to teaching materials and assessing the students' progress.
3- **Processes:** How does Blackboard work in the university? Is there a special training for the Blackboard users, how does the entire site function, has it helped to improve distance learning activities in the school?
4- **Knowledge Bottlenecks:** This intends to analyse if the university has experienced any issues or challenges in their distance learning services after adopting Blackboard as a distance learning tool.

1.3 Taibah University in Saudi Arabia

Online learning and its technological systems are increasingly applied in universities located in Saudi Arabia, and according to Asiri et al (2012), this is because there is a constant increase in the number of students attending these universities, and the scholars add that according to a report by the Ministry of Higher Education, during the academic year of 2009, there were a total of 608,000 students in 20 higher institutions. This has propelled Saudi Arabian universities to implement ICT solutions as these are considered to be the most feasible approaches to ensuring that all students' needs are met. One such university is Taibah University, which is a university located in Medina, Saudi Arabia. Taibah University was established through the incorporation of two universities, namely Muhammad bin Saud University and King Abdulaziz University. It currently has 22 colleges and a large number of students (Taibah University, 2015).

The university started applying technological applications to its educational processes in 2007, and in 2009, Taibah University renewed its IT proficiency certification agreement with ICDL Saudi Arabia, the governing body and certification authority of the International Computer Driving Licence (Zawya, 2009). Similarly, Taibah University recently implemented Blackboard, and its students can log online for distance learning, or check lecture notes, videos or audio presentations. However, this Blackboard use the Arabic language, as this is the widely recognised language of the country. The university also uses a feature of the Blackboard platform, known as the Blackboard Collaborate Launcher, which is a feature that supports real time class teachings and allows students to access online conferencing meetings and recordings. This is particularly useful for the university, as it is

used for distance learning programmes. So, students who study in distance learning programmes do not need to attend classroom teachings, as they only need to do this when they have their final exams at the conclusion of each semester. This feature is further discussed in subsequent chapters of this research. Figure 2 below shows the Blackboard interface of Taibah University.

Figure 2: Taibah University's Blackboard Interface

Source: (https://lms.taibahu.edu.sa/)

1.4 Research Problem

Learning management systems like Blackboard (Blackboard LearnTM, 2009) are currently some of the major technological developments in higher education. Coopman (2009), who conducted a critical analysis of Blackboard systems, stated:

> *'Although Blackboard designers structure the course platform for efficiency and profit, instructors and students need a course environment optimized for learning and performative teaching' (Coopman, 2009: p.10).*

Nevertheless, it appears that there is a gap in literature with regards to how useful and effective this platform is for distance learning education. Rose (2004) argues in a study that assesses distance learning systems that there is no in-depth analysis of the major effects of distance learning, and learning management tools such as Blackboard have not been reviewed for their usefulness and effectiveness. Similarly, Guy (2009), in a study on the evolution of

mobile teaching and learning, states that online learning platforms have a lot of potential and an examination of these potentials is required so as to ensure that these platforms are utilised effectively in educational institutions. Thus, it is apparent that there is a requirement for in-depth analysis of the utility of the Blackboard system from the view of point of its users, especially those who use it as a distance learning tool, with an aim of determining how useful this platform is as an online, distance learning platform.

In line with this, this research focuses on the utility of Blackboard for students and faculty. Also, the study investigates the effect of using Blackboard in the distance learning and knowledge sharing process. Moreover, the research examines the strength and weakness points of Blackboard. Also, the research aims to thoroughly examine related studies in this field, both locally and internationally. In addition, the research will make conclusions based on all findings, and provide recommendations on how to further improve the effective use of Blackboard as a distance learning platform. Thus, it is expected that this research will be a major contribution to the subject area of the usefulness and effectiveness of Blackboard in distance learning and how it can be improved.

1.5 Research Question

The research aims to answer the following research question:

How do teachers and students perceive the utility of Blackboard as a distance learning platform? (Case study from Taibah University, Saudi Arabia.)

1.6 Research Aims and Objectives

This research aims to investigate the usefulness and effectiveness of Blackboard as a distance education platform. The research also aims to thoroughly examine related studies in this field, both locally and internationally, and also to review the opinions of the users of this platform, to assess if they view it as a useful tool for distance learning. This will be done by conducting a thorough analysis of existing Blackboard applications in learning institutions, particularly in Taibah University in Saudi Arabia. Lastly, the research aims to provide findings and conclusions that other researchers in this field can learn from, and can make informed decisions from. It is expected that this research will be a major contribution to the subject area of the usefulness of Blackboard in distance learning. The research's objectives include:

i. To review and examine related studies on the Blackboard platform and distance learning. Several past studies will be carefully selected and examined.
ii. To evaluate how useful Blackboard platforms are for the distance learning process.
iii. To examine the users' perceptions of Blackboard and if they believe it has improved the distance learning process.
iv. To test the usability of Blackboard in order to measure the usefulness and effectiveness of this tool as a distance learning tool.
v. To measure the users' satisfaction levels about using the Blackboard system in distance learning programmes.
vi. To investigate if there is any technical or accessibility issue that may affect Blackboard users or the distance learning process.
vii. To explore the strength and weakness points of the Blackboard system when it is used as a distance learning platform.
viii. To recommend further features that could improve the Blackboard platform when it is used as a distance learning tool.

1.7 Research Methodology

As suggested by Heirdsfield et al (2011), who conducted a study on Blackboard and online learning by surveying the employees and students of the Faculty of Education within the Queensland University of Technology, this project intends to use qualitative research methods—namely questionnaires, semi-structured interviews and case study research tools.

According to Saunders et al (2009), qualitative research methods provide certain advantages to research, some of which include: (1) the research objectives can be evaluated thoroughly; (2) research tools such as interviews will not be constrained to particular questions and can be guided/adjusted by the researcher during the course of the interview; (3) the primary data obtained is based on personal experiences with Blackboard, and this can be more valid and powerful than quantitative data. Therefore, it is believed that these tools will aid in effectively answering all research questions and achieving all research objectives.

Furthermore, the questionnaire provides the advantage of gathering a large amount of primary data from a wide range of individuals within a short period of time and in a cost-efficient manner (Cresswell & Plano Clark, 2007). On the other hand, Saunders et al (2012) posit that semi-structured interviews offer extensive, dependable, comparable qualitative

information. The researcher can also ask any additional, new questions during the course of the interview to gain further clarity on any specific area of the research. According to Yin (2008), case studies enable the researcher to gather a lot of details during the course of the research, which might not be easily achievable through other research methodologies. The scholar also posits that the information gathered using this research tool is generally richer, more thorough and more relevant, and these three qualities might be difficult to attain using the other quantitative, experimental methods. The combination of these qualitative research methods will aid in gathering relevant and in-depth primary data, which ultimately results in valid findings and conclusions.

1.8 Dissertation Outline

- **Chapter 1:** The introduction chapter will show a general background about the research area, research question, research aims and objectives as well as research methodology.
- **Chapter 2:** This chapter will show the definitions of Knowledge and Knowledge Management. Also, it will discuss the role of knowledge management systems in the education sector and the use of learning management systems.
- **Chapter 3:** This chapter will discuss the topic of distance learning in more detail. In this chapter a comparison between e-learning and traditional learning will be shown. Also, e-learning tools, benefits, limitations and its future will be discussed.
- **Chapter 4:** This chapter will specifically discuss the Blackboard system, its features, benefits and limitations in detail.
- **Chapter 5:** This chapter will show the design of the experiment and the justification of this design.
- **Chapter 6:** This chapter will show the result and analysis of the experiment. Also, the discussion and evaluation of these results will be shown.
- **Chapter 7:** This chapter will conclude the research by showing an overview for all the work that has been done during the research. Also, it will discuss the research results, recommendations and future works.

1.9 Conclusion

This chapter has provided a brief overview of the research topic, and discussed the relevance of learning management systems, particularly the Blackboard learning platform, in educational institutions. This research aims to contribute to this field of distance learning and Blackboard application by providing a detailed evaluation of how useful Blackboard is as a distance learning tool. To achieve this objective, the next few chapters will discuss previous studies on knowledge management, distance learning and the Blackboard system.

2 KNOWLEDGE MANAGEMENT

2.1 Introduction

For several years, researchers, academics and intellectual individuals have constantly searched for ways to generate, acquire and share knowledge and to enhance the re-application of knowledge (Meyer and Sugiyama, 2006; Uzunboylu and Ozdamli, 2011; Abdillah, 2014). Nevertheless, according to Saade et al (2011), it is just within the past 20 years that a distinctive subject known as 'knowledge management' has developed. In a study titled 'Knowledge Management and Organisational Learning', King (2009) posited that knowledge management is founded on the proposition that, just as individuals are unable to fully utilise the potential of their intellect and knowledge, organisations are largely unable to fully apply the information and knowledge resources owned by them. Thus, the scholar posits that knowledge management aids such organisations to generate or obtain possibly vital knowledge, and to ensure that this resource is accessible by individuals or entities at the appropriate time so as to ensure that such knowledge is used maximally and effectively for improved organisational activities. Similarly, Abdillah (2014) states that if an establishment can improve the way it manages and applies its knowledge, this will positively impact its performance, as knowledge is one of the most important resources that any establishment could possess. To further examine how knowledge management factors into the education sector, it is essential to understand the meaning of 'knowledge', the types of knowledge and the types of knowledge management systems.

2.2 What is Knowledge?

King (2009) defines knowledge as a reasonable personal conviction. From a similar point of view, Meyer and Sugiyama (2006) define knowledge as a conviction that is factual and acceptable. King (2009) adds that there are various classifications that determine the numerous types of knowledge. Some classifications include tangible and intangible knowledge, theoretical and practical knowledge, elaborated and compiled knowledge, unorganised and organised knowledge, tacit and inert knowledge, etc. (Hemsley and Mason, 2013). Nevertheless, Saade et al (2011) posit that the major classification of knowledge is the tacit and the explicit forms of knowledge. The notion of tacit knowledge is attributed as a major factor in organisational effectiveness. According to Polanyi (1966), who coined the term 'tacit knowledge', this form of knowledge occupies the thoughts of individuals and

could be rather difficult to express. Saade et al (2011) adds that knowledge is originally tacit in character, and the scholars contend that though knowledge is arduously developed over an extended length of time by organisations, it tends to be underused because 'business establishments are generally not aware of the knowledge assets that they possess'.

On the other hand, explicit knowledge occurs in the shape of words, statements, files, structured information, software and other explicit structures. The figure below further depicts the major forms of knowledge.

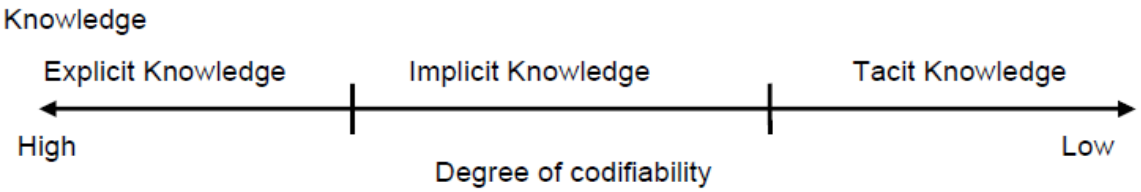


Figure 3: Tacit, Implicit and Explicit Knowledge

Source: Meyer and Sugiyama (2006)

2.3 What is Knowledge Management?

Knowledge management is a traditional procedure which has been used ever since the 1950s in the structure of quantitative organisation and electronic data processing and was consequently converted to 'conglomeration' in the 1960s, portfolio organisation and tactical design with automation in the 1970s, total quality management in the 1980s, and information systems, Internet and the WWW in the 1990s. All these procedures are currently known under an umbrella name of 'knowledge management' (Sangeeta, 2015). According to King (2009), knowledge management is the process of converting information and intellectual resources into value.

Abdillah (2014) defines knowledge management as the designing, forming, encouraging and managing of individuals, procedures and systems within an establishment, so as to ascertain that all knowledge-associated resources are developed and efficiently utilised. Knowledge-associated resources comprise knowledge in the structure of tangible files (e.g. copyrights and guidebooks), knowledge deposited within online data warehouses, personnel knowledge and skills on how to carry out certain processes and functions, intellectual knowledge of a

team or workforce, who have been specialising in certain aspects of the organisation, or the knowledge that is implanted in an establishment's services, procedures and interactions (Uzunboylu and Ozdamli, 2011). The procedures for knowledge management include the following steps:

i. Knowledge procurement;
ii. Knowledge creation;
iii. Knowledge modification;
iv. Knowledge repository;
v. Knowledge sharing; and
vi. Knowledge application.

The knowledge management function in organisations manages these procedures, implements policies and systems to maintain them, and encourages individuals to contribute these procedures.

Rowley (2000) also posit that knowledge management can improve and develop organisations' procedures, improving the levels of proficiency, productivity and operation, as KM ensures that innovative technology, information and knowledge are always accessible to the required personnel for improved performance. The scholars say that KM is also valuable for decision making and problem resolving occurrences, and this makes KM a generally valuable tool for all organisations.

2.4 Knowledge Management Systems in Education

Knowledge management has always been a widely discussed topic within the educational sector. As far back as 1995, the scholars Nonaka and Takeuchi (1995), in a study titled 'The Knowledge-Creating Company', proposed diverse techniques, approaches, theories and frameworks on how knowledge management can be applied in educational institutions. Furthermore, various educational institutions (particularly higher level institutions such as universities) have also implemented innovative tools to help encourage knowledge management in both teaching and learning activities (Sangeeta, 2015).

Currently, knowledge management requirements in academic establishments mirror the inventions, values, approaches and methods of knowledge management emerging in the

business industry (Demirbilek, 2010). Furthermore, in recent years, the effect of ICT (Information and Communication Technology) on the educational sector has progressively grown (Hussein, 2011). According to Zaki and El Zawaidy (2014), one of the reasons for this is the increasing awareness of both students and educational staff about the need to develop new and more efficient methods for teaching and learning.

Patel (2011) also adds that the educational sector has constantly been accepted as the principal source for several knowledge procedures; particularly, it has been known for knowledge generation, knowledge sharing and learning. With a similar point of view as Patel (2011), Parekh (2009) states that since educational institutions are based on knowledge creation, efficient knowledge management is significant in this sector, as it aids in improving the value and effectiveness of learning and research, it aids in employing the services of the most knowledgeable tutors and academics, and aids in effective cost management, thus resulting in the ultimate realisation of excellent learning and tutoring at all times.

On the other hand, Rowley (2000) argue that the major benefit of knowledge management in educational institutions is that it aids educational institutions to develop their capability of collecting and distributing both knowledge and information and empowers them to use these resources to resolve any issues and ensure the constant development of educational practices. Abdillah (2014) adds that knowledge management within an educational system should always include knowledge and information from all levels, ranging from the executive management level, to the educational tutors and the students, so as to ensure that this process is all-inclusive.

Thus, both information and knowledge have become vital for any educational establishment, one of which is Taibah University in Saudi Arabia. This knowledge is stored in each individual or student in the form of understandings, abilities etc. (Hussein, 2011). Thus, as Zaki and El Zawaidy (2014) posit, the development and effectiveness of educational establishments currently depends greatly on how such establishments can control the sharing of knowledge and information through the use of internet communications and technological advances (ICT).

This has prompted the implementation of knowledge management systems in the form of Learning Management Systems (which is discussed in the next section). As Kende et al (2007) posit, a clear use of Information and Communications Technology to facilitate

knowledge management is through electronic learning, the formation and circulation of knowledge via the online distribution of information, knowledge, education and teaching. Thus, it can be deduced that knowledge management in educational establishments is further improved by the use of electronic, technological platforms. Shadbolt and Smart (2015) add that one of the significant advantages of electronic learning and LMS is that it facilitates ease of having access to any learning resources; additionally, electronic learning platforms serve as a centralised database of information, where students can retrieve, store or share information with colleagues, which ultimately results in effective knowledge management amongst both students and teachers (Sankey et al, 2010). The figure below further depicts the six phases of knowledge development.

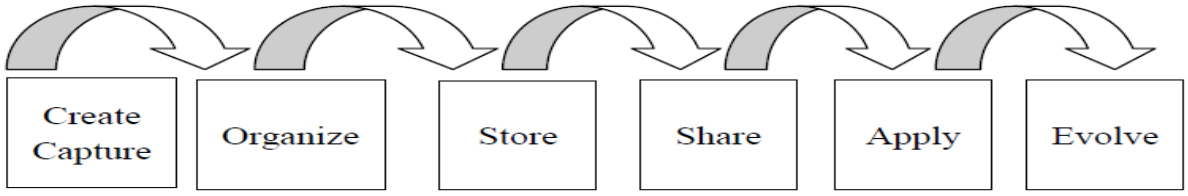


Figure 4: The Phases of Knowledge Development

Source: Abdillah (2014)

2.5 Learning Management Systems

The progression in technology has been transforming the methods by which teachers offer lectures and the methods by which students learn (Martin, 2008). As Zaki and El Zawaidy (2014) mention, within the past few years, educational inclinations have altered greatly, with new technological innovations being introduced into teaching programmes, and schools generally leaning towards the Internet-based method of teaching, in which Internet applications take the place of the face-to-face method of teaching. Thus, new methods of teaching and learning have developed and form a new generation of educational practices, referred to as electronic learning or online learning. Salaway et al (2008) mention the three major benefits of this new method of tutoring as the ability to manage a large amount of information, the ease of tutoring and the opportunity to communicate with a wide range of intellectual individuals using computer mediated communication (CMC). These features enable the generation of new online learning technological tools known as learning management systems (LMSs), which can also be referred to as course management systems (CMS) or virtual learning systems (VLS). According to Hussein (2011), the learning

management system enables education and learning in an environment that is external to the physical teaching space.

Martin (2008) defines a learning management system as a software platform, which facilitates the organisation and provision of educational subjects and resources to students. Similarly, Guy (2009) defines LMS as a form of software that is created to provide, track and supervise training and learning. A recent study conducted by Patel (2011) discovered that more than 70% of higher colleges (i.e. universities and colleges) in the United States have implemented a form of a learning management system. This is also similar to the United Kingdom, where roughly 80% of universities have also implemented one form or another of these systems. However, in Saudi Arabia, the figures are less, as few universities have adopted this technological tool into their educational processes.

Similar to the universities located in developing countries, the universities in Saudi Arabia have the constant challenge of being understaffed, with some of these institutions having inadequate facilities to effectively teach a large number of students (Asiri et al, 2012). Thus, it is apparent that one of the major advantages of learning management systems and distance learning for such universities is that it aids in decreasing the level of reliance on face-to-face and classroom teaching. Additionally, as posited by Asiri et al (2012), the use of LMS facilitates the generation of collaborative lecture notes, or teaching materials, which can easily be shared over the Internet to any available learners. Furthermore, Parekh (2009) states that LMS offers the opportunity to ensure smooth communication between tutors and learners, with ease of access to any feedback or advice from the more knowledgeable tutors.

Nevertheless, though learning management systems are gradually viewed as vital technological platforms for tutoring and learning, Salaway et al (2008) mentions that this feature of learning has hardly been researched. The scholars add that there is very little information about how LMS promotes learning, or how it impacts the level of effectiveness of educational institutions. The focus of this study, consequently, is to investigate the usefulness and effectiveness of a particular LMS (i.e. the Blackboard) for tutoring, and to specifically examine how useful and effective this platform is for distance learning in the selected educational institution, namely Taibah University located in Saudi Arabia.

2.6 Conclusion

Based on the above, it can be concluded that knowledge management is a collection of fairly new processes, which are focused on enhancing knowledge, knowledge, knowledge-related activities and institutional performance. Additionally, King (2009) suggests that the application of knowledge management in the educational sector will improve learning and tutoring activities and technological tools such as LMS will also facilitate this process. Therefore, it can be concluded that knowledge management is applicable to educational institutes and is also a significant, motivating factor in this sector.

