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#### **Abstract**

Blackboard is an Internet teaching management platform that allows a virtual learning environment via the Internet. It is the most popular system used by universities and educational institutions worldwide. However, this study is more concerned with foreign language (EFL) students' perceptions of the use of Blackboard in their courses. For this reason, we focused on 100 EFL students as respondents to the online questionnaire who attended the Language Department-College of Science and Humanities at Rumaah-Majmmah University in this research. Whereas, findings from both the survey data were analyzed by using (the SPSS *Program)* with the Lickert scale method showed participants had positive perceptions of the use of Blackboard technology for educational purposes. The results of students' perceptions proved the usefulness of Blackboard technology in the field of education. Hence, the suggestions of this study could be shared with other educational institutions in the kingdom.

**Keywords:** Blackboard Technology, English Language Learning, Information Communication Technology (ICT), Perceptions, Technology Integration (TI)

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### Title

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### Abstract

Blackboard is an Internet teaching management platform that allows a virtual learning environment via the Internet. It is the most popular system used by universities and educational institutions worldwide. However, this study is more concerned with foreign language (EFL) students' perceptions of the use of Blackboard in their courses. For this reason, we focused on 100 EFL students as respondents to the online questionnaire who attended the Language Department-College of Science and Humanities at Rumaah-Majmmah University in this research. Whereas, findings from both the survey data were analyzed by using (the SPSS Program) with the Lickert scale method showed participants had positive perceptions of the use of Blackboard technology for educational purposes. The results of students' perceptions proved the usefulness of Blackboard technology in the field of education. Hence, the suggestions of this study could be shared with other educational institutions in the kingdom.

Keywords: Blackboard Technology, English Language Learning, Information Communication Technology (ICT), Perceptions, Technology Integration (TI)

### Introduction

The importance of using technologies has been emphasized during the current restriction caused by the corona virus diseases (COVID-19). Technologies tools have become part of education and it's significantly impacting learning of tertiary level students as they use it in their program courses. Blackboard technology is one of the technology tools given to students a new way to attend classes, do research. submit their





assignments, and develop their language skills. Studies revealed that the "Blackboard" technique has been advanced with the passage of time where teachers and students both utilize this virtual opportunity to make an effective learning environment with the help of chat, podcasts, boards, and file discussion sharing. revolutionized the orthodox teaching system and brings effective change in educational management (Alokluk, 2018). On the other side, many European countries including the United Kingdom, Australia, and Denmark implemented Interactive Whiteboards (IWB) in their Departments of Education. However, technology integration has been weak and the reason teachers are required to develop technology enhanced teaching methods whereas, Students' learning is significantly influenced by e-learning. In addition to that, internet-based education is a critical discipline for developing the skills required to create a knowledge advancement society. The information and communication technologies has not only resulted in the establishment of wholly online higher education institutions, it has also allowed many traditional colleges to launch fully online degree programs (Hakami et al., 2023).

The United Kingdom, Australia, and Denmark implemented Interactive WhiteBoards (IWB) in their Departments of Education (Kearney et al., 2017; Wong et al., 2014). Although academic technology integration has been weak, teachers are now urged to develop technology-enhanced teaching methods (Cuban et al., 2001; (Rakes & Dunn, 2010; Ertmer, 1999). Students' learning is signifcantly influenced by elearning (Bhagat & Chauhan, 2021), and teachers are adopting technologies as part of their teaching methodol-ogy because of their beliefs and attitudes towards technology as well as its usefulness, ease of use, supporting environment, and subjective norm (; Blackwell et al., 2014; Ertmer, 1999).

"The goals of any second language program are partly linguistic and partly nonlinguistic. The linguistic goals focus on developing competence in the individual's ability to read, write, speak and understand the second language, Non-linguistic goals emphasize such aspects as improved understanding of the other community, desire to continue studying the language, roots of the desire to learn the second language, an interest in

learning other languages, etc." (Najeeb S & Rafiq I, 2014). Language learning is subordinate to discourse understanding, implication and analysis, which varies head to head. (Shaikh & Saglain, 2014) Since this study is focusing on English as a Foreign Language (EFL) students' perceptions on the use of Blackboard in their courses, therefore, it is the objective of the study to explore students' perception regarding the use of Blackboard. However, study showed one of the gaps such as using a random sampling of 100 male and female department at the college of Rumaah-Majmaah university. Thus, the population should be limited to the described one unlike applying to any other groups, also, it is limited to the questionnaire's method for data collection. The problem is the blackboard system is available for students to use in students' perceptions of using the system must be investigated and explored for implementation to be successful. To the best of researchers' knowledge, there was not a single study conducted in Majmaah University about English as a Foreign Language (EFL) students' perceptions on using Blackboard technology.