3 DISTANCE LEARNING (E-LEARNING)

3.1 Introduction

To ensure that the constantly growing number of students in schools is offered quality, available and ample educational prospects, all educational institutions are always willing to adopt alternate educational curriculums and delivery approaches (Britain and Liber, 2012). The provision of distance learning (also referred to as online learning or e-learning) curriculums has become accepted as one of these crucial alternate delivery approaches for education and teaching in all parts of the world (Zaki and El Zawaidy, 2014). Distance learning emphases a learner's procurement (or generation) of innovative knowledge and the technical resources to support this generation procedure.

According to Uzunboylu and Ozdaml (2011), knowledge management and distance learning are similar as they provide solutions to the same essential challenge, which is to assist and simplify learning in educational institutions. Similar to knowledge management, distance learning includes the application of electronic devices (the Internet, televisions, storage devices, mobile phones etc.) for education and learning from a remote location (Britain and Liber, 2012). The figure below illustrates the integration of knowledge management and e-learning.

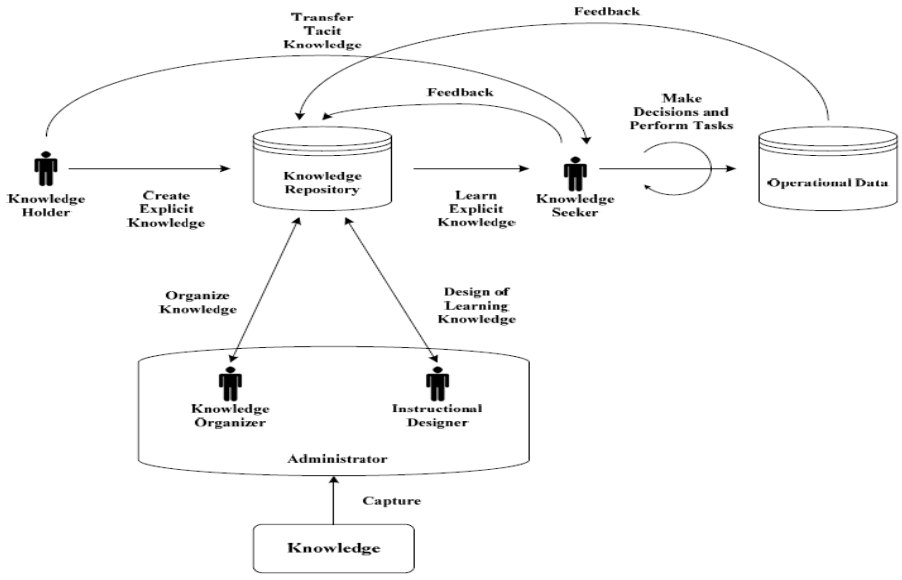


Figure 5: Integration of Knowledge Management and E-learning

Source: Fu and Feng (2010)

Yu et al (2010) adds that distance learning is often provided and managed autonomously of where the tutor or the student might be located. Similarly, Al-Hassan (2011) states that distance learning is teaching and learning that is supported by the Internet, and does not involve any physical, classroom learning. On the other hand, Britain and Liber (2012) posit that improving the quality of teaching and learning is the major rationale for distance learning or e-learning, and this has been identified by various educational institutions, as it is perceived that distance learning improves the chances of all students to be able to have easy access to learning resources.

Therefore, it can be deduced that distance learning has revolutionised the notion of education, and transformed it from the traditional, classroom-based teaching to online-based programmes, comprising of various education resources, which are linked to each other in a significant way.

3.2 A Comparison of E-learning and Traditional Learning

According to Al-Hassan (2011), traditional learning can be referred to as the learning which occurs within the constraints of a classroom, with a tutor present, and which is fixed in nature. Furthermore, the researcher posits that traditional learning is often carried out with the entire classroom of students being participators, and takes place on an educational institute's premises. The features of traditional learning are the writing board, notebooks, teacher and students within a classroom, while those of e-learning include content delivery in various layouts, organisation of knowledge, interconnected learners and tutors.

The progress of these two methods of teaching within the modern educational world brings about various debates on the benefits of one method, and the limitations of the other. In comparison to distance and online learning, various studies have concluded that e-learning is a more efficient teaching method than traditional learning (Raaij and Scheepers, 2006; Aljawarneh et al, 2012; Ni, 2013). Researchers, such as Raaij and Scheepers (2006), posit that distance, online learning has the benefit of having the power of the Internet to support all learning contents. The scholars add that e-learning offers fast-paced learning at a lower cost, facilitated access to educational curriculum and responsibility for all contributors within the learning procedure.

On the other hand, there are other studies that have contended that distance learning results in a decrease in social relationship and collaboration, increase in expenses and introduction of technological issues with regards to information and communications technologies (ICTs) (Oye et al, 2012). In the same vein as Oye et al (2012), Uzunboylu and Ozdaml (2011) also contend that these advantages do not necessarily ensure improved educational activities, as e-learning results in no social collaboration among students and teachers, as technology takes the place of social communication.

Valentina and Nelly (2014) found connections between the level of social interactions between learners and their learning outcomes. E-learning has remarkably changed the framework for teaching and learning, and supporters of e-learning have contended that it could be efficient for possibly reducing obstacles while offering improved suitability, flexibility and personalised learning, which traditional classroom learning does not provide (Raaij and Scheepers, 2006; Aljawarneh et al, 2012; Ni, 2013). On the other hand, the opponents of e-learning have expressed concern that it makes learners isolated and disorganised, while decreasing the level of students' interest in their curriculum.

On the other hand, other studies have suggested that e-learning platforms such as Blackboard provide the opportunity for learners to discuss online and share knowledge, which positively affects students' education, in comparison to the more traditional setting of being physically present in their classrooms. Kramarski and Mizrachi's (2006) research on a set of seventh-grade mathematics students discovered that students who participated in online dialogue and knowledge sharing had better outcomes than their equivalents who were taught in a traditional classroom setting.

Similarly, Zaki and El Zawaidy (2014) conducted a study of business writing programmes, and discovered that learners in the traditional classroom setting interrelated with each other in a lesser manner than learners in a distant learning Blackboard class. Correspondingly, Rodriguez et al (2006) discovered that learners on a biology programme for non-majors who were active participants on online learning sites like Blackboard mostly had better scores during their final exams.

Nevertheless, as posited by Zawacki-Richter et al (2009), both methods of learning have their benefits and limitations, and schools have to ensure that there is a balance in all learning

programmes so that students gain the best learning experience. The table below further depicts some of the comparisons of these two methods of teaching.

	Online to online	Face to face
Mode	Discussions though text only; can be structured; dense; permanent; limited; stark.	Verbal discussion; a more common mode; but impermanent.
Sense of instructor control	Less sense of instructor control; easier for participants to ignore instructor.	More sense of leadership form instructor; not so easy to ignore instructor.
Discussion	Group contact continually maintained; depth of analysis often increased; discussion often stops for periods of time, then is picked up and restart.	Little group contact between meetings; analysis varies, dependent on time available; discussions occur within a set of time frame.

Table 1: Online vs Traditional Education

Source: Al-Hassain (2011)

3.3 E-learning Tools

3.3.1 Learning Management Systems

There are various LMS platforms, and the two major types are discussed below:

The Blackboard Learning Tool

Blackboard is viewed as a combined e-learning application (Aljawarneh et al, 2012). Oye et al (2012) add that Blackboard is a curriculum tool which is extensively utilised in educational institutions. It serves as an online platform, where programmes and courses can be chosen and structured to assist class events. Supplementary tools, including online sessions, discussion boards, feedback sections etc. are incorporated to further improve the learning experience of students. Aljawarneh et al (2012) add that Blackboard is also useful for tutors, as it can be used all through their teachings to aid in explaining certain subjects, or identifying major points. It also aids students by providing important visual features of their learning and ease of access to significant learning materials.

The Blackboard distance learning tool will be further discussed in the next section of this research paper.

MOODLE

The Modular Object Oriented Dynamic Learning Environment (also referred to as MOODLE) was developed by a researcher named Martin Douglas (Al-Hassan, 2011). MOODLE is an open software platform intended to aid tutors and students during the course of learning. Britain and Liber (2012) add that MOODLE offers a wide range of shared tools to facilitate and improve educational activities; these include tools for online submission of assignments, wikis, message boards, multimedia applications etc. These tools ease the process of learning and encourage students, who otherwise might not have attended classroom teachings, to log onto their personalised e-learning page, and access their lecture notes or other available resources with just a few clicks. Similarly, Ni (2013) posits that MOODLE provides several benefits for educational institutions. The researcher posits that this application is easy to implement and utilise. Furthermore, it can easily be installed on various servers located in different parts of a school, at little or no expense. These, and various other benefits of MOODLE, have made several universities and educational institutions to implement this application in an attempt to improve their teaching practices and reach a wider range of students, regardless of their locations. It is also implemented for educational aspects which some other e-learning platforms lack (Ni, 2013).

3.3.2 Massive Open Online Course (MOOC)

Massive Open Online Course (MOOC) is an online course with a publicly shared curriculum and each course may include hundreds to thousands of students with no fees or requirements other than Internet access and interest, but it does not offer a formal credit (McAuley et al, 2010). On the other hand, Harding (2012) defines MOOCs as systems that provide the opportunity to choose and attend courses from top leading universities worldwide, for example Stanford, MIT, and the University of Edinburgh, to students in underdeveloped and developing countries through online means such as videos, discussion forums, and peer-marked assignments.

MOOC first appeared in 2008, this type of MOOC known as “cMOOC,” or “connectivist MOOC”. cMOOC encourage active exploration by the learner, generating and sharing knowledge with other learners. So, cMOOC tends to be a collaborative effort in design and implementation (Koutropoulos, 2013). Kesim and Altınpulluk (2015) add that in cMOOCs, each learner structures and manages their own learning process.

The other type of MOOC is xMOOC, which has been developed from the idea of cMOOC. xMOOC is a system in which the instructor provides video presentations to teach the course while each student follows their coursework at their own learning speed (Mangelsdorf, 2012). So by looking to the MOOC history, it is clear that cMOOC appeared before xMOOC, but in recent years, MOOC usually used to refer to xMOOC (Kesim & Altınpulluk, 2015).

Currently, the main providers for the MOOC are Coursera, edX, Udacity and OpenupEd (Karsenti, 2013; Bartolomé and Steffens, 2015). Many of these platforms share common features, such as supporting short video lectures and questions integrated within those videos. However, these new platforms have a lot in common with the LMSs (Kay at al, 2013). Epelboin (2013) state that due to the common features and objectives between MOOCs and LMSs, it is difficult to distinguish them from each other. Also, LMSs in some cases have been used to create MOOCs. For example, in 2011, Blackboard which is one of the leading LMSs has launched the CourseSites which is a free host for MOOC (Kay at al, 2013; Blackboard Inc., 2011).

MOOC in higher education have received a great attention during recent years and many universities worldwide are now partners in MOOCs. Many researchers have considered the application of MOOCs as a turning point in the education history. However, after the initial statistics of MOOCs have been published, many critics are concerned about the MOOCs' low completion rate which was 5- 16% overall (Johnson at al, 2014). Kesim and Altınpulluk (2015) argued that to overcome the problem of high rate of dropout, certain arrangements must be made to ensure that users remain committed to their courses.

As any online learning platform, issues like adequate and affordable Internet access still challenge for MOOCs availability in many regions (Johnson at al, 2014). Also, students who wish to get the advantage of MOOCs' courses must have basic computer skills, and they must be able to take responsibility for their own learning process (Kesim & Altınpulluk, 2015). The other main challenge for MOOCs is determining a policy for formal accreditation system to these new online education courses. Thus, the employment after completing MOOCs' courses is still ambiguous (Kesim & Altınpulluk, 2015).However, MOOCs present an appealing opportunity, especially for employees who looking for quick professional development courses (Johnson at al, 2014).

3.4 The Benefits of E-learning

Though there are various benefits attached to distance learning and the use of the Internet for teaching purposes, Khademi et al (2011) state that this method of learning also has certain limitations that affect its effectiveness as a teaching method. Nevertheless, as posited by Al-Hassan (2011), e-learning is valuable to teaching and learning activities, students and educational institutions as well. Similarly, Ni (2013) mentions that e-learning is inexpensive, saves time and generates assessable outcomes. Some of the benefits of e-learning are further discussed below:

- ***Reduces Cost***

Raaij and Scheepers (2006) argue that distance learning, or online learning, is much more cost efficient than the traditional form of learning, adding that both tutors and learners spend less time and money to move from one location to another. This is because e-learning is location independent, and can be conducted at any location, over the Internet.

- ***Flexibility***

The major factors that have made e-learning an accepted educational development, according to Valentina and Nelly (2014), include its cost, flexibility, quickness and value. This is because classes can be taken at any time of the day, and from any location. Assignments can be submitted, classmates can interact and learning activities can be conducted all from the most suitable location for each individual (Alhbabi, 2013). According to a survey conducted by Aljawarneh et al (2012), students generally prefer e-learning to the more traditional methods of learning, as it facilitates diverse styles of learning, and they have the benefit of being able to learn at a pace that is suitable for them. Furthermore, approximately 75% of students indicated that e-learning allows them to multi-task, and they can easily learn, while concurrently maintaining their personal careers, without the requirement to have an inflexible schedule; this makes e-learning more appealing to them than other methods of learning.

- ***Tailored learning***

E-learning motivates learners to read through a wide range of information available via hyperlinks and websites on the Internet. Thus, students can easily discover any information that is relevant to their individual circumstances or curriculum (Oye et al, 2012).

Additionally, e-learning provides the opportunity for students to choose the learning resources that are most applicable to their personal knowledge level, curiosity, as well as information about the significant subjects they require to excel in their studies. Thus, as Britain and Liber (2012) state, e-learning is more student-focused, and is easily adaptable to fit each student's needs and educational requirements.

3.5 Limitations of E-learning

Various researchers have suggest that e-learning has its limitations (Hameed et al, 2008; Uzunboylu and Ozdaml, 2011; Valentina and Nelly, 2014; etc.). For instance, regardless of the assertions that e-learning results in enhanced learning for particular curriculums and assessments. A major limitation of e-learning is given by Saleem (2011) as the total lack of essential individual and social interactions between tutors and students, and also amongst students. These researchers suggest that these limitations could affect the effectiveness of e-learning as an educational tool.

3.6 The Future of E-learning

Bearing in mind that the Internet is currently being applied in all areas, including everyday lives, it is unavoidable that it has also emerged within the education sector. As stated by Mirjana (2010), it is apparent that the growth of modern technologies (specifically the Internet) is infiltrating into the educational sector, and e-learning and distance education are some of the results of this development. As can be seen from the review conducted in this section, the Internet provides the opportunity for a more flexible platform of education, with an extensive range of information readily available to students (Sankey et al, 2010). Considering these developments within the education sector, it is rationally anticipated that e-learning and distance education will increase in popularity and the use of virtual platforms and applications will also increase in the future. Furthermore, there is currently an increase in the level of application of e-learning platforms, with various educational institutions, particularly universities, implementing LMS platforms and participating in MOOCs. Oye et al (2012) adds that this growth is projected to continue for a while, as e-learning platforms are viewed as an improvement upon the existing teaching methods.

Similar to Oye et al (2012), authors such as Zaki and El Zawaidy (2014) have stated that online education and distance learning will soon be the major method used for education

globally, and this form of teaching will be at its peak within the next few years. However, authors such as Mirjana (2010) also anticipate that both tutors and learners have to adapt to this new method, and constantly strive to improve the quality of education.

With the same point of view, Valentina and Nelly (2014) state that the level of implementation of e-learning in each country will be mostly determined by the level of Internet technologies that has been adopted by such a country. For instance, if Saudi Arabia, which is a developing country, has sufficient technological infrastructures, then other universities can easily adopt this technological innovation into their teaching practices. This study will also examine one of the universities in this state, and examine the utility of using the Blackboard platform as a distance learning tool.

3.7 Conclusion

E-learning is one of the most significantly discussed topics within the education sector currently, and it has been further propelled by the rapid development in technological trends (Oye et al, 2012). Thus, this is a significant topic that requires further research, so as to determine how effective distance learning is as an educational tool. This research paper also aims to contribute to existing literature by determining the usefulness and effectiveness of one of the most popular e-learning platforms, known as Blackboard, as a distance education platform. The next section further analyses Blackboard, and discusses its features, application, benefits as well as its limitations.

4 BLACKBOARD SYSTEM OVERVIEW

4.1 Introduction

According to Tella (2011), Blackboard is an incorporated, user-device system that offers information or resources to facilitate learning and teaching. Similarly, Martin (2008) refers to Blackboard as a foremost viable course management system application, and which is one of the most implemented learning management systems in educational establishments. From another point of view, Squillante et al (2014) state that Blackboard is an online application that offers a password secured platform as well as management tools which make online and distance learning much simpler.

Various researchers have given differing viewpoints about learning management systems; Hamoodi (2014), in a study on learning management systems, stated that LMSs such as Blackboard systems improve and support learning, and support tutors in delivering educational content to their students. On the other hand, researchers such as Ransdell (2013) and Park (2011) posit that the tutor-learner relationship is the most significant feature in learning, and though e-learning applications such as Blackboards have their benefits, these benefits are less significant than the relationship maintained between a learner and his/her tutor.

Other studies, such as the study by Heirdsfield et al (2011), surveyed the impact of LMSs on schools, and concluded that schools prefer e-learning methods to the more traditional, classroom learning, with more than 80% of surveyed schools indicating that taking online assessments and classes, as well as having ease of access to online resources, makes e-learning or distance learning more appealing than classroom learning. Shin and Chan (2004), in their study on the direct and indirect impact of Blackboard on distant learning and as a result of 285 questionnaires, concluded that the supposed educational presence (i.e. the level to which online students felt associated with their educational institutions) was positively connected to learning results, contentment with their courses and the determination to remain in their programmes.

This section further examines the Blackboard system, its feature, uses, limitations and application as a learning management system. The research intends to provide a new perspective to the usefulness of Blackboard by firstly examining its benefits and limitations, and then examining how useful this system has been in a university (Taibah University in

Saudi Arabia) that has implemented it. The research will survey the students and tutors to gain a perspective from both groups about how Blackboard has improved, or limited, the effectiveness of their teaching and learning practices. Factors such as ease of access, ease of communication etc. will be further examined to assess Blackboard systems and the usefulness of their application in schools.

4.2 The Features of Blackboard

Blackboard Inc. offers well-built and easy-to-adopt applications for learning, assessments and interactions within educational institutions. Within the past few years, Blackboard Inc. has created two main applications, namely the Blackboard Academic Application and the Blackboard Commerce Application (Bradford et al, 2007). At the centre of the Blackboard Academic Application is the Blackboard learning management system, the course management system for tutorials and the online instructive guide. The Blackboard Academic System has various features, some of which are shown in the figure below:

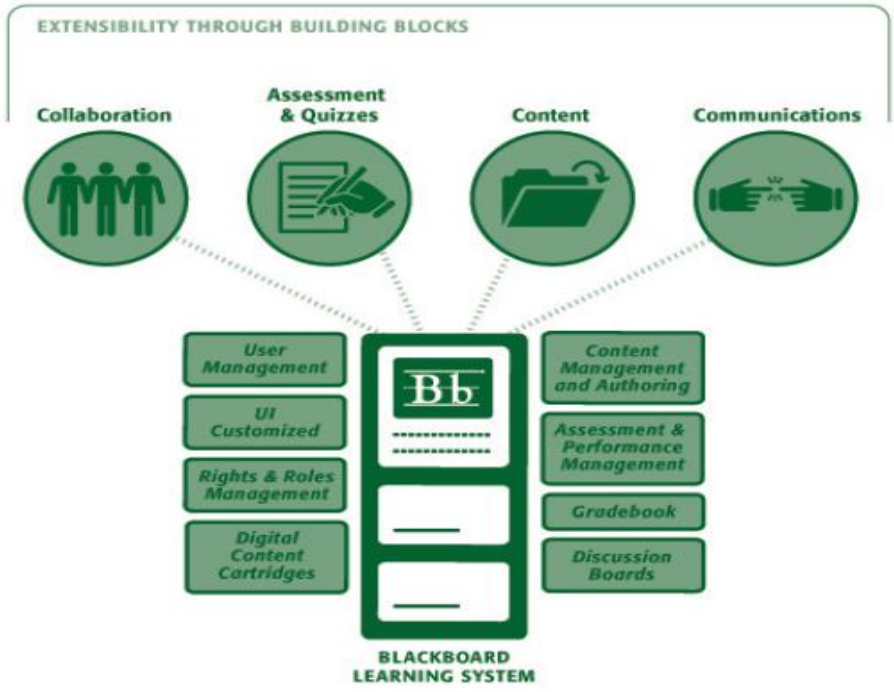


Figure 6: The Features of the Blackboard System

Source: Yaskin and Everhart (2002)

Some of Blackboard features are further discussed below:

- ***Blank Course Page:*** A blank course page does not have any content on it. Tutors can easily add content by attaching educational events (dialogs, assessments etc.) and resources (books, journals, lecture notes etc.) to the curriculum. A translated copy of Taibah University's website is shown in Figure 7 below. As can be seen, the first page of the university's Blackboard consists of tabs relating to university administration, academic calendar, university sectors, scientific research and the opportunity to contact the university.

Figure 7: Taibah University's Blackboard Front Page

Source: (https://lms.taibahu.edu.sa/)

Students can easily log in on the front page, and the log in panel is shown in Figure 8 below.

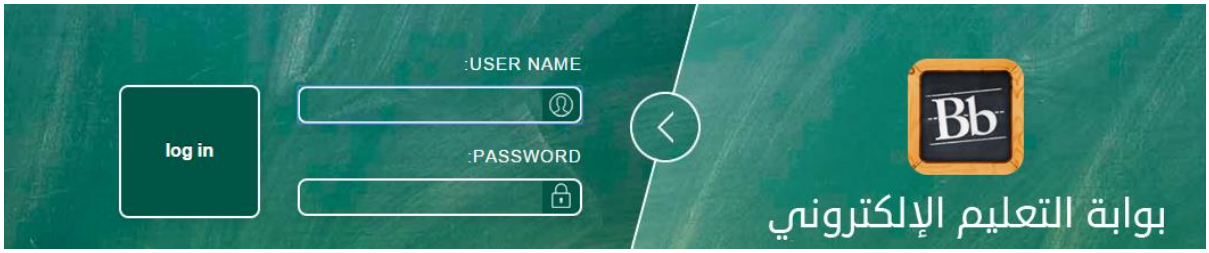


Figure 8: Taibah University Blackboard System - Login Panel

Source: (https://lms.taibahu.edu.sa/)

- ***Course Menu:*** Blackboard also includes a course menu, which offers hyperlinks, learning tools and resources with regards to each course. This page is customised to each student, and lists all the courses being taken by each student, as well as the available resources for these courses. Additionally, the course tutor can easily add to or delete from the course materials, and can notify students of when changes are made to their courses.
- ***Courses Tools Panel:*** This is often under the course menu, and consists of a list of actions and activities that students can engage in. The tools in the course panel consist of

all the content, discussion and assessment tools that either the student or tutors of each course have attached to the course menu. These tools can be used to conduct educational activities as well. Bradford et al (2007) add that tutors can use available tools to provide curriculum content, while students can use them to check their progress in each course. An example of a course panel is shown in Figure 9 below.

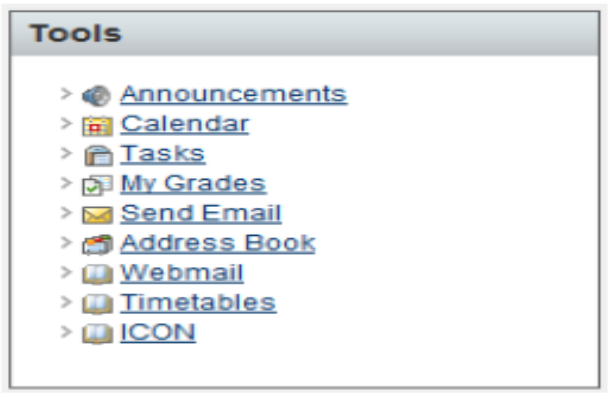
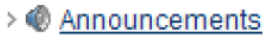


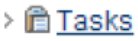
Figure 9: The Blackboard System - Course Tools Panel

Source: (University of Cumbria, 2015)



The announcement page provides any updates about a school's activities, and particularly, about courses and any changes that are relevant to students and their learning process.

The calendar tool provides information about any events occurring in the school. Events can be added by tutors or students themselves, and the calendar serves as a reminder about these events. Dates can easily be added, removed, or amended.



The tasks feature is quite similar to the calendar. Both tutors and students can add any information to the tasks tool, and tutors can also use this tool to track a student's progress on a particular task, examining when it was started or when it was finished by the student, as part of the student's overall course assessment.

This feature provides information about students' grades, and the link generally takes students to a page with all their subjects listed, and all results of course works, tests and examinations listed accordingly.

Blackboard systems also have a timetable feature, which is tailored to each student. Students can access this feature to know their schedule and what day or time they have each course or assessment.

Blackboard systems also have an internal messaging feature, which functions in the same way that e-mails function. Students can send or receive messages using this feature, and can easily log on from any location to read incoming messages.

4.3 The Blackboard Collaborate Launcher

The Blackboard Collaborate Launcher is a software program that works on various operating systems. It facilitates a suitable and dependable way for real time class teachings and allows students to access online conferencing meetings and recordings. This application has various options that allow students to carry out a wide range of activities. Students can create, send or receive audio and video files, students can actively participate in real-time classroom lessons, chat amongst themselves or with their tutors or discuss a particular learning resource or topic on their discussion boards. The launcher generally has six main modules, shown in Table 2 below.

Component	Description
Menu bar	This bar displays options such as 'File', 'Edit', 'View', 'Tools' and 'Help'.
Audio and video section	The audio and video section allows students to contribute during classes or discussions, with the option of also sending or receiving videos.

Participants section	This section gives a list of every participant and tutor that is in a teaching session, as well as information about what they are presently doing (e.g. chatting, sharing information etc.)
Chat panel	The chat section permits students to send messages to everybody in their online classes, or only to their tutor(s).
Collaboration bar	This toolbar generally has two or three buttons for swapping between content modes, and students can easily switch from discussion board to real time online learning, or decide to record their class teaching and switch to the chat panel etc.
Content area	The content area is the major presentation area. Tutors use this platform to upload lessons or video presentations. Students can also use applications such as the 'whiteboard' to take notes or make drawings during classes.

Table 2: The Components of the Blackboard Collaborate Launcher

Source: Blackboard Inc. (2013)

An example of this application is also shown in Figure 10 below, with the numbers illustrating the features of this application.

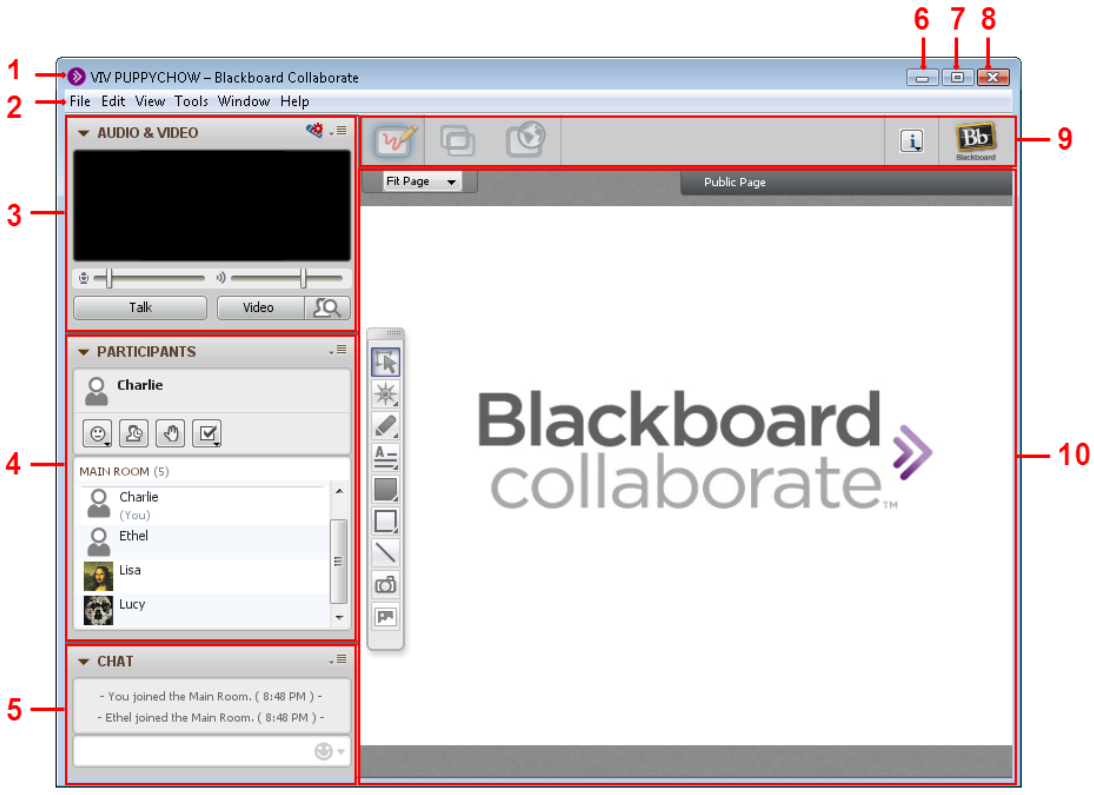


Figure 10: An Example of the Blackboard Collaborate Launcher

Source: Blackboard Inc. (2013)

The numbers in Figure 10 above represent:

1 - Title bar	6 - Minimise button
2 - Menu bar	7 - Maximise button
3 - Audio and video section	8 - Close button
4 - Participants section	9 - Collaboration bar
5 - Chat panel	10 - Content area

4.4 The Application and Benefits of the Blackboard Learning System

According to Ransdell (2013), Blackboard offers five major functionalities in the education sector, namely (i) Improved accessibility to resources; (ii) Rapid feedback; (iii) Enhanced communication; (iv) Ease of gathering information; and (v) Proficiency development. Similarly, Heirdsfield et al (2011) posit that Blackboard increases the opportunity for two-way communication between all parties in an educational institution. Squillante et al (2014) add that the value of learning is enabled by more constructivist, collaborative online learning platforms; the researcher adds that constructivism refers to the generation of knowledge based on tutor-student and student-student relationships. Other studies have also indicated that tutors and educational administrators use the Blackboard system mainly to send curriculum information to students who might not have the means of attending classroom lessons (Ally, 2008; Hussein, 2011; Isman et al, 2012). This allows students to have ease of access to their course resources and, according to Ally (2008), could result in reasonable improvement in students' performances. Hamoodi (2014) adds that various Blackboard features facilitate even more technical processes than just the conveying of curriculum resources to learners. The researcher adds that both scholars and experts view distance learning systems, such as Blackboard, as useful information sharing and allocation tools. Certain major 'best practices' of the Blackboard learning system have been recognised as major supports for learning; these are:

i. Blackboard systems enable a collaborative learning atmosphere, and support active education;
ii. Blackboard systems allow for constant communication between all parties involved in the educational process;
iii. Blackboard systems allow quick feedback to students and highlight the time spent on each educational activity;
iv. Blackboard systems are adaptable and flexible. They can be tailored to cater to the varied faculties and the methods of learning students (Bradford et al, 2007; Coopman, 2009; Zaki and El Zawaidy, 2014).

Based on the above studies, and various others, it is apparent that the uses and benefits of Blackboard systems are numerous. Some of these are further discussed below.

- ***Improved accessibility***

As previously mentioned, Blackboard provides access to various learning resources on the Internet, and these can be accessed from any location and at any point in time. The application provides links to lectures, course materials, journals, online sites and media devices. Students can easily click on links to access any of these resources; these seem to be some of the most motivating factors for using Blackboard, as the ease of access simplifies the entire process of lecturing or learning (Park, 2011).

- ***Tracking***

Blackboard has a tracking feature, which tracks the use of learning materials by learners, and submits the tracking results to a pre-determined area for compiling curriculum statistics for all students. Thus, tutors can easily examine students' performance on each specific course, and all assessments can also be viewed via this platform (Martin, 2008). All submitted assessments have both date and time imprinted on them, and tutors can easily ensure that all assessments were submitted within the specified time limit.

- ***Improved communication***

There are various Blackboard features that facilitate communication both amongst students and between students and their tutors. Coopman (2009) adds that Blackboard facilitates both synchronous and asynchronous communications, adding that improved communications and

interactions between tutors and students offer the opportunity for knowledge creation and production, as a lot of learning also takes place during social interactions. According to Squillante (2014), one of the two most common options are the 'send e-mail' and the 'announcements' options, both of which are accessible to students once they log into their Blackboard application. The announcements feature offers an easy, effective method of sending messages on to all students within a group without having to use valuable classroom time to achieve this, and the e-mail feature offers students the chance to interact with their tutors whenever this is necessary. Mirjana (2010) adds that these features ensure that all students are up-to-date with school activities, and help to reduce the administrative tasks for schools. Furthermore, the researchers Bradford et al (2007), who conducted a preliminary study on Blackboard systems, stated that asynchronous conversation on learning management systems like the Blackboard system helps to develop a sharing community amongst students and serves as a backbone for educational activities.

- ***Skill building***

There are numerous functional skills that are encouraged with the application of the Blackboard system. Heirdsfield et al (2011) suggest that skills such as management and structuring of time, which influence learning outcomes, are encouraged by the Blackboard system. Similarly, Hemsley and Mason (2013) add that Blackboard systems provide features that enable students to input a calendar for each of their courses, thereby motivating students to ensure that they supersede all course projections. This results in students aspiring to achieve set goals, and learning whatever is required to achieve these goals. On the other hand, El-Hussein and Cronje (2010) mention that this might not occur in classroom based teaching, as students do not necessarily have access to these management applications that could assist in building confidence, skills and capabilities.

Nevertheless, the precise effect of Blackboards on distance learning seems to have been overlooked by previous researchers, and regardless of the increase in application of the Blackboard system, it is important to determine how it impacts distance learning, and if its implementation results in benefits for both students and teachers, or if it introduces any limitations to their educational activities. This research aims to provide findings to determine this.

4.5 Limitations of the Blackboard System

As discussed above, Blackboard systems have various advantages and can be applied for several educational activities. Nevertheless, this system also has certain limitations. For instance, in a study on 'Asynchronous learning networks and student outcomes', DeNeui and Dodge (2006) stated that, though Blackboard introduces ease of access and several other benefits to students and tutors, 40% of surveyed educational personnel indicated that they were generally less content with distance learning in comparison to the classroom based method of learning. This percentage is quite high and implies that there are certain restrictions to Blackboard systems, which could possibly affect their appeal and value in educational institutions. According to Cornelius and Marston (2009), Blackboard systems' application is affected by the social objectives of its users, which are determined by their opinions about the ease of utilising the system as well as its effectiveness. Hence, examining the limitations of utilising the Blackboard system from the viewpoint of students and tutors could aid in revealing important perceptions about the value of the experience and the issues constraining distance learning in learning institutions.

Indeed, certain studies have suggested that distance learning or loitering online without contribution results in worse learning results (Coopman, 2009; Zaki and El Zawaidy, 2014).

According to Coopman (2009), who conducted a critical analysis of the Blackboard online learning environment based on other existing research, in most cases, the rate of contribution in online conversation does not definitely guarantee that learners will have higher grades in their programmes. Coopman justifies his findings, contending that quality of collaboration during online discussions, rather than the quantity, might be a better forecaster of a student's learning outcome.

Furthermore, significant limitations mentioned in a study by Al-Mansour and Al-Shorman (2011) included (i) Unreliable Internet connection influencing students' studies and (ii) preference for textbooks rather than online resources. From another viewpoint, Tella (2011) mentions that students might not be technology savvy, and the layout of the Blackboard application, though simple, could prove difficult for students to navigate, and students might end up not using this tool optimally, missing out on some of its significant features. Other researchers such as Cooper (2009) cite issues such as the ease of cheating during assessments, which gives incorrect student learning outcomes. The researcher also goes on to

mention the issues of social remoteness, as physical interaction can be more beneficial than discussion forums and message boards over the Internet.

Bradford et al (2007) also mention some of the limitations of Blackboard systems, stating that Blackboard increases the cost of learning, stating that learning institutions spend more on Blackboard systems resources than on classroom resources. Furthermore, the scholars suggest that Blackboard introduces an additional hassle for tutors. This is because it requires a significant amount of time to understand; additionally, creating and managing curriculum materials and adding online assessment resources could take a lot of time. However, with a contrary opinion, Fageeh (2011) argues that the classroom, traditional method of teaching also necessitates lots of planning for lectures, course works, assessments and feedback. Hamoodi (2014) concludes that the use of Blackboards and learning management systems often requires more planning time than the traditional, classroom teaching method. This is because tutors have to upload and bring their curriculum materials up-to-date, input and update grades and also make alternative plans when the Blackboard system malfunctions or is temporarily inaccessible.

Asiri et al (2012) add that Blackboard systems remove the learning atmosphere that is normally apparent in classrooms, and students can easily decide against taking courses or assessments. Furthermore, Asiri et al (2012) add that when the need arises for students to ask questions about subjects or topics they do not understand, there is an absence of instant explanation, which can easily hinder the leaning process. These limitations, and many more, have been cited in various researches. Nevertheless, as posited by Ally (2008), it seems that general discontent with Blackboard system distance learning activities stems from academic concerns rather than logistical issues; and regardless, it can be concluded that the benefits of the Blackboard system far outweighs its limitations.

4.6 Comparative Analysis of Blackboard Systems

As previously mentioned, various researches have examined the effectiveness of distance learning tools like Blackboard systems, in comparison to traditional classroom-based learning (Raaij and Scheepers, 2006; Aljawarneh et al, 2012; Ni, 2013; etc.). Overall, these studies suggest that there are very minor differences between these two methods of teaching and both achieve similar results. For instance, Tella (2011), in a study on the ‘Reliability and Factor Analysis of a Blackboard Course Management System’, discovered that the combination of

traditional classroom teaching with e-learning platforms such as Blackboard systems can aid students to perform well in their reading exercises. Similarly, Al-Mansour and Al-Shorman (2011) conducted a study on the effect of LMSs such as Blackboard systems on students studying English language in a university, and discovered that the use of distance learning and online resources had a positive impact on the students' learning outcomes.

Additionally, studies centring particularly on communication have discovered that distant teaching programmes can change the way information flows between students and their teachers, and also between students themselves. For instance, Lobel et al (2005) established that when learning activities are carried out traditionally in classrooms, students tend to direct any comments or questions to their teacher, or any other recognised professional; on the other hand, when in an online setting like Blackboard, these students tend to interrelate with each other more than they do with their teachers.

Furthermore, Alhbabi (2013) discovered that online interactions necessitated that learners 'reflect on the previous peer involvements before adding theirs'. Thus, in this setting, learners depended on what their peers wrote to create their own answers, and communication took place within learners, rather than firstly through the instructor and then to their other peers.

In addition, various researches have revealed that distance learning and the application of Blackboard systems for learning can impact the level of communication amongst students and tutors. Researchers such as Patel (2011) have posited that Blackboard features, such as discussion or announcement boards, should not replace the face-to-face interaction amongst students and tutors, as this is a significant part of education. Uzunboylu and Ozdaml (2011) evaluated the perceptions of distance learning, and the researchers discovered that the form of technology being used to deliver an online class affects how learners and their teachers interrelate with one another. The researchers add that beyond the prior technological developments in the educational field, online learning systems like Blackboard could possibly improve the cooperative way of teaching, and concurrently, could also modify teaching activities into static activities, or what Brent (2005) refers to as 'textualisation'.