During Covidio, Saudi Ministry of Education has developed and support the integration of technology tools mainly the blackboard system in teaching and learning processes to strengthen educational system in the country. Similarly, study showed some important aspects such as findings depict the use of blackboard technology in future education, some contributions to the existing literature, however, the findings, recommendations, and suggestions from this study could be shared with other educational institutions of the Saudi kingdom.

### Background of the study

Saudi kingdom was established in 1932 where education is free like many other countries around the world, it is considered as a privileged opportunity in a person's life. Rahman and Alhaisoni (2013) state that "The numbers of schools, colleges and universities have also grown, ...presently, the Kingdom is running with more than 25,000 schools, 21 government universities, 24 private universities and colleges and many other educational and training institutions... and the literacy rate has also increased up to 78.8% (male 84.7%, female 70.8%)."

All the universities in Saudi Arabia are offered technologies tools to their students. They offer a SMART Board, an interactive whiteboard, a projector that connects to a computer hard drive and a wireless internet connection. The universities expected by offering thesetools as well as training teachers and students to use the tools, student performance and achievements would improve. Students should get some benefits while using this technology in the classrooms and outside the classrooms.

Another significant technology tools that offered by these universities is Blackboard system. It has popular colleges increasingly among universities across the kingdom of Saudi Arabia. It has many features that support teaching and learning processes; however, the most important feature is, its ability to promote interaction between students with their teachers, it also provides opportunities to engage with students learning outside the classroom while using various tools any time. When COVID 19 was spread all over the world in 2020, the majority of the Saudi universities started to use black board technology during COVID-19. Thus, the purpose of this research work is to explore English as a Foreign Language (EFL) students 'perceptions on the use of Blackboard in their courses, and to accomplish this purpose, the following research questions are under focus:

- 1. What are English as a Foreign Language (EFL) male students' perceptions on the use of Blackboard in their courses?
- 2. What are English as a Foreign Language (EFL) female students 'perceptions on the use of Blackboard in their courses?
- 3. Do English as a Foreign Language (EFL) male and female students' have similar or different perceptions on the use of Blackboard in their courses?

### Literature Review

### Teaching English in the Kingdom of Saudi Arabia (KSA)

Saudis use Arabic as their official language, means of everyday communication, however, English language is an international language. English is considered to be the first foreign language in Saudi Arabia, like in all Arab countries, English is used as

a foreign language, after the Arabic language. The reason it is the only foreign language taught in Saudi Arabia's public schools, and considered a major subject in Saudi Arabia (Rahman & Alhaisoni, 2013). Hence, English as an educational subject was introduced in the late 1950s (Al-Johani, 2009).

We cannot deny the importance of English language in this global era, and its growing recognition in every single field and sectors of the society. Thus, Saudi education ministry identified some major objectives for teaching English in Saudi kingdom such as; it enables the learners to acquires all four basic skills of the language, it develops the learners' awareness about language importance globally, it creates a certain attitude towards English language as well develop their linguistics competence in various professions, it also enhances learners' awareness about their culture, economy, religion and some social issues of the society and prepared them to participate in the solutions; most importantly, it is highly beneficial for their religious spectrum where they can explain Islamic concepts and issues, eventually helping them in spreading Islam; in addition to that, it enables them to comprehend cultural differences among nations, it is highly significant for the students to participate in transferring other nations' scientific and technological advances that can enhance the progress of their nation.

### The Use of Technology Tools in the Field of Education

Saudi kingdom was established in 1932 (Al-Seghayer, 2005) where education is free like many other countries around the world, it is a privileged opportunity in a person's life. Rahman and Alhaisoni (2013) state that "The numbers of schools, colleges and universities have grown...presently, the Kingdom is running with more than 25,000 schools, 21 government universities, 24 private universities and colleges and other educational and training many institutions...and the literacy rate has also increased up to 78.8% (male 84.7%, female 70.8%)." Al-Shumaimeri (2003) added the purpose of education in Saudi Arabia is; to help out students enhancing their concepts about Islam, implanting Islamic principles, and to make them more advanced by developing the society economically, socially and culturally strong. For this reason, ICT tools proved to play a major role in most of the educational aspects and become an important element in schools, and a growing body of research indicate the benefits of ICT for teaching. For instance, technology offers new learning dimensions and setting new goals for classroom (Bridget & Niki, 1997). Whereas, ICT is often perceived as a catalyst for changes in teaching style, in learning approaches, and in access to information (Watson, 2001). Recently, technology is greatly impacting the schooling system due to the development of information growth and standard-based curricula.