In contrast, Davies and Graff (2005) and Benoit et al (2006) discovered that the rate of contributing to online discussions does not generally result in improved grades, adding that students who contributed less often did have lower results than the frequent contributors. The researchers verified their findings, contending that the quality of communication via

Blackboard discussion boards, rather than measure, could be a better indicator of learning outcomes.

For the normal cooperative teaching activities, the online classes permit the constant updating, incorporation of software, continuous conversations, and real-time dialogues. However, textualised teaching activities involve online classes that are more of 'plug and play' classes, whereby the instructor in charge of the class might not necessarily teach during class hours, and only minimal changes occur in the class structure from one semester to the next.

It is apparent that changing how a course is being taught would have an impact on the learning outcome. As Pisey et al (2012) state, moving a programme from a traditional learning process to an online Blackboard will involve significant modifications to how this programme is being taught, and how students or educators view the programme. However, is it true that online Blackboards improve the process of learning? This is one of the questions this research aims to answer. As Rose (2004) argues in a study that assessed distant learning systems, there is no in-depth analysis of the major effects of distant learning using applications such as Blackboards. This study aims to contribute to any existing research in this field by evaluating if Blackboard is a useful and effective platform for distance learning.

4.7 Conclusion

It can be concluded, based on the above review of past literature, that the Blackboard system is a technological platform that improves learning and promotes learning activities. Nevertheless, as Fageeh (2011) mentions, the use of a technology is mostly affected by the behavioural objectives of its users, and this is determined by the users' opinions concerning the ease of utilising this system and its usefulness. Thus, examining the usefulness of the Blackboard system from the users' perspective (namely the students and tutors of Taibah University) will aid in providing relevant findings about the usefulness of Blackboard systems as a distance education platform, and what factors could possibly be constraining distance learning in schools.

5 EXPERIMENT DESIGN

5.1 Introduction

This study applies a combination of the qualitative interviews and quantitative questionnaire as research methodologies to answer the research question: *How Do Teachers and Students Perceive the Utility of the Blackboard System as a Distance Learning Platform?* The research methods are discussed in this section, as well as the objectives and challenges of the research experiment. The section subsequently provides an overview of the deanship of distance learning at Taibah University.

5.2 Research Methodologies

The two research methodologies applied in this research are discussed below:

5.2.1 Questionnaire

Questionnaire surveys have always been suggested as the most effective method to gather quantitative data (Saunders et al, 2012). Cresswell and Plano-Clark (2007) also propose that questionnaires are relatively quick methods for collecting a large volume of data within a restricted time frame, as they can more easily cover wider geographical locations than face-to-face interviews without adding on any extra expenses of time or travel, and they eliminate subjectivity. On the other hand, according to Saunders et al (2012), questionnaires do not provide in-depth analysis of a research subject, rather they provide quantitative, measurable data, which might not sufficiently answer a research question. Nevertheless, researchers, such as Martin (2008), who conducted a related study titled "Blackboard as the Learning Management System of a Computer Literacy Course", posit that quantitative questionnaires are adequate for making valid conclusions on the effect of Blackboards in learning institutions.

Two questionnaires are used during this research for the students and teachers of Taibah University. The questionnaires consisted of questions aimed at investigating their views about Blackboard as a distance learning platform. The questionnaire consisted of 38 questions in total, divided into five sections, with each part aimed at evaluating a specific feature.

5.2.1.1 Blackboard Questionnaire (Students & Teachers)

Section 1-General Information: Provides information about the questionnaire which will be used during the data analysis stage.

Section 2-System Usability Scale (SUS): Aims to measure the usability level of the Blackboard system. SUS is a quick and low cost questionnaire model which was proposed by John Brooke in 1986.

Section 3-The User Interface Scale (UIS): Aims to evaluate the level of user satisfaction towards the UI of the Blackboard system when they use it for distance learning purposes. These questions have been developed based on suggestions by Shi (2014) with the aim of evaluating an e-learning environment.

Section 4-This part of the questionnaire differs based on the type of users.

- For the teachers' questionnaire: **The Teaching Motivation Scale (TMS):** Evaluates the level of Blackboard motivation for teachers to teach.
- For the students' questionnaire: **The Learning Motivation Scale (LMS):** Evaluates the level of Blackboard motivation for students to learn.

Research by Abdalla (2007), Umrani-Khan and Iyer (2009), and various others was studied while forming these questions.

Section 5-The User Satisfaction Scale (USS): Aims to score the overall satisfaction of the Blackboard system users who use it specifically for the distance learning process. Studies by Zins et al (2004) and Tella (2011) were studied while forming these questions.

5.2.2 Semi-structured interview

Semi-structured interviews are qualitative and flexible interviews, which allow new ideas or questions to be created during the process of an interview, based on what the interview participant says (Yin, 2008). Researchers such as Saunders et al (2012) posit that semi-structured interviews are highly valid, as they allow participants to discuss a subject thoroughly, while providing in-depth information that is valuable in making valid conclusions. However, Cresswell and Plano-Clark (2007) argue that semi-structured interviews are time consuming and costly, and could also reduce the reliability of research findings, as it could introduce subjectivity. This research combines both quantitative and qualitative methods to avoid these limitations.

This research conducted interviews with both the teachers and students of Taibah University. Due to the constraints of time, interviews were conducted via Skype, with two participants from each group interviewed. The purpose of the interview was to gain an insight about the use of the Blackboard system in the university, why they chose to study or teach using e-

learning, how it is carried out, their opinions about the usefulness of the training courses and materials, and if they encountered any challenges prior to, or after, the implementation of the Blackboard system.

5.3 Experiment Objectives

Scholars, such as Koustelios and Bagiatis (1997), have encouraged the use of a combined research methodology approach, asserting that a combined methodology has the benefit of providing thorough, reliable, and comprehensive information about a research subject.

To gain from these advantages and ensure that this study's findings are valid, both research methods are used to determine how the students and teachers of Taibah University view the usefulness of Blackboard systems as a distance learning tool. The results of the questionnaire survey will provide valid, quantifiable, and objective/impartial primary data, while those of the qualitative semi-structure interviews will aid in gathering rich and insightful primary data about the research topic.

5.4 Experiment Challenges

Certain challenges were encountered while conducting this research. First, two languages had to be used; the study was conducted using Taibah University, which is a university based in Saudi Arabia, and the research's participants could communicate only in Arabic. As a result, both quantitative and qualitative data were collected in the Arabic language. Data, therefore, had to be translated into the English language, while ensuring that the meanings and descriptions by the participants were not lost during translation.

Additionally, this research had the challenge of restricted time, particularly considering the need to conduct the research in a completely different country. There was an initial plan to travel to Saudi Arabia to collect primary data directly from the students/teachers of Taibah University. However, due to time limitations, plans had to be altered and all primary data were collected using online methods.

5.5 Experiment Process

This experiment was conducted in several stages, namely:

Stage 1: This was the first and most significant stage, whereby the idea for this research was formed, and the questions the research aimed to answer were generated as well.

Stage 2: This involved obtaining approval from Taibah University, which have been used as a case study for the research. The management of the university was approached and the

research was explained to them, as well as what we intended to achieve by using Taibah University as a case study.

Stage 3: This stage involved the collection of an extensive range of relevant literature references.

Stage 4: This involved the design of the questionnaires and the interview questions. Subsequently, questionnaires were launched with an online tool and interviews were conducted via Skype. Responses to both tools were recorded and translated for future analysis.

Stage 5: Finally, all the required data have been gathered by this stage, and this data is ready for analysis and evaluation. This will be done in the next chapter, which shows the data analysis and results in details.

5.6 Distance Learning in Saudi Arabia

Though distance learning is not a new concept in educational institutions, it is relatively new in Saudi Arabia, as the country has not been as fast as other nations in adopting this concept (Al-Khalifa, 2009). However, with the country facing higher education capacity challenges, and eager to develop the knowledge and abilities of its citizens, Saudi Arabia now acknowledges the requirement to implement learning management systems and distance education into its learning and development approaches.

It is, nevertheless, important to note that while the application of LMS and distance learning applications is growing in Saudi Arabia, researchers such as Al-Asmari and Khan (2014) state that there are still numerous technical and societal issues that Saudi Arabia faces which hinder the effective application of distance learning in its universities. In line with this, this research aims to investigate how the users of the system view its usability, and determine if Blackboard systems are effective platforms for distance learning.

5.6.1 The Deanship of Distance Learning at Taibah University

The deanship of distance learning at Taibah University was established in 2013. The goal of the deanship is to adopt and improve the use of new technology in the university, and to make higher education easier and more reachable for more students. Currently, Taibah University has 10,969 male and female students in different disciplines, while it has 300 male and female faculty members (Taibah University, 2015).

Furthermore, there are roughly 30 academic coordinators who are responsible for providing academic advice and support for the distance learning students of the university. Taibah University currently offers the following programmes for distance learning:

1. Quran Studies
2. Islamic Studies
3. Arabic Language
4. Business Management
5. History and Geography

Taibah University's main platform for distance learning is the Blackboard system, which was adopted in 2014, after the failure of the university's old learning management system (Taibah University, 2015). The students and faculty members are obliged to attend the scheduled online lectures at specific times via the Blackboard Collaborate Launcher. There are three online and live lectures on a weekly basis, and all assessments and mid-term exams are conducted online via the Blackboard system.

5.7 Conclusion

This section has provided an overview of the research methodology selected for this study. As discussed above, it is assumed that the use of a combination of research methodologies will aid in making valid findings and conclusions during the research. While there are certain limitations to the research methods employed, the researcher has been able to effectively manage this by implementing appropriate measures during the study.

6 EXPERIMENT RESULTS AND EVALUATION

6.1 Introduction

The previous chapter discussed the research methods applied in this research and also provided an overview of the deanship of distance learning at Taibah University. This chapter is a continuation of the previous chapter, and discusses the research experiment's results and findings. The results from both the quantitative questionnaire and the qualitative interview will be explained, and subsequently, these results will be discussed in more detail.

6.2 Questionnaire Results and Discussion

6.2.1 Data Collection

The two questionnaire surveys were designed using the online application known as "eSurv" (http://esurv.org), which is a free online survey tool. The two surveys were written in the Arabic language, and then launched on the website. The links for both were sent to the deanship of distance learning in Taibah University, who assisted with distributing the surveys' links to the targeted, predetermined users.

6.2.2 Data Analysis

The software used for the analysis of gathered data includes Microsoft Excel and IBM SPSS. Various statistical methods were also used to analyse the primary data; these include:

1. Standard Deviation

The standard deviation is simply the square root of the average squared deviation of each figure set from the average (Chambliss, 2012):

$$\sigma^2 = \sqrt{\frac{\sum (X_i - \bar{X})^2}{N}}$$

Therefore, the standard deviation provides information about the range of the variation of any set of data.

2. Mean Value (Average)

The mean is calculated by summing up all figures in a dataset and dividing the sum by the total number of figures. Therefore,

Mean = $\frac{Sum\ of\ value\ of\ figures}{Number\ of\ figures}$ OR $X = \sum x_i / N$

The mean can illustrate the common or general opinion about a particular topic during the research.

3. One-Sample T-test

A single sample is gathered and the average/mean of this sample is compared with a separate sample, distinct from the gathered sample (Elliott, 2006).

4. Two-Sample T-test (for Two Groups)

The two-sample t-test is used for evaluating whether the undetermined means of two group samples are similar to each other, based on separate samples from each group (Moore and McCabe, 2006).

5. System Usability Scale (SUS) Score

However, it is important to mention that the first part of the questionnaire which is the System Usability Scale (SUS) has a special method to analyse it. Brooke (1996) states that:

> "*To calculate the SUS score, first sum the score contributions from each item. Each item's score contribution will range from 0 to 4. For items 1, 3, 5, 7, and 9 the score contribution is the scale position minus 1. For items 2, 4, 6, 8, and 10, the contribution is 5 minus the scale position. Multiply the sum of the scores by 2.5 to obtain the overall value of SU. SUS scores have a range of 0 to 100".*

In fact, SUS questions contain five positive sentences (questions 1, 3, 5, 7, and 9) and the other five are negative. Thus for the positive sentence such as "*I thought the system was very easy to use*", a high score means high usability. On the other hand, for the negative sentence, such as "*I found the system unnecessary complex*", a high score means that the users are not happy with the system usability level.

6.2.3 Results and Discussion

The questionnaires' results have been separated into various sections and discussed below. Each section of the question will show the average score as a bar chart also the one-sample and two-sample t-test results are discussed.

6.2.3.1 Teachers' Questionnaire Results and Discussion

A. System Usability Scale SUS

By applying Brooke's (1996) scoring method to the teachers' survey results, the total score for System Usability Scale is **69 out of 100**, which is a relatively high score. The users have been asked to choose from a range of answers, from "strongly disagree=1" to "strongly Agree=5". Thus, for positive sentences "Questions 1, 3, 5, 7, and 9", the high average means a high agreement on the usability of the Blackboard system. On the other hand, for negative sentences "Questions 2, 4, 6, 8, and 10", a high average score means that the users are unhappy with the Blackboard system's usability.

The below bar chart of the average score for questions 1, 3, 5, 7, and 9 from the SUS shows a high level of agreement among the teachers about the usability of the system.

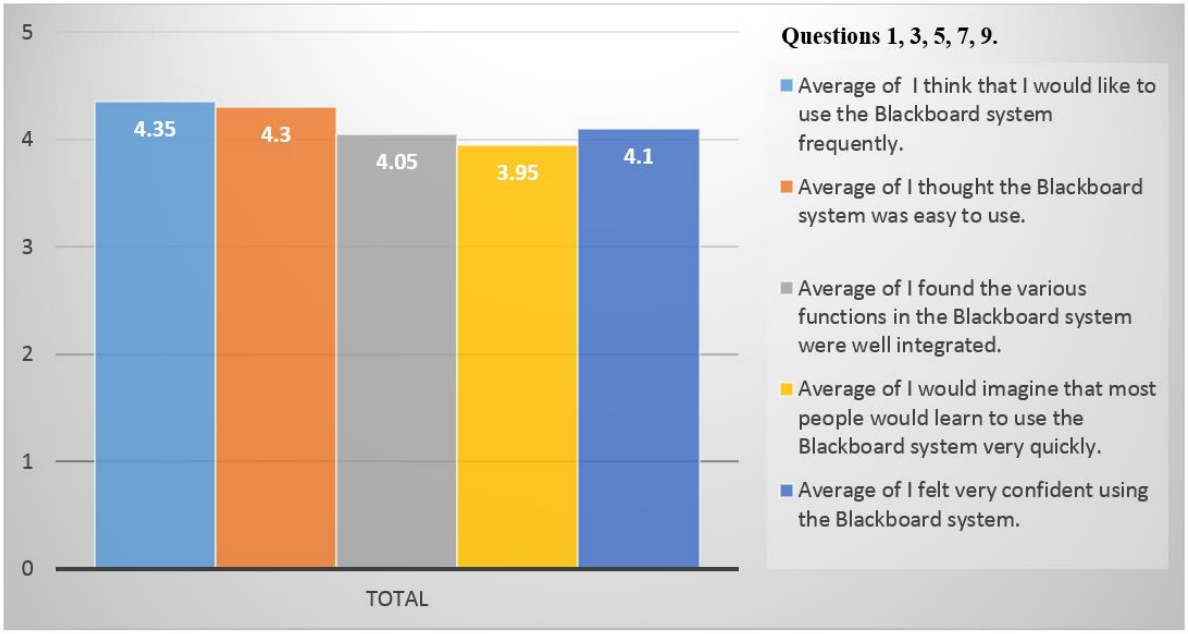


Figure 11: Teachers' Survey - SUS - Average Score for Questions 1, 3, 5, 7, and 9.

Below, the t-test result shows a statistical significance, whereby the Lower and Upper values are positive for all tested questions. These results clearly show that the teachers agree with the statements: "*I would like to use the Blackboard system frequently*", *etc.*

One-Sample Test

Q	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
1	6.110	19	.000	1.350	.89	1.81
3	7.935	19	.000	1.300	.96	1.64
5	6.185	19	.000	1.050	.69	1.41
7	4.254	19	.000	.950	.48	1.42
9	5.082	19	.000	1.100	.65	1.55

Table 3: Teachers' Survey - SUS One-Sample t-test Part1

The bar chart below illustrates that most of the teachers participating in the survey believe that they would require the support of a technical person to be able to use the Blackboard system. However, a few of them found the Blackboard system unnecessarily complex, and think it has too much inconsistency and is cumbersome to use.

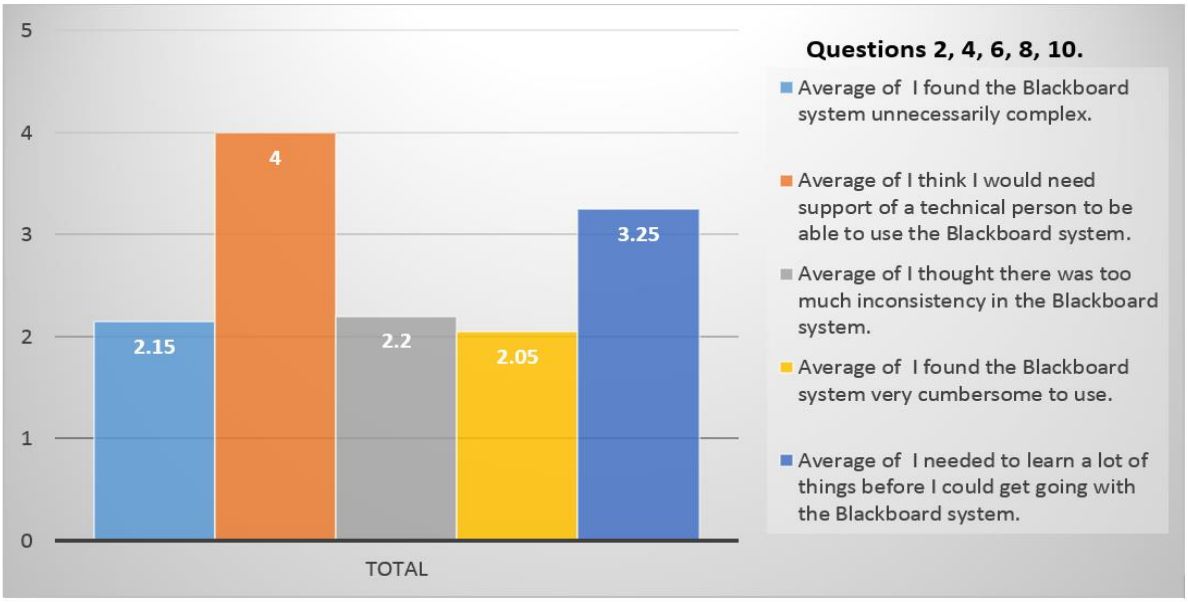


Figure 12: Teachers' Survey - SUS - Average Score for Questions 2, 4, 6, 8, and 10.

Below are the t-test results for questions 2, 4, 6, 8, and 10 which contain negative sentences about the system, and most responses are in disagreement. The result shows that there is a statistical significance where the Lower and Upper values are negative for questions 2, 6, and 8. The negative value means that the value is significantly lower than 3, which is

disagreement. Therefore, overall, it is possible to say that the teachers are happy with the system's usability level, though some of them think that they need technical support and have to learn lots of things before they can use the Blackboard system confidently.

One-Sample Test

Q	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
2	-3.344	19	.003	-.850	-1.38	-.32
4	-.960	19	.349	-.250	-.79	.29
6	-5.141	19	.000	-.800	-1.13	-.47
8	-4.498	19	.000	-.950	-1.39	-.51
10	1.000	19	.330	.250	-.27	.77

Table 4: Teachers' Survey - SUS One-Sample t-test Part2

B. The User Interface Scale (UIS)

The bar chart shows that there is general satisfaction among the teachers about the user interface of the Blackboard system, likewise the t-test shown in *Table 5* below. However, the highest average score is about the familiarity of the user interface. Similarly, the t-test result shows that there is a positive statistical significance for the same question.

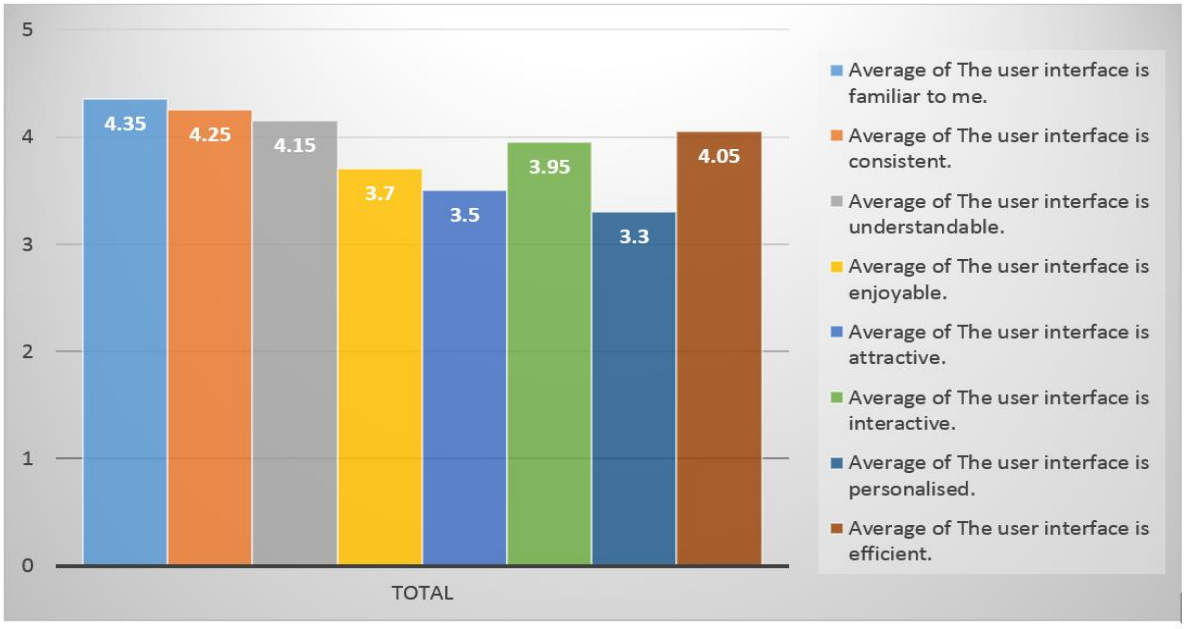


Figure 13: Teachers' Survey - Average Score of UIS

One-Sample Test

Q	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
1	10.283	19	.000	1.350	1.08	1.62
2	8.753	19	.000	1.250	.95	1.55
3	8.759	19	.000	1.150	.88	1.42
4	2.774	19	.012	.700	.17	1.23
5	1.876	19	.076	.500	-.06	1.06
6	4.498	19	.000	.950	.51	1.39
7	2.042	19	.055	.300	-.01	.61
8	6.185	19	.000	1.050	.69	1.41

Table 5: Teachers' Survey - UIS One-Sample t-test

C. The Teaching Motivation Scale TMS

The bar chart of the average score of the *Teaching Motivation Scale* shows a general agreement about the positive role of the Blackboard system in the teaching process, while the t-test result for the TMS shows no statistical difference. However, the lower value for question three is almost 1, which means a very high agreement among the teachers about the Blackboard system enabling them to accomplish their teaching tasks more quickly, which also has the highest average score.

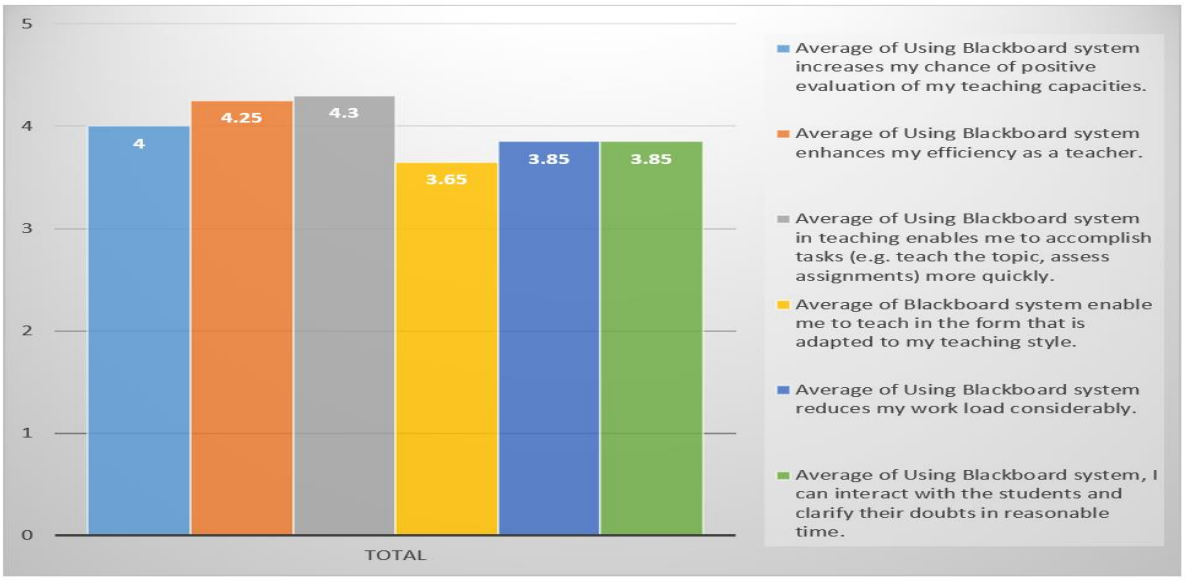


Figure 14: Average Score of TMS

One-Sample Test

Q	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
1	5.210	19	.000	1.000	.60	1.40
2	7.804	19	.000	1.250	.91	1.59
3	8.850	19	.000	1.300	.99	1.61
4	2.795	19	.012	.650	.16	1.14
5	3.216	19	.005	.850	.30	1.40
6	2.998	19	.007	.850	.26	1.44

Table 6: Teachers' Survey - TMS One-Sample t-test

D. The User Satisfaction Scale USS

The bar chart below shows the average score of the USS for the Blackboard system, whereby the users in this case are the teachers. This shows that there is a high level of satisfaction with the Blackboard system among the teachers as all the average scores are above 4. Specifically, the Blackboard interface clarity/understandability and the overall satisfaction with the Blackboard system have the highest average scores. On the other hand, the t-test result for the USS shows no statistical difference. However, the lower value of question one is nearly 1, which means there is a high agreement about the user interface of the Blackboard system being clear and understandable as shown below:

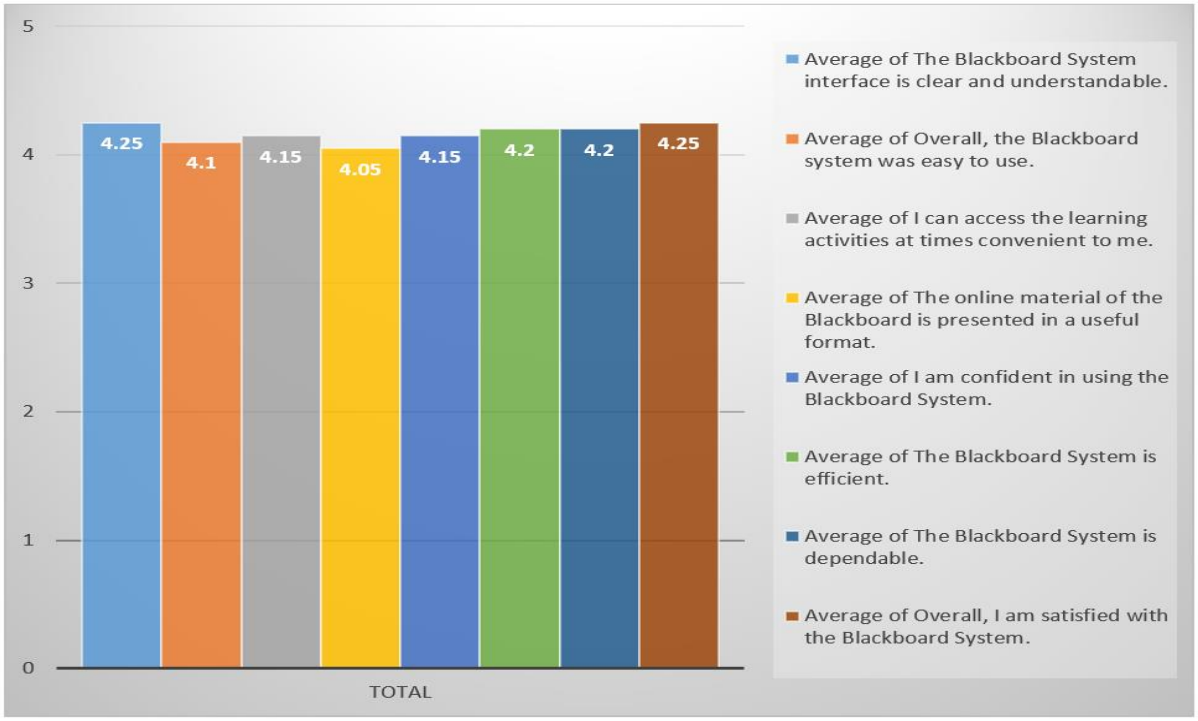


Figure 15: Teachers' Survey - Average Score of USS

One-Sample Test

Q	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
1	10.162	19	.000	1.250	.99	1.51
2	6.242	19	.000	1.100	.73	1.47
3	7.667	19	.000	1.150	.84	1.46
4	4.972	19	.000	1.050	.61	1.49
5	6.902	19	.000	1.150	.80	1.50
6	7.712	19	.000	1.200	.87	1.53
7	8.718	19	.000	1.200	.91	1.49
8	7.109	19	.000	1.250	.88	1.62

Table 7: Teachers' Survey - USS One-Sample t-test

Below, *the frequency of the teachers' answers for the USS* questions shows that there are no Strongly Disagree answers for all of the questions. Moreover, about 55% of the teachers have been answered with "Agree" for each question and about 30% have been answered with "Strongly Agree". Therefore, the USS results declare that the teachers are highly satisfied with the Blackboard system in general as shown below:

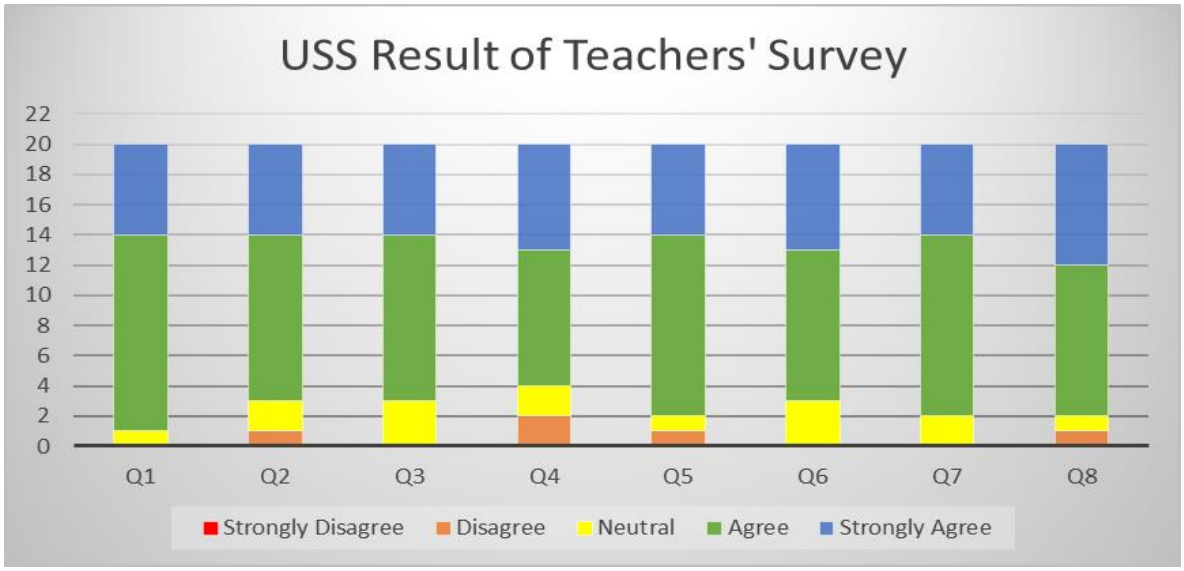


Figure 16: Frequency of Teachers' Answers to USS

Question	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
N	20	20	20	20	20	20	20	20
Mean	4.25	4.1	4.15	4.05	4.15	4.2	4.2	4.25
Std. Deviation	0.55	0.788	0.671	0.945	0.745	0.696	0.616	0.786
Freq. Strongly Disagree	0	0	0	0	0	0	0	0
Freq. Disagree	0	1	0	2	1	0	0	1
Freq. Neutral	1	2	3	2	1	3	2	1
Freq. Agree	13	11	11	9	12	10	12	10
Freq. Strongly Agree	6	6	6	7	6	7	6	8

Table 8: Frequency of Teachers' Answers to USS

6.2.3.2 Students' Questionnaire Results and Discussion

A. System Usability Scale SUS

By applying Brooke's (1996) scoring method to the students' survey results, the total score for SUS is almost similar to the SUS score of the teachers' survey results by **69.28 out of 100**, which is also a relatively high score. Moreover, the bar chart and T-test below clearly show that most of the students agree that *"they would like to use the Blackboard system frequently"* and that *"the Blackboard system is easy to use"*. On the other hand, there is no statistical significance for questions 5, 7, and 9.

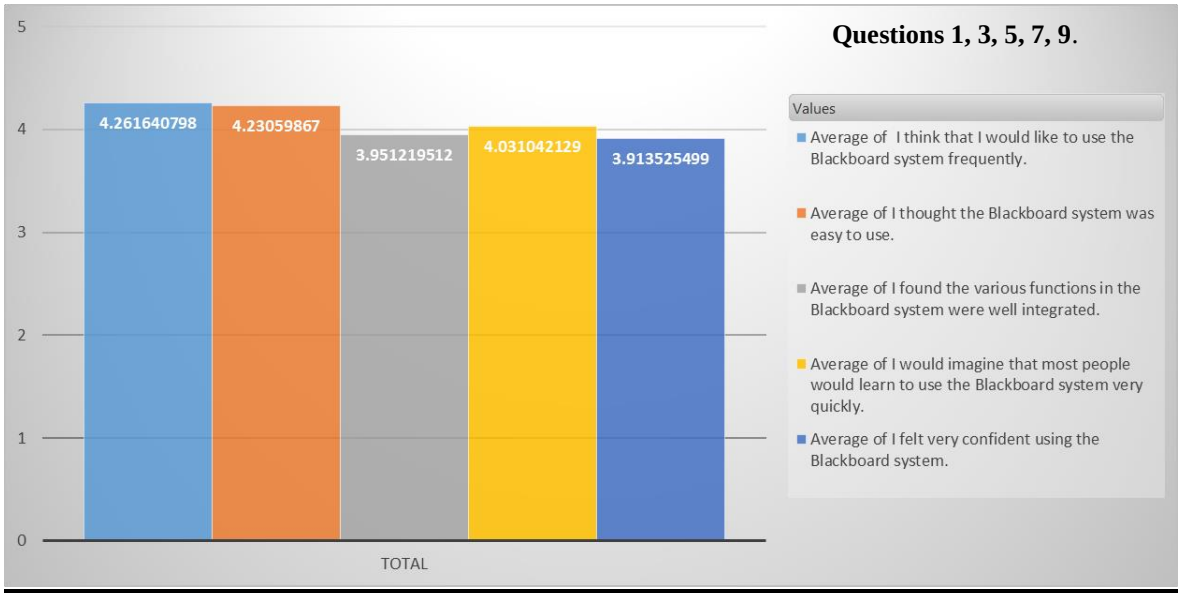


Figure 17: Students' Survey - SUS - Average Score for Questions 1, 3, 5, 7, and 9

One-Sample Test

Q	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
1	37.713	450	.000	1.262	1.20	1.33
3	31.285	450	.000	1.231	1.15	1.31
5	22.556	450	.000	.951	.87	1.03
7	24.162	450	.000	1.031	.95	1.11
9	20.796	450	.000	.914	.83	1.00

Table 9: Students' Survey - SUS - One-Sample t-test Part1

Moreover, the bar chart below shows that there is a general disagreement among the students about the negative sentences in questions 2, 4, 6, 8 and 10. This indicates that the students are generally happy with the Blackboard system.

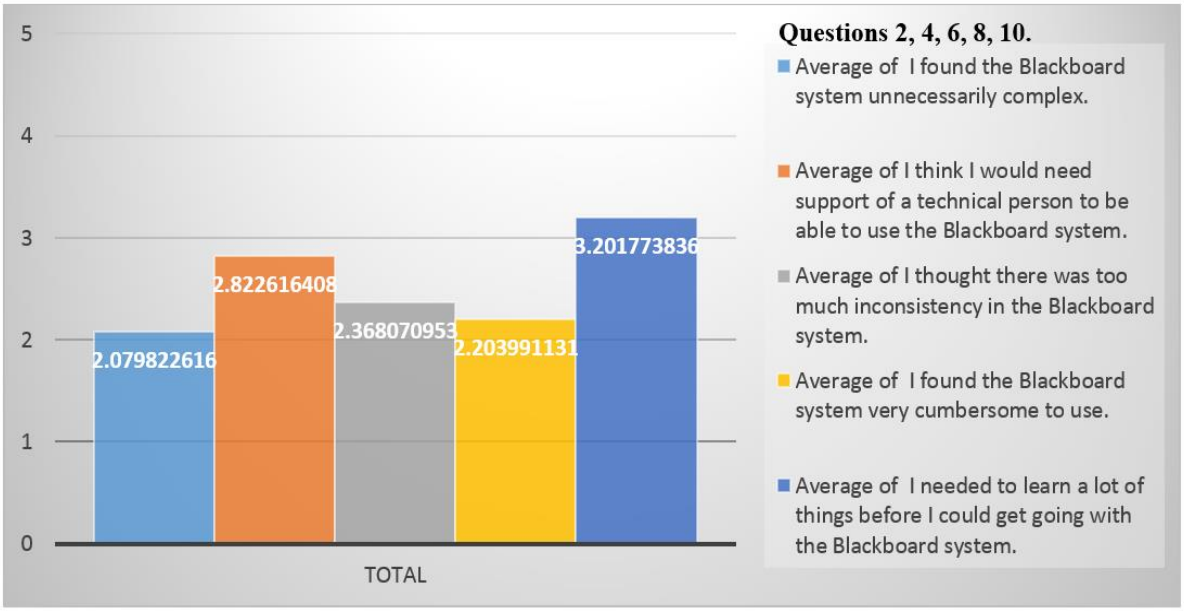


Figure 18: Students' Survey - SUS - Average Score for Questions 2, 4, 6, 8, and 10

Similarly, the results of the t-test below for questions 2, 4, 6, 8, and 10, which contain negative sentences about the system, show that most responses are in disagreement. Therefore, overall, it is possible to say that the students are happy with the system's usability level, though some of them needed to learn lots of things before they could get going with the Blackboard system.

One-Sample Test

Q	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
2	-21.403	450	.000	-.920	-1.00	-.84
4	-3.164	450	.002	-.177	-.29	-.07
6	-14.436	450	.000	-.632	-.72	-.55
8	-18.223	450	.000	-.796	-.88	-.71
10	3.643	450	.000	.202	.09	.31

Table 10: Students' Survey - SUS - One-Sample t-test Part2

B. The User Interface Scale (UIS)

The bar chart of the average score for UIS shows a general satisfaction with the Blackboard user interface, while the t-test result shows no statistical difference. However, the lower value for question three is almost 1 by the value of 0.98. Also, it has the highest average score, which means a high agreement among the students about "*The user interface is understandable*".