In all over the world, governments have invested a huge amount of money and established a large number of training programs in order to integrate ICT in the educational systems. Underwood (1988) also found while using ICT in lessons, user's role become more of a facilitator, a classroom manger rather than having a direct role in students' activities. Thus, the role of a teacher becomes a facilitator and guide to the student's own acquisition of knowledge (Ben-David, et al. 2000).

The use of ICT opens a new door of knowledge and the offering tools has potential to change the existing educational methods. It also strengthened teacher's skills and opened up a wide range of learning resources for students (Lim, 2007). Hence, this adoption of learning technologies infers significant changes in the working environment of teachers and students (Doczi, 2000). The ICT addition in educational system touches all aspects of a school system such as curriculum, instructional practices, teaching strategies and techniques, classroom settings, materials, resources, teachers students' professional training and development, assessment, etc. which have to be redesigned in order to apply and support their form (Banathy, 1996).

The use of technology aid teachers and students to become more prepared, presentable, and assisting them to transfer knowledge, hence, nourish, inspire, and advanced their students (Hu, et al, 2003). ICT can support varying conceptions of teaching (Kirkwood & Price, 2005). Therefore, teachers and students should use technology tools to enhance learning process, increase their productivity, and promote creativity in the environment. Zhao and Cziko, (2001) identified

three conditions for teachers and students to use technology in classroom for instance; first, teacherstudents strongly believe in technology effectiveness maintaining a higher-level goal, second, technology will not disturb the higher-level goals while they are evaluating, and third, they should believe in the ability and resources to use technology.

Smeets (2005) claims ICT can create a powerful learning environment in several ways, for example, it enhances the scope for learners to engage in responsible self-regulation and self-evaluation of learning processes and outcomes. It also helps in planning and deliver learning inside out of the school (Mooij, 2004). Using ICT can free teachers and students' time on administration and record keeping and help teachers and students tracking learners' progress. They further added, ICT allows teacher-students to become more professional, producing "student friendly" teaching materials including their own ideas and perspectives more quickly and efficiently (Roblyer & Edwards, 2000).

Furthermore, ICT improves the quality of teaching process and increases teachers and students' job satisfaction. According to Pearson and Somekh (2006), in the field of education, it has potential to change the relationships between teachers, pupils and the knowledge, and skills being taught. In addition to that, an interactive video conference and online internet resources offer one-to-one teaching where teacher-students are able to communicate online by solving problems in real time.

Regarding the role of ICT in the field of education, ICT can be considered to facilitate student learning, enhance teachers and students' performance, change the curriculum and improve teaching and learning process. In summary, there are various benefits of using ICT in the field of education as identified by researchers include achieving higher levels of abstract cognitive processes than in face-to face communication, providing opportunities for constructing and negotiating meaning, promoting critical thinking processes, other benefits increased communications between teachers and students.

### **Blackboard System**

The new information and communication technology tools have changed the face of

education especially in higher education. A large number of educational insinuations around the world have integrated Blackboard to promote and foster online learning. Blackboard can be used as a combination of face-to-face interaction since it is characterized as a Learning Management System. However, it can offer online space with variety of tools promoting teaching and learning experience.

Blackboard is an Internet teaching management platform that allows virtual learning environment via the internet. Today, Blackboard becomes the most popular systems used by universities and educational institutions worldwide (Chang 2008). Choy, Xiao, and Iliff (2005) defined Blackboard as "software package designed to help educators create quality online courses".

There are many potential benefits associated with development of Blackboard in the field of higher education include (1) increased availability which means that Blackboard available to respond to students and instructors in a timely manner and they can stay connected at anywhere regardless of their location, (2) quick feedback which means that both students and instructors they have the chance for instant response, (3)improved communication by giving instructors and students a great chance to increase dialogue and exchange information, ideas, and thoughts by providing a number of communication channels such as e-mail, announcements, and discussion board, (4) tracking making it possible for students to monitor and track the posting of assignments, discussions, homework and grades, and finally (5) skill building, "these skills include organization and time management, which go hand-in-hand in helping students carry out their assignments efficiently" (Bradford, 2007).

Blackboard is one of the premier online LMS. It has been selected for students learning known as "all-in-one" system (Bradford 2007) since it is a good medium for communication and exchange of information. It imparts good peer support i.e., enhancing peer learning, also used as a tool that facilitates student-centered learning. In addition to that it advances lifelong learning and active engagement concepts, introduces students to modern technology and provides them additional resources to learning.

### Students' Perceptions towards Blackboard

The cited literature has shown how students view the Blackboard technology and identify it, also, it gives insight to the researchers how students feel about it. Thus, the use of this technology in teaching and learning is strongly dependent on users' perceptions. Previously, researchers have reported that perceptions based on technology integration have a significant impact on the constructive integration of technology to language learning and teaching. Studies