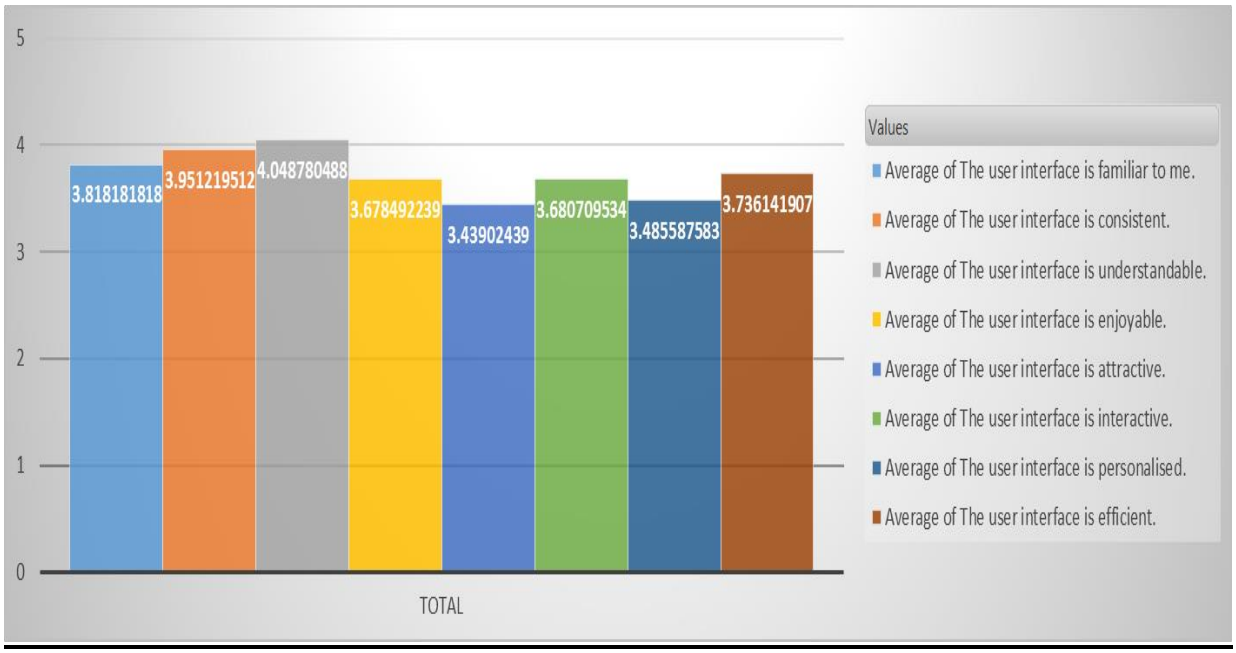


Figure 19: Students' Survey - Average Score of UIS

One-Sample Test

Q	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
1	19.560	450	.000	.818	.74	.90
2	25.844	450	.000	.951	.88	1.02
3	29.250	450	.000	1.049	.98	1.12
4	15.015	450	.000	.678	.59	.77
5	9.661	450	.000	.439	.35	.53
6	15.899	450	.000	.681	.60	.76
7	10.328	450	.000	.486	.39	.58
8	17.636	450	.000	.736	.65	.82

Table 11: Students' Survey - UIS - One-Sample t-test

C. *The Learning Motivation Scale LMS*

The bar chart of the average score of LMS shows a general agreement about the positive role of the Blackboard system in the learning motivation for the students. The highest score is for "*Activity participation during Blackboard class activities stimulated their learning interest*" with an average score of 4.02, as well as "*using Blackboard stimulated/motivated their desire/interest to learn*" with an average score of 4.01. Though the t-test result below shows no statistical difference, the Lower value for questions one and four are relatively high by the value of 0.94 and 0.92 implies that the Blackboard system has a significant role in motivating the students to learn.

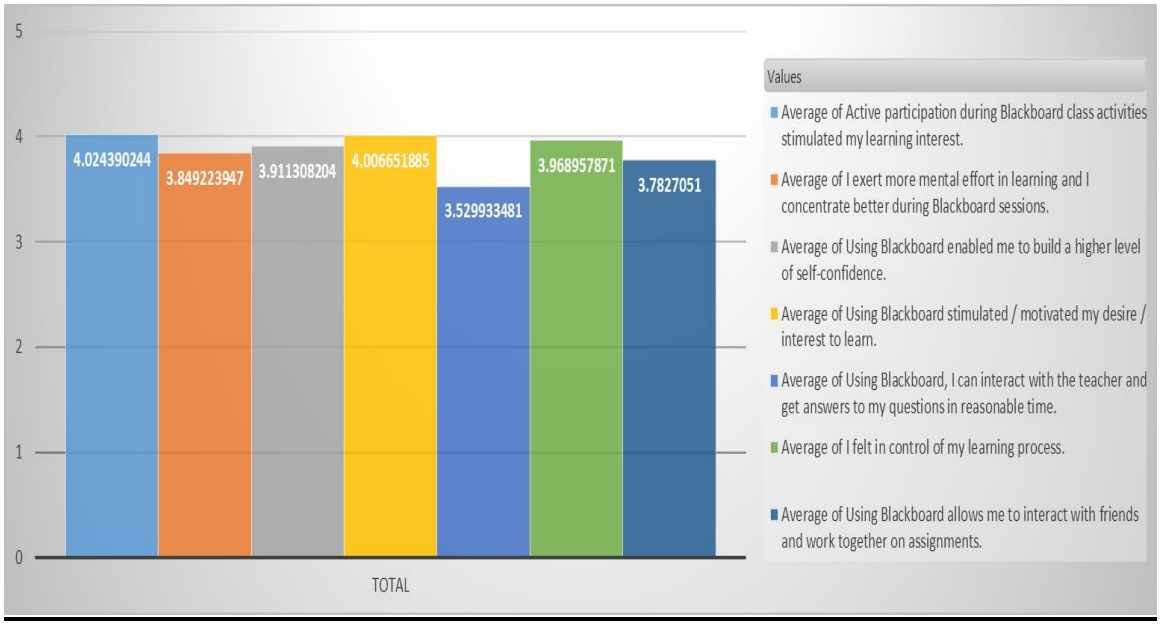


Figure 20: Average Score of LMS

One-Sample Test

Q	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
1	22.552	450	.000	1.024	.94	1.11
2	17.727	450	.000	.849	.76	.94
3	19.387	450	.000	.911	.82	1.00
4	22.050	450	.000	1.007	.92	1.10
5	20.633	450	.000	.969	.88	1.06
6	9.221	450	.000	.530	.42	.64
7	14.734	450	.000	.783	.68	.89

Table 12: Students' Survey - LMS - One-Sample t-test

D. The User Satisfaction Scale USS

As can be seen in the bar chart below, there is a high level of satisfaction with the Blackboard system among the students. The t-test result for the USS also shows that there is a statistical significance as a result of questions 2, 5, and 8, and this implies that there is a very high level of agreement among the students about "*overall, the Blackboard system is easy to use*", *"confident in using the Blackboard system", and "overall satisfied with the Blackboard system"*.

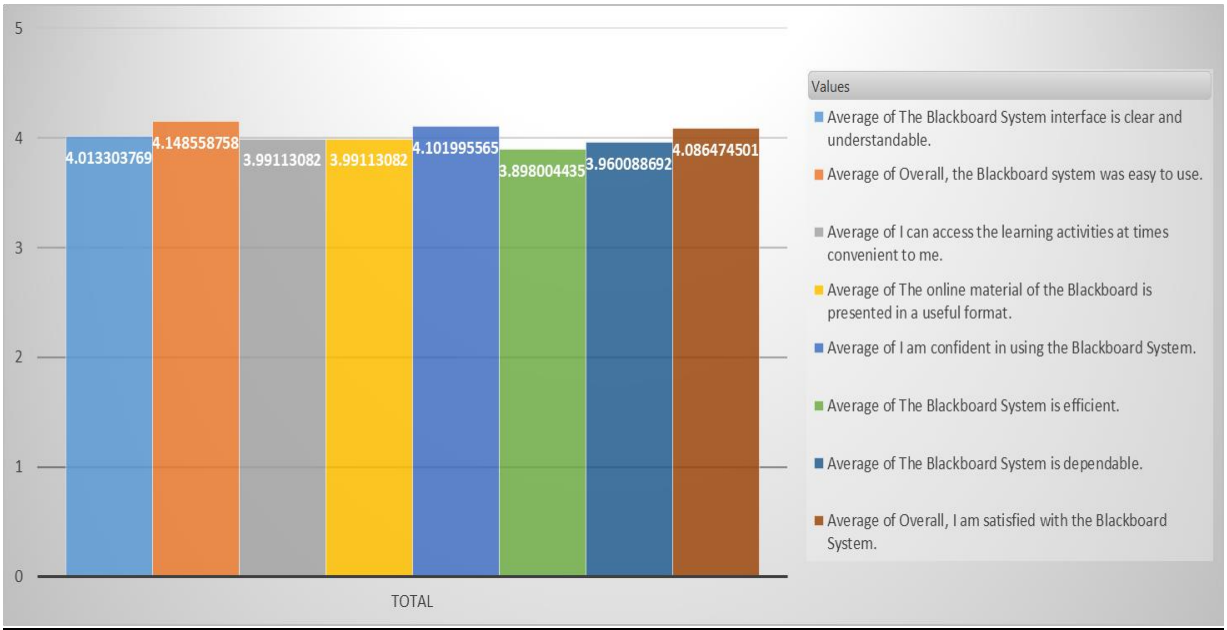


Figure 21: Students' Survey - Average Score of USS

One-Sample Test

Q	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
1	25.930	450	.000	1.013	.94	1.09
2	30.226	450	.000	1.149	1.07	1.22
3	22.496	450	.000	.991	.90	1.08
4	22.496	450	.000	.991	.90	1.08
5	27.870	450	.000	1.102	1.02	1.18
6	20.882	450	.000	.898	.81	.98
7	22.209	450	.000	.960	.88	1.05
8	26.102	450	.000	1.086	1.00	1.17

Table 13: Students' Survey - USS - One-Sample t-test

The frequency of the students' answers for the USS questions shows that the students are highly satisfied with the Blackboard system in general. In fact, about 50% of the surveyed students chose "Agree" to answer all questions. Also, about 22% of students answered with "Strongly agree".

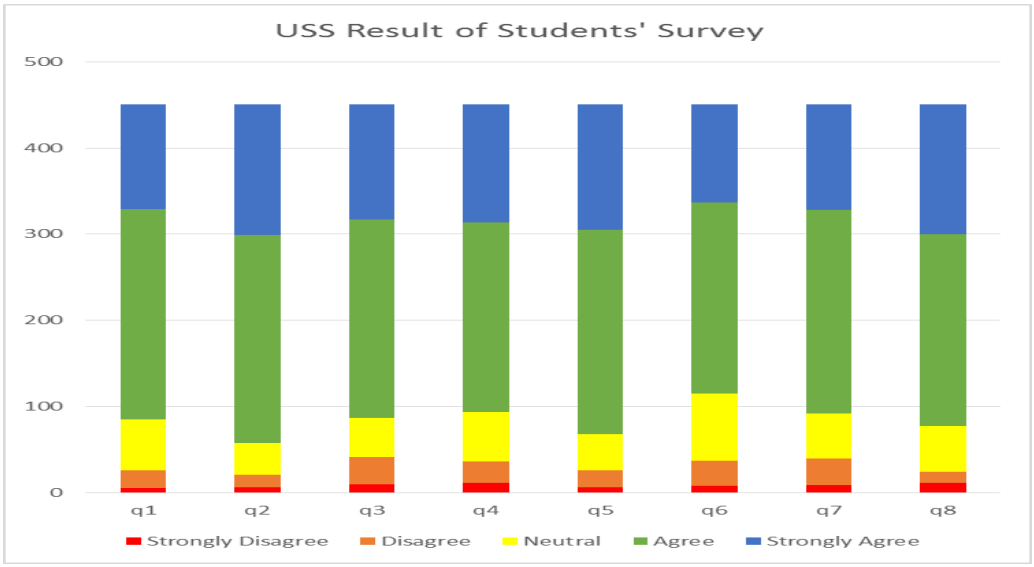


Figure 22: Frequency of Students' Answers to USS

Question	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
N	451	451	451	451	451	451	451	451
Mean	4.01	4.15	3.99	3.99	4.1	3.9	3.96	4.09
Std. Deviation	0.83	0.807	0.936	0.936	0.84	0.913	0.918	0.884
Freq. Strongly Disagree	5	6	10	11	6	8	9	11
Freq. Disagree	21	15	31	25	20	29	31	13
Freq. Neutral	59	37	46	58	42	78	52	53
Freq. Agree	244	241	230	220	237	222	236	223
Freq. Strongly Agree	122	152	134	137	146	114	123	151

Table 14: Frequency of Students' Answers to USS

6.2.3.3 Male vs. Female Teachers' Results and Discussion

The following tables show the *two-sample t-test* between male and female teachers using the SUS and USS. The aim of this test is to find out if there are any differences between the opinions of male and female teachers about Blackboard usability and general satisfaction about the Blackboard system. According to these results, it is apparent that there are no statistical differences between male and female teachers.

		Levene's Test for Equality of		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
1	Equal variances assumed	0.728	0.405	0.066	18	0.948	0.03	0.456	-0.928	0.989
	Equal variances not assumed			0.068	17.964	0.946	0.03	0.444	-0.903	0.964
2	Equal variances assumed	5.474	0.031	1.353	18	0.193	0.677	0.5	-0.374	1.727
	Equal variances not assumed			1.444	15.059	0.169	0.677	0.469	-0.322	1.675
3	Equal variances assumed	0.242	0.629	-0.79	18	0.44	-0.263	0.333	-0.961	0.436
	Equal variances not assumed			-0.829	16.734	0.419	-0.263	0.317	-0.932	0.406
4	Equal variances assumed	1.861	0.189	1.968	18	0.065	0.96	0.488	-0.065	1.984
	Equal variances not assumed			2.006	17.986	0.06	0.96	0.478	-0.046	1.965
5	Equal variances assumed	0.044	0.835	-0.318	18	0.754	-0.111	0.35	-0.846	0.623
	Equal variances not assumed			-0.318	17.158	0.755	-0.111	0.35	-0.849	0.627
6	Equal variances assumed	4.504	0.048	1.174	18	0.256	0.364	0.31	-0.287	1.014
	Equal variances not assumed			1.231	16.909	0.235	0.364	0.295	-0.26	0.987
7	Equal variances assumed	1.705	0.208	-0.197	18	0.846	-0.091	0.461	-1.059	0.877
	Equal variances not assumed			-0.208	16.428	0.838	-0.091	0.437	-1.016	0.834
8	Equal variances assumed	2.737	0.115	1.178	18	0.254	0.495	0.42	-0.388	1.378
	Equal variances not assumed			1.237	16.745	0.233	0.495	0.4	-0.35	1.34
9	Equal variances assumed	0.417	0.527	-0.501	18	0.623	-0.222	0.444	-1.155	0.71
	Equal variances not assumed			-0.529	16.214	0.604	-0.222	0.42	-1.112	0.668
10	Equal variances assumed	1.026	0.324	0.9	18	0.38	0.455	0.505	-0.607	1.516
	Equal variances not assumed			0.918	17.994	0.371	0.455	0.495	-0.585	1.494

Table 15: Male vs. Female Teachers' SUS Two-Sample t-test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
1	Equal variances assumed	0.833	0.373	0.199	18	0.844	0.051	0.254	-0.483	0.584
	Equal variances not assumed			0.192	13.92	0.851	0.051	0.263	-0.514	0.615
2	Equal variances assumed	0.011	0.918	-0.617	18	0.545	-0.222	0.36	-0.979	0.534
	Equal variances not assumed			-0.636	17.884	0.533	-0.222	0.349	-0.957	0.512
3	Equal variances assumed	0.014	0.908	-0.426	18	0.675	-0.131	0.308	-0.779	0.516
	Equal variances not assumed			-0.428	17.536	0.674	-0.131	0.307	-0.777	0.514
4	Equal variances assumed	0.002	0.962	-0.728	18	0.476	-0.313	0.43	-1.216	0.59
	Equal variances not assumed			-0.726	17.009	0.478	-0.313	0.431	-1.223	0.597
5	Equal variances assumed	0.682	0.42	0.206	18	0.839	0.071	0.344	-0.651	0.793
	Equal variances not assumed			0.214	17.565	0.833	0.071	0.331	-0.626	0.767
6	Equal variances assumed	0.127	0.725	0.507	18	0.619	0.162	0.319	-0.509	0.832
	Equal variances not assumed			0.497	15.563	0.626	0.162	0.325	-0.53	0.853
7	Equal variances assumed	2.494	0.132	-0.142	18	0.888	-0.04	0.284	-0.637	0.556
	Equal variances not assumed			-0.15	16.536	0.883	-0.04	0.27	-0.611	0.53
8	Equal variances assumed	2.116	0.163	-0.419	18	0.68	-0.152	0.361	-0.911	0.608
	Equal variances not assumed			-0.446	15.41	0.662	-0.152	0.34	-0.874	0.571

Table 16: Male vs. Female Teachers' USS Two-Sample t-test

6.2.3.4 Male vs. Female Students' Results and Discussion

Similarly, based on the tables below, it is apparent that there are no statistical differences between male and female students.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
1	Equal variances assumed	2.899	0.089	1.071	449	0.285	0.083	0.078	-0.069	0.236
	Equal variances not assumed			1.018	172.629	0.31	0.083	0.082	-0.078	0.244
2	Equal variances assumed	2.909	0.089	0.017	449	0.987	0.002	0.1	-0.195	0.198
	Equal variances not assumed			0.016	174.579	0.987	0.002	0.104	-0.204	0.208
3	Equal variances assumed	5.079	0.025	-1.652	449	0.099	-0.151	0.091	-0.33	0.029
	Equal variances not assumed			-1.454	155.429	0.148	-0.151	0.104	-0.355	0.054
4	Equal variances assumed	1.857	0.174	1.72	449	0.086	0.223	0.13	-0.032	0.479
	Equal variances not assumed			1.736	190.039	0.084	0.223	0.129	-0.03	0.477
5	Equal variances assumed	1.917	0.167	-0.681	449	0.496	-0.067	0.098	-0.259	0.126
	Equal variances not assumed			-0.658	176.768	0.512	-0.067	0.101	-0.267	0.134
6	Equal variances assumed	3.535	0.061	1.075	449	0.283	0.109	0.102	-0.09	0.309
	Equal variances not assumed			1.031	174.876	0.304	0.109	0.106	-0.1	0.318
7	Equal variances assumed	2.45	0.118	-0.536	449	0.592	-0.053	0.099	-0.248	0.142
	Equal variances not assumed			-0.502	169.196	0.616	-0.053	0.106	-0.262	0.156
8	Equal variances assumed	0.913	0.34	-0.783	449	0.434	-0.079	0.101	-0.279	0.12
	Equal variances not assumed			-0.764	179.869	0.446	-0.079	0.104	-0.284	0.126
9	Equal variances assumed	1.996	0.158	0.187	449	0.852	0.019	0.102	-0.182	0.22
	Equal variances not assumed			0.18	175.81	0.857	0.019	0.106	-0.19	0.229
10	Equal variances assumed	0.687	0.408	0.52	449	0.603	0.067	0.129	-0.186	0.32
	Equal variances not assumed			0.504	177.93	0.615	0.067	0.133	-0.195	0.329

Table 17: Male vs. Female Students' SUS Two-Sample t-test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
1	Equal variances assumed	0.833	0.373	0.199	18	0.844	0.051	0.254	-0.483	0.584
	Equal variances not assumed			0.192	13.92	0.851	0.051	0.263	-0.514	0.615
2	Equal variances assumed	0.011	0.918	-0.617	18	0.545	-0.222	0.36	-0.979	0.534
	Equal variances not assumed			-0.636	17.884	0.533	-0.222	0.349	-0.957	0.512
3	Equal variances assumed	0.014	0.908	-0.426	18	0.675	-0.131	0.308	-0.779	0.516
	Equal variances not assumed			-0.428	17.536	0.674	-0.131	0.307	-0.777	0.514
4	Equal variances assumed	0.002	0.962	-0.728	18	0.476	-0.313	0.43	-1.216	0.59
	Equal variances not assumed			-0.726	17.009	0.478	-0.313	0.431	-1.223	0.597
5	Equal variances assumed	0.682	0.42	0.206	18	0.839	0.071	0.344	-0.651	0.793
	Equal variances not assumed			0.214	17.565	0.833	0.071	0.331	-0.626	0.767
6	Equal variances assumed	0.127	0.725	0.507	18	0.619	0.162	0.319	-0.509	0.832
	Equal variances not assumed			0.497	15.563	0.626	0.162	0.325	-0.53	0.853
7	Equal variances assumed	2.494	0.132	-0.142	18	0.888	-0.04	0.284	-0.637	0.556
	Equal variances not assumed			-0.15	16.536	0.883	-0.04	0.27	-0.611	0.53
8	Equal variances assumed	2.116	0.163	-0.419	18	0.68	-0.152	0.361	-0.911	0.608
	Equal variances not assumed			-0.446	15.41	0.662	-0.152	0.34	-0.874	0.571

Table 18: Male vs. Female Students' USS Two-Sample t-test

6.2.3.5 Teachers vs. Students Results and Discussion

Likewise, based on the tables below, it is apparent that there are no statistical differences between the answers of teachers and students.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
1	Equal variances assumed	0.785	0.376	-1.032	468	0.303	-0.259	0.251	-0.752	0.234
	Equal variances not assumed			-1.141	21.156	0.267	-0.259	0.227	-0.731	0.213
2	Equal variances assumed	1.154	0.283	-0.774	468	0.439	-0.174	0.225	-0.617	0.268
	Equal variances not assumed			-0.675	20.274	0.507	-0.174	0.258	-0.713	0.364
3	Equal variances assumed	0.747	0.388	-0.895	468	0.371	-0.236	0.263	-0.753	0.282
	Equal variances not assumed			-1.363	23.511	0.186	-0.236	0.173	-0.593	0.122
4	Equal variances assumed	0.049	0.826	-0.241	468	0.809	-0.07	0.29	-0.64	0.5
	Equal variances not assumed			-0.262	21.071	0.796	-0.07	0.267	-0.625	0.485
5	Equal variances assumed	1.755	0.186	-0.957	468	0.339	-0.254	0.266	-0.777	0.268
	Equal variances not assumed			-1.425	23.274	0.168	-0.254	0.179	-0.624	0.115
6	Equal variances assumed	3.239	0.073	0.239	468	0.811	0.056	0.232	-0.401	0.512
	Equal variances not assumed			0.341	22.848	0.736	0.056	0.163	-0.282	0.393
7	Equal variances assumed	0.358	0.55	-0.251	468	0.802	-0.068	0.27	-0.598	0.462
	Equal variances not assumed			-0.294	21.458	0.771	-0.068	0.23	-0.546	0.41
8	Equal variances assumed	0.001	0.974	0.161	468	0.872	0.037	0.227	-0.41	0.483
	Equal variances not assumed			0.169	20.923	0.867	0.037	0.216	-0.413	0.487
9	Equal variances assumed	1.431	0.232	-1.228	468	0.22	-0.333	0.271	-0.867	0.2
	Equal variances not assumed			-1.49	21.663	0.151	-0.333	0.224	-0.798	0.131
10	Equal variances assumed	0.619	0.432	-0.726	468	0.468	-0.217	0.298	-0.803	0.37
	Equal variances not assumed			-0.841	21.399	0.41	-0.217	0.258	-0.752	0.318

Table 19: Teachers vs. Students SUS Two-Sample t-test

		Levene's Test for Equality of		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
1	Equal variances assumed	2.239	0.135	-1.518	468	0.13	-0.386	0.254	-0.885	0.114
	Equal variances not assumed			-2.876	26.746	0.008	-0.386	0.134	-0.661	-0.11
2	Equal variances assumed	0.387	0.534	-0.404	468	0.686	-0.104	0.258	-0.612	0.403
	Equal variances not assumed			-0.567	22.706	0.576	-0.104	0.184	-0.486	0.277
3	Equal variances assumed	2.698	0.101	-1.122	468	0.262	-0.308	0.274	-0.847	0.231
	Equal variances not assumed			-1.916	24.95	0.067	-0.308	0.161	-0.639	0.023
4	Equal variances assumed	0.705	0.402	-0.737	468	0.461	-0.201	0.273	-0.737	0.335
	Equal variances not assumed			-0.92	21.833	0.368	-0.201	0.219	-0.655	0.253
5	Equal variances assumed	1.097	0.296	-0.78	468	0.436	-0.203	0.261	-0.716	0.309
	Equal variances not assumed			-1.16	23.261	0.258	-0.203	0.175	-0.566	0.159
6	Equal variances assumed	2.756	0.098	-1.739	468	0.083	-0.467	0.268	-0.994	0.061
	Equal variances not assumed			-2.821	24.244	0.009	-0.467	0.165	-0.808	-0.125
7	Equal variances assumed	3.361	0.067	-1.484	468	0.139	-0.4	0.27	-0.93	0.13
	Equal variances not assumed			-2.689	25.899	0.012	-0.4	0.149	-0.706	-0.094
8	Equal variances assumed	0.661	0.417	-1.206	468	0.228	-0.323	0.268	-0.85	0.204
	Equal variances not assumed			-1.752	23.032	0.093	-0.323	0.185	-0.705	0.058

Table 20: Teachers vs. Students USS Two-Sample t-test

6.2.3.6 Questionnaires' Open Questions Results and Discussion

The last two questions of the questionnaire had open-ended questions; below is the discussion of their results:

- ***Do you experience any problem while using the Blackboard system? If yes, please explain the type of problem.***

The teachers' opinions about challenges of using Blackboard were quite mixed, as 50% responded that they do not have any problems when using Blackboard, while the others indicated issues with a slow internet connection and collection of assignments. Similarly, about 65% of students responded that they had no problems with Blackboard, while few stated that there tends to be an overlap when more than one student speaks simultaneously during online lectures, which causes confusion.

- ***Do you have any suggestions that may make the Blackboard system easier and more enjoyable to use?***

Roughly 38% of teachers had no suggestions, while a few suggested scheduling the lectures in a way that it doesn't overload the system, improving the exams creation process, automating assignment corrections and marking, and additional training. Similarly, 80% of students had no suggestions, while a few suggested that only one student's microphone should be enabled each time, to avoid overlapping of conversation.

6.3 Interview Results and Discussion

6.3.1 Data Collection and Reduction

After designing the interview questions, the researcher had to book appointments with the interview participants. On the specified day, these interviews were conducted via Skype in Arabic, and each lasted roughly 40 minutes.

All data from the interview were translated and transcribed carefully to ensure that all responses were clearly written out. Once this was completed, the data was once again thoroughly examined, with the objective of ensuring that the researcher was well-versed with the details before analysing it. Irrelevant information was also removed during the stage to further ensure that analysing the data will not be cumbersome.

6.3.2 Data Coding and Analysis

During the examination stage, the major themes in the data began to emerge. Subsequently, all major themes were noted down, and groups of data were generated based on these themes. This aided in reducing the gathered data into themes that would be subsequently analysed. The initial themes are shown in the table below, as well as the three major codes that emerged, which are examined in this section.

Final Coding Framework	Initial Coding Framework
Knowledge	Length of Time using Blackboard system
	Reason for choosing distance learning for learning/teaching
	Received training on Blackboard systems
Ease of Use	Issues with the Blackboard system
	Ease of resolving these issues
	Ease of recording or listening to lectures
	Ease of submitting or uploading assignments/exams
Effectiveness of Blackboard as a distance learning tool	Communicating with the Blackboard platform
	Assessing students on Blackboards
	Reliable learning environment
	Blackboards in the future
	Distance education in Taibah University

Table 21: Qualitative Data Coding Framework

6.3.3 Result and Discussion

The three selected data codes are examined for both groups of users (students and teachers) below. Similar responses have been grouped together (and referred to as 'frequency'), for easier data analysis.

6.3.1.1 Teachers' Interview Result and Discussion

The profile of interviewed teachers is shown in the Table below:

No	Gender	Function
1	Female	Arabic Language Teacher
2	Male	Quran studies Teacher

Table 22: Profile of Interview Respondents-Teachers

1. Knowledge: Overall, the teachers showed a high level of knowledge with regards to Blackboard and its usefulness as a distance education platform. When asked the question: "*Why did you choose to work in the field of distance education?"* both interview participants indicated that "*it will improve my teaching skills*", indicating that they have a positive viewpoint of Blackboard. This is further analysed in the table below:

RESULTS		
QUESTION	**REASONS**	**FREQUENCY/PARTICIPANTS**
Why did you choose to work in the field of distance education?	it gives me a great opportunity to improve my teaching skills	2
Trainings on Blackboard system	A mandatory training prior to using Blackboard system, which was quite useful, though it would be even more useful if it was practical	2
Length of time using the Blackboard	Participant 1: 3 semesters	Participant 2: 3 months

Table 23: Teachers' Interview Result - Usefulness of Blackboard Systems

2. Ease of Use: When asked about their experience with the Blackboard system thus far, both stated that though the initial thought was that this system would be challenging, it has been relatively easy. These and other responses are shown in the table below.

RESULTS	EASY	DIFFICULT	EXTREMELY DIFFICULT	
RESPONSE	100%	0%	0%	
RESULTS				
QUESTIONS	**RESPONSE**			**FREQUENCY/PARTICIPANTS**
Any issues with Blackboard?	When I first started using it but it gets easier with time			1
	Internet connection and microphone use during online classes			1
Easy to resolve issues?	Yes most times I can resolve it myself			2
Ease of recording Lectures?	*It is recorded already during the online session*			2

Table 24: Teachers' Interview Result - Ease of Use of Blackboard

3. Effectiveness of Blackboard as a Distance Learning Tool

Various questions were asked to evaluate how teachers view the effectiveness/usability of Blackboard as a distance learning tool. The responses are shown in Table 25 below.

RESULTS		
QUESTIONS	**RESPONSE**	**FREQUENCY/ PARTICIPANTS**
Communicating with Blackboard?	It improves communication and students can easily interact during classes either by writing, chatting using microphone.	2
Assessing students on Blackboard?	The process of giving assignments to the students is easier than creating exams.	2
Is the Blackboard system a good and reliable learning environment?	It gives a great chance for students who cannot attend the traditional classroom education for any reason and yes I think it is reliable.	1
	It depends on the discipline that the distance learning offers, and might not be reliable for practical disciplines.	1
Opinion about Blackboard interface?	It is clear and easy to understandable.	2
Will you prefer to use the Blackboard system for distance learning in the future?	Yes, I think I will continue to work in that field because of the ease of teaching.	2
Expectations about the future of distance education in Taibah University	I expect that the distance learning will attract more students and teachers, so it will compete the traditional education in the next few years.	1
	I don't think that the distance learning can replace the traditional learning because the lack of communication especially in practical disciplines.	1

Table 25: Teachers' Interview Result - Effectiveness of Blackboard for Distance Learning

6.3.1.2 Students' Interview Result and Discussion

The profile of interviewed students is shown in the Table below:

No	Gender	Current Employment status	Level of Studies	Course
1	Male	Employed full time	3rd Level	Arabic Studies
2	Female	Housewife	1st Level	Islamic Studies

Table 26: Students' Interview Result - Profile of Interview Respondents

1. Knowledge: When asked the question: "*Why did you choose to work in the field of distance education?"* both interview participants indicated that *"it would be difficult to attend*

traditional, classroom lessons due to personal circumstances". This finding supports the theory by various researchers (Raaij and Scheepers, 2006; Ni, 2013; etc.), who all suggest that one major benefit of distance learning is that it eliminates the restrictions of having to be in a classroom to learn. This is further analysed in the table below:

RESULTS		
QUESTIONS	**RESPONSE**	**FREQUENCY/ PARTICIPANTS**
Why did you choose to study through distance education	I am a full time employee as a teacher so I have no time to go the university.	1
	I choose it because I have four kids which makes it difficult for me attend the traditional education system.	1
Assessing students on Blackboard?	No, I haven't. The university offers a free training course at the beginning of each academic year, but we don't have to attend it.	1
	Yes I attended one of the three training course that the university offers. I found it very useful.	1

Table 27: Students' Interview Result - Usefulness of Blackboard Systems

2. Ease of Use: Both student participants stated that they have encountered certain issues while using the system and this is further shown in the table below.

RESULTS	EASY	SOMEWHAT DIFFICULT	EXTREMELY DIFFICULT
RESPONSE	0%	100%	0%

RESULTS		
QUESTIONS	**RESPONSE**	**FREQUENCY/PARTICIPANTS**
Any issues with Blackboard?	The main problem is with the communication with the teacher during the online class.	1
	Yes. The internet connection is the most important thing.	1
Easy to resolve issues?	Usually I contact our academic coordinator	2
Ease of attending Lectures?	*The attending is easy, but as I said the communication is the problem.*	2

Table 28: Students' Interview Result - Ease of Use of Blackboard Systems

3. Effectiveness of Blackboard as a Distance Learning Tool

Various questions were asked to evaluate how students view the effectiveness/usability of Blackboard as a distance learning tool. The responses are shown in Table 29 below.

RESULTS		
QUESTIONS	**RESPONSE**	**FREQUENCY/ PARTICIPANTS**
Communicating with Blackboard?	Communication during the online lecture is very poor	2
Is the process of finding the recorded lectures clear? Useful?	It is easy to find, and I think I it is very useful to have it because I miss some parts of lectures due to poor internet connection.	2
Does the system help *you to communicate and interact with the teacher?*	The communication during the online lecture is very poor and affects interactions with teacher.	1
	Yes, I think Blackboard helps us to communicate with our teachers, but not all the time.	1
Do you think that the Blackboard system motivate you to learn	Yes! I am able to study and do personal things as well.	2
What is the thing you like the most about Blackboard system?	I like the assignment process, because it is easy.	1
	I like the opportunity that the Blackboard system gives me and more other students to study at home.	1
Do you think that your choice of study in distance education programs in the Taibah University was an excellent choice?	To be honest, the choice of studying through distance learning was a very excellent choice, but at Taibah university wasn't that good.	1
	Yes, I think it was a good decision.	1

Table 29: Students' Interview Result - Effectiveness of Blackboard for Distance Learning

6.4 General Discussion

The results and findings of the study are discussed here according to the research question:

"How do teachers and students perceive the utility of the Blackboard system as a distance learning platform?"

6.4.1 Usability of the Blackboard System as a Distance Learning Tool

Generally, all respondents provided opinions on the usefulness of the university's Blackboard system from both an educational and practical viewpoint. Both the quantitative and qualitative findings indicated a high level of acceptance of the Blackboard system, though

certain issues were mentioned as well, which could have an adverse effect on Blackboards as distance learning platforms. In response to questions related to the research question, all respondents indicated that the Blackboard system is a system that has the prospective of improving student learning or simplifying teaching tasks, with Participant 1 (teacher) stating that *"I think it is clear and understandable"*. Additionally, the score of the SUS shows a high level of agreement among the students/teachers about the usability of the system. These findings are similar to the findings of Ally (2008), who states: "….*Blackboards allow students to have ease of access to their course resources for distance learning, which results in reasonable improvement in students' performances".*

6.4.2 Teaching/Learning Motivation

According to Squillante et al (2014), the value of learning is enabled by more constructivist, collaborative online learning platforms like Blackboard, which also provide the motivation to learn/teach. The findings of this research align with Squillante et al's viewpoint, as the bar chart of the average score of LMS&TMS shows a general agreement about the positive role of the Blackboard system in the learning and teaching motivation for the students and teachers. The interviewed users indicated similar opinions, with participant B (student) stating: "*I have been looking for ways to continue my study without losing my job and the Blackboard gave me this chance".*

6.4.3 User Satisfaction

Learning institutions such as Taibah University need to ensure that the technology that supports their learning management systems is well-implemented so as to ensure a seamless integration of these applications into their learning activities. The USS test conducted on the answers given by both teachers and students in the quantitative questionnaire revealed an average score for teachers and students, which indicated that there is a high level of satisfaction about the Blackboard system for both groups of users. During interviews, users generally indicated that the Blackboard system is easy to use, with a student stating that: *"In general, I think it is an easy and clear system to deal with".* When asked about the interface of the Blackboard systems, one of the interviewees responded that: *"I think it is great and simple, have lots of functions with less complexity".*

Nevertheless, certain challenges were mentioned in both questionnaire surveys and interviews, which indicated that the users of the university's Blackboard system encountered issues with the internet connectivity of the application. This is a significant challenge, as

Blackboard systems can only be effective for distance learning when they have an adequate internet connection and function sufficiently (Alhbabi, 2013).

6.4.4 Cross Analysis of Respondents

Two-sample t-tests were conducted between male/female students and students/teachers, using the SUS and USS measurement to determine if there were any differences in opinions and to measure their level of satisfaction with the Blackboard system. The results showed that there are no statistical differences between male and female students or students and teachers. These results imply that neither the gender nor type of users impact the opinion about the Blackboard system. This is relatively positive, as it means that the Blackboard system is not a one-sided system (i.e. no group of users gets more advantages than another based on being male/female or student/teacher).

6.5 Conclusion

Both the questionnaire survey and interview responses were discussed in this section, and various factors such as the "users' satisfaction", "motivation", and "usability" have been examined, all with the objective of determining how students and teachers perceive the usefulness of Blackboards as a distance learning platform. Overall, the responses from both survey tools revealed that there was a high level of agreement by both students and teachers that the Blackboard system is perceived as useful and effective as a distance learning platform.

7 CONCLUSION

7.1 Introduction

The concluding chapter of this study discusses the research findings. Recommendations are consequently provided based on these findings. The chapter concludes by, first, suggesting subject-areas for future studies, and second, highlighting the limitations encountered while carrying out the study.

7.2 Research Overview

As previously mentioned, the impact of ICT on the educational sector has progressively grown. LMSs, such as "Blackboards" (Blackboard Learn™, 2009), have become recognized as major technological developments in higher education. Considering this recent development, the current study attempted to answer the research question:

"How do Teachers and Students Perceive the Utility of the Blackboard System as a Distance Learning Platform?"

Both quantitative and qualitative research methods were employed, in order to ensure the validity of the research's findings. The data from the quantitative questionnaire survey were analysed using statistical tools. This data revealed that the students and teachers of Taibah University generally view the Blackboard system as a useful and effective distance learning tool. Both groups of users indicated that distance learning removes the barrier of traditional, classroom education. Then again, some challenges were raised with regards to using the system for distance learning, which include:

- There are communication challenges during online classes due to poor internet connections.
- Teachers have difficulty with creating exam questions.
- As mentioned earlier, a major bottleneck was the slow/sluggish internet connection. Both groups of users indicate that this has affected the effectiveness of the Blackboard system, and has also impacted their learning activities.

This notwithstanding, both groups of users generally had positive experiences with the system.

7.3 Contribution to the Body of Knowledge

Currently, most distance learning or online learning is conducted using a learning management system like Blackboard or Moodle. Particularly, Blackboard LMSs are an emerging trend in various educational institutions, and are currently dominating the online

learning application market (Coopman, 2009). Therefore, it is important for learning institutions to be able to make informed decisions on how to effectively utilize Blackboards as distance learning platforms. There has, however, been relatively little research on how this application is faring in educational institutions, how it operates as a distance learning application, or how the users of Blackboard assess its usefulness. Therefore, the findings of this study are significantly relevant in the educational field, as they provide an in-depth evaluation about the utility of Blackboard systems for distance learning.

It is expected that the findings, conclusions, and recommendations of this study will contribute to the field of distance learning in educational institutions, and will also be valuable to future researchers or studies in this field.

7.4 Results, Discussion, and Recommendation

7.4.1 Learning Objectives

The findings of this user-related research advocate that distance learning and online learning systems like Blackboards are widely accepted as a valuable part of users' experiences during learning. Furthermore, Blackboard systems can positively or negatively influence students' perceived learning or teachers' tutoring activities. The findings in the preceding chapter do indicate that if distance learning applications, such as Blackboard systems, are not proficiently selected, adopted, maintained, and managed, the positive outlook about this application for distance learning may become irrelevant. As Isman et al (2012) posits, Blackboards have to align with a school's objective; otherwise, they could be ineffective and cumbersome. Hence, training, thorough evaluation of learning activities, and the consideration and usability examination on how, when, and why distance learning applications are utilized are vital in order to guarantee that the selected application accomplishes what it was designed and implemented for, which is to improve students' learning and teachers' tutoring activities. Summarily, the opinions of the two groups of users indicate the willingness to continue using Blackboard. As one participant succinctly puts it,

"If the Blackboard application remains functional, and is not challenging to use for distance learning activities, then I will continue using it".

7.4.2 Utility of Blackboard as Distance Learning Platform

In a developing nation like Saudi Arabia, distance learning opens up an avenue for a completely new method of teaching and learning, and the benefits of this method of teaching are apparently copious. The findings of the study demonstrate the acknowledgement of these benefits by the instructors in Taibah University. This may be representative of general

acknowledgement in Saudi Arabia, as evidenced in the fact that universities in the country are increasingly implementing Blackboard for distance learning programmes. This is particularly pertinent, given that there is currently a high number of students who are refused admission into institutions, due to congestion and overloading. Distance learning can significantly help to overcome this challenge in Saudi Arabia and other countries. It can, thus, be deduced that the application of a reliable LMS system such as Blackboard serves a useful and valuable purpose in learning institutions, and improves distance learning activities.

7.4.3 Training

Participants were asked about the actuality of the training provided prior to the use of Blackboard systems. A singular training session may, however, be ineffective. Teachers, on the one hand, indicated that the training was indeed mandatory, and had to occur before they could start using the Blackboard systems. Students, on the other hand, mentioned that the training provided was free and not mandatory; they did acknowledge the provision of materials (from the school) to aid them in understanding the system. This may be an area in need of improvement, as trainings are often essential facets in the implementation of new technology (Martin, 2008). The study suggests that in order to ensure that all users of the distance learning application are well-informed on how to effectively use it, learning institutions should implement regular training sessions with both students and users (Hussein, 2011; Park, 2011).

This should aid in improving the satisfaction level of both students and teachers, as both parties will be able to manage any challenges effectively, and in a timely manner. This equally encourages social interactions amongst students, which tend to be limited during distance learning activities.

7.4.4 Communication

One major feature that was investigated was if Blackboards improve communication between student-student and teacher-student. The results from the quantitative survey implied that Blackboards do improve communication amongst students and teachers. The high average for both students and teachers on questions about the ability to interact with each other using Blackboard indicates a high level of agreement on the usability of the system for such purposes. Then again, it is important to note that the results from the interviews reflect an opposite viewpoint. One of the students, for instance, states:

"… The communication during the online lecture is very poor. The voice of the teacher is usually clear, but the problem is with the students when they try to ask or answer".

This may represent a major challenge, and as suggested by Coopman (2009), schools have to ensure that online classroom sessions simulate the traditional classroom, so as to ensure that the value of teaching and learning is not lost in the process.

7.5 Research Limitations

This research was conducted using the case study of Taibah University in Saudi Arabia. Therefore, the findings of the research are based on the review of Blackboard systems as distance learning tool in only one learning institution. This could limit the relevance of the findings of this research for other learning institutions, and reduce generalizability. Nevertheless, Blackboard systems are used as distance learning platform in various schools worldwide, and it is believed that this research will be applicable to all learning institutions, as its findings are based on secondary and primary (quantitative and qualitative) data, which further validate its conclusions and recommendations.

The research also had the restriction of time, and a lot had to be done within a short period of time. However, the researcher was able to resolve this challenge by prioritizing all activities, and carrying them out based on level of importance.

7.6 Future Work

While this study has been able to make numerous innovative findings, there are other relevant subject areas that can be researched in future studies. One major aspect that appears to be overlooked is the security aspect of Blackboard system. This is because security has not been incorporated into these learning management systems, which makes students' and teachers' information vulnerable to any unauthorized access to stored learning or personal materials. This may be an area worth looking into. Furthermore, this study has centred on only the Blackboard system as a distance learning tool. Considering the wide range of learning management systems available for distant learning in schools (Blackboards, MOODLE, Edmodo, etc.), future studies can investigate various other LMSs to evaluate their effectiveness as distance learning tools, and determine how satisfied the users (i.e. students, teachers, administrators, etc.) are. These systems can also be evaluated against themselves (for instance Blackboard versus Moodle), to determine which is the most accepted by learning institutions.

7.7 Conclusion

The constantly developing world of technology has encouraged the development of distance learning, and allowed students who may not have had the chance of studying the opportunity to accomplish this. In developing countries like Saudi Arabia, distance learning opens up

avenues for reaching a wider range of students who might not have had this opportunity before. As mentioned earlier, one of the major means for accomplishing this is via the use of Blackboard systems. This study has reviewed how students and teachers perceive the utility of Blackboard systems as a distance learning platform. The study reveals that there is a generally positive opinion about the usefulness of Blackboards for distance learning activities, as it aids in overcoming the challenges of having to be physically present in a classroom for learning. These results support prior studies in this field, which revealed that the increased obtainability and accessibility of online resources is an important factor of online systems being valued by students (Heirdsfield et al, 2011; Mirjana, 2010). Therefore, the overall benefits of using Blackboard for distance learning are copious when factors such as ease of access to learning resources and ease of learning are considered. It can, thus, be concluded that Blackboard system have a high prospect of effectively replacing traditional classrooms in the near future.

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APPENDIX A: Blackboard Questionnaire in English

Part 1: General information:

Questions for Teachers:

1- Gender:
   - Male
   - Female

2- Age:
   - 24-30
   - 31-39
   - 40 or more

3- Your field of teaching:
   - Quran Studies
   - Islamic studies
   - Arabic Language
   - History and geography
   - Business management
   - Other

4- Have you ever attended a training course on the Blackboard system?
   - Yes
   - No

5- How many years have you used the Blackboard system in distance learning courses?
   - Less than one year
   - One year
   - Two years
   - Three and more years

Questions for Students:

6- Gender:
   - Male
   - Female

7- Age:

- 18-24
- 25-30
- 31-39
- 40 or more

8- Your field of studying:
    - Quran Studies
    - Islamic studies
    - Arabic Language
    - History and geography
    - Business management
9- What is your current class level?
    - Level 1
    - Level 2
    - Level 3
    - Level 4
    - Level 5
    - Level 6
    - Level 7
    - Level 8
10- Have you ever attended a training course on the Blackboard system?
    - Yes
    - No

Part 2: System Usability Scale SUS

Questions for Teachers and Students

Answers score from 1 (strongly disagree) to 5 (strongly agree).

1- I think that I would like to use the Blackboard system frequently.
2- I found the Blackboard system unnecessarily complex.
3- I thought the Blackboard system was easy to use.
4- I think I would need support of a technical person to be able to use the Blackboard system.
5- I found the various functions in the Blackboard system were well integrated.
6- I thought there was too much inconsistency in the Blackboard system.

7- I would imagine that most people would learn to use the Blackboard system very quickly.
8- I found the Blackboard system very cumbersome to use.
9- I felt very confident using the Blackboard system.
10- I needed to learn a lot of things before I could get going with the Blackboard system.

Part 3: The User Interface Scale (UIS)

Questions for Teachers and Students

Answers score from 1 (strongly disagree) to 5 (strongly agree).

1- The user interface is familiar to me.
2- The user interface is consistent.
3- The user interface is understandable.
4- The user interface is enjoyable.
5- The user interface is attractive.
6- The user interface is interactive.
7- The user interface is personalised.
8- The user interface is efficient.

Part 4: Motivation scale

Answers score from 1 (strongly disagree) to 5 (strongly agree).

Questions for Teachers: Teaching motivation scale (TMS)

1. Using Blackboard system increases my chance of positive evaluation of my teaching capacities.
2. Using Blackboard system enhances my efficiency as a teacher.
3. Using Blackboard system in teaching enables me to accomplish tasks (e.g. teach the topic, assess assignments) more quickly.
4. Blackboard system enable me to teach in the form that is adapted to my teaching style.
5. Using Blackboard system reduces my work load considerably.
6. Using Blackboard system, I can interact with the students and clarify their doubts in reasonable time.

Questions for Students: Learning Motivation Scale (LMS)

1- Active participation during Blackboard class activities stimulated my learning interest.
2- I exert more mental effort in learning and I concentrate better during Blackboard sessions.
3- Using Blackboard enabled me to build a higher level of self-confidence.
4- Using Blackboard stimulated / motivated my desire / interest to learn.
5- I felt in control of my learning process.
6- Using Blackboard, I can interact with the teacher and get answers to my questions in reasonable time.
7- Using Blackboard allows me to interact with friends and work together on assignments.

Part 5: The User Satisfaction Scale (USS)

Questions for Teachers and Students

Answers score from 1 (strongly disagree) to 5 (strongly agree).

1- The Blackboard System interface is clear and understandable.
2- Overall, the Blackboard system was easy to use.
3- I can access the learning activities at times convenient to me.
4- The online material of the Blackboard is presented in a useful format.
5- I am confident in using the Blackboard System.
6- The Blackboard System is efficient.
7- The Blackboard System is dependable.
8- Overall, I am satisfied with the Blackboard System.

Problems and Suggestions:

Questions for Teachers and Students (Open Questions)

- Do you experience any problem while using the Blackboard system? If yes, please explain the type of problem.
- Do you have any suggestions that may make the Blackboard system easier and more enjoyable to use?

APPENDIX B: Blackboard Questionnaire in Arabic

الجزء الاول: معلومات عامة:

الاسئلة الموجهة للاعضاء هيئة التدريس:

1- الجنس:
- ذكر
- انثى

2- العمر:
- من 24 الى 30
- من 31 الى 39
- 40 سنة فأكثر

3- مجال التدريس:
- دراسات قرآنية
- دراسات اسلامية
- لغة عربية
- ادارة اعمال
- تاريخ وجغرافيا
- غير ذلك.

4- عدد سنوات الخبرة في استخدام نظام البلاكبورد:
- اقل من سنة.
- سنة واحدة.
- سنتين.
- ثلاث سنوات فاكثر.

5- هل سبق وان حضرت دورة تدريبية عن نظام البلاكبورد؟
- نعم
- لا

الاسئلة الموجهة لطلاب التعليم عن بعد:

6- الجنس:
- ذكر
- انثى

7- العمر:
- من 18 الى 24
- من 25 الى 30
- من 31 الى 39
- 40 سنة فأكثر

8- التخصص:
- دراسات قرآنية
- دراسات اسلامية
- لغة عربية
- ادارة اعمال
- تاريخ وجغرافيا

9- المستوى الدراسي:
- المستوى الاول
- المستوى الثاني
- المستوى الثالث
- المستوى الرابع
- المستوى الخامس
- المستوى السادس

- المستوى السابع
- المستوى الثامن

10- هل سبق وان حضرت دورة تدريبية عن نظام البلاكبورد؟

- نعم
- لا

الجزء الثاني: مقياس فعالية النظام:

الاسئلة الموجهة لاعضاء هيئة التدريس وطلاب التعليم عن بعد.

(الرجاء اختيار المستوى المناسب للجمل الآتية من حيث موافقتها لوجهة نظرك بخصوص نظام البلاكبورد, بحيث 1= لا اوافق بشدة و 5= اوافق بشدة)

1- أعتقد انني سوف استخدم نظام البلاكبورد بشكل متكرر.
2- أرى ان نظام البلاكبورد معقد جداً.
3- أعتقد ان نظام البلاكبورد سهل الاستخدام.
4- أعتقد انني بحاجة الى الدعم من الشخص المتخصص في الدعم التقني لنظام البلاكبورد لكي اكون قادر على استخدام هذا النظام.
5- أرى ان جميع الخصائص في نظام البلاكبورد متكاملة ومتوافقة بشكل جيد.
6- أعتقد ان هناك الكثير من التناقض في نظام البلاكبورد.
7- أعتقد ان معظم الناس باستطاعتهم تعلم كيفية التعامل مع نظام البلاكبورد بسرعة كبيرة.
8- أجد ان نظام البلاكبورد مرهق جداً في الاستخدام.
9- اشعر بثقة كبيرة اثناء استخدام نظام البلاكبورد.
10- كنت بحاجة لتعلم الكثير من الاشياء قبل ان استطيع استخدام نظام البلاكبورد بشكل جيد.

الجزء الثالث: مقياس فعالية واجهة المستخدم:

الاسئلة الموجهة لاعضاء هيئة التدريس وطلاب التعليم عن بعد.

(الرجاء اختيار المستوى المناسب للجمل الآتية من حيث موافقتها لوجهة نظرك بخصوص نظام البلاكبورد, بحيث 1= لا اوافق بشدة و 5= اوافق بشدة)

1- واجهة المستخدم لنظام البلاكبورد مألوفة بالنسبة لي.
2- واجهة المستخد لنظام البلاكبورد متناسقة.
3- واجهة المستخد لنظام البلاكبورد مفهومة.
4- واجهة المستخد لنظام البلاكبورد ممتعة.
5- واجهة المستخد لنظام البلاكبورد جذابة.
6- واجهة المستخد لنظام البلاكبورد تفاعلية.
7- واجهة المستخد لنظام البلاكبورد يمكن تغيير خصائصها لتناسب ذوقي الشخصي.
8- واجهة المستخد لنظام البلاكبورد ذات كفاءة علية.

الجزء الرابع: مقياس التحفيز:

(الرجاء اختيار المستوى المناسب للجمل الآتية من حيث موافقتها لوجهة نظرك بخصوص نظام البلاكبورد, بحيث 1= لا اوافق بشدة و 5= اوافق بشدة)

الاسئلة الموجهة لاعضاء هيئة التدريس (مقياس التحفيز للتدريس):

1- من خلال استخدام نظام البلاكبورد زادت فرصة تقييمي الايجابي لقدراتي التدريسية.
2- استخدام نظام البلاكبورد يعزز كفاءتي كمعلم/ـة.
3- استخدام نظام البلاكبورد يمكنني من انجاز المهام (مثل: القاء المحاضرات, تقييم الواجبات..الخ) بسرعة اكبر.
4- نظام البلاكبورد يمكنني من التدريس بالشكل الذي يناسب اسلوبي الخاص في التدريس.
5- استخدام نظام البلاكبورد يقلل من عبء العمل الى حد كبير.
6- استخدام نظام البلاكبورد يساعدني على التواصل مع الطلاب والاجابة على اسئلتهم خلال وقت وجيز.

الاسئلة الموجهة لطلاب التعليم عن بعد (مقياس التحفيز للتعلم):

1- المشاركة من خلال فصول البلاكبورد الافتراضية تحفز اهتمامي بالتعلم.
2- من خلال استخدام البلاكبورد ابذل المزيد من الجهد الذهني في التعليم وأركز اكثر اثناء المحاضرات.
3- التعلم عن طريق نظام البلاكبورد جعلني اكثر ثقة بنفسي.
4- استخدام نظام البلاكبورد يحفز رغبتي بالتعلم.
5- بسبب استخدام نظام البلاكبورد اشعر انني قادر على التحكم بمستواي الدراسي.
6- استخدام البلاكبورد يساعدني على التواصل مع استاذي والحصول على اجابات لاسئلتي خلال وقت قصير.
7- استخدام البلاكبورد يساعدني على التواصل مع زملائي واداء المهام المشتركة كمجموعات.

الجزء الخامس: مقياس رضى المستخدم:

الاسئلة الموجهة لاعضاء هيئة التدريس وطلاب التعليم عن بعد.

(الرجاء اختيار المستوى المناسب للجمل الآتية من حيث موافقتها لوجهة نظرك بخصوص نظام البلاكبورد, بحيث 1= لا اوافق بشدة و 5= اوافق بشدة)

1- واجهة المستخد في نظام البلاكبورد واضحة ومفهومة.
2- عموماً, يعتبر نظام البلاكبورد سهل الاستخدام.
3- استطيع الوصول الى الانشطة التعليمية في الاوقات المناسبة لي.
4- المواد التعليمية في نظام البلاكبورد تُعرض بشكل سهل ومفيد.
5- استطيع ان استخد نظام البلاكبورد بكل ثقة.
6- نظام البلاكبورد على قدر عالي من الكفاءة.
7- نظام البلاكبورد هو نظام يمكن الاعتماد عليه.
8- بشكل عام, انا اشعر بالرضا عن نظام البلاكبورد.

<u>المشاكل والاقتراحات:</u>

الاسئلة الموجهة لاعضاء هيئة التدريس وطلاب التعليم عن بعد.

1. هل تواجهك اي مشكلة اثناء استخدام نظام البلاكبورد؟ اذا كانت الاجابة بنعم الرجاء توضيح نوع المشكلة.
2. هل لديك اي مقترح يمكن ان يجعل من نظام البلاكبورد اكثر سهولة ومتعة في الاستخدام؟

APPENDIX C: Interview Questions

Teachers' Interview Questions:

1. What subject are you teaching at the distance learning?
2. Why did you choose to work in the field of distance education?
3. How long have been using the Blackboard system?
4. Have you ever attended a training course about the Blackboard system? Was it useful? Is this kind of training mandatory?
5. When you first used the Blackboard system, have you found it like what you have expected, or better?
6. Have you ever experienced problems in dealing with the Blackboard system? If yes, what was it?
7. Were you able to solve the problem by yourself or by the help of someone else? And why?
8. Is the process of giving online lectures easy or complicated?
9. Is the process of recording lectures easy or does it need lots of time and effort?
10. Do you think that the system helps students to communicate and interact with you? Is this communication satisfactory or does it need improvement? And why?
11. What do you think about the process for assessing students in the Blackboard system? Is the assessment process easy and effective?
12. Do you think that the Blackboard system is a good and reliable learning environment? Why?
13. In general, do you think that the Blackboard system is easy or complicated and requires a lot of effort to deal with?
14. What do you think about the Blackboard interface?
15. Do you think that the Blackboard system motivates you to teach? How?
16. What is the thing you like the most about the Blackboard system? And what do you wish to improve the most about it? And why?
17. Do you think you will continue to work in distance learning? Will you prefer to use the Blackboard system in the future?
18. What are your expectations about the future of distance education in Taibah University?

Students' Interview Questions:

1. What are you studying? And at which level of study are you studying now?
2. Do you have a job?
3. Why did you choose to study through distance education?
4. How long have you been using the Blackboard system?
5. Have you ever attended a training course about the Blackboard system? Was it useful? Is this kind of training mandatory?
6. When you first used the Blackboard system, have you found it like what you have expected, or better?
7. Have you ever experienced problems in dealing with the Blackboard system? If yes, what was it?
8. Were you able to solve the problem by yourself or by the help of someone else? And why?
9. Is the process of attending online lectures easy or complicated?
10. Is the process of finding the recorded lectures clear? Do you think it's useful to have the lectures recorded?
11. Do you think that the system helps you to communicate and interact with the teacher? Is this communication satisfactory or does it need improvement? Why?
12. How does the system help you to communicate with your classmates? Is this communication satisfactory enough or does it need improving?
13. Is the process of submitting assignments and attending midterm exams in the Blackboard system easy? Or does it need to be improved?
14. In general, do you think that the Blackboard system is easy or complicated and requires a lot of effort to deal with?
15. What do you think about the Blackboard interface?
16. Do you think that the Blackboard system motivates you to learn? How?
17. What is the thing you like the most about the Blackboard system? And what is the thing that you wish to improve most about it? And why?
18. If you had the opportunity to do your postgraduate programme through distance education, would you prefer to use the Blackboard system?
19. Do you think that your choice of study in distance education programmes in Taibah University was an excellent choice? Why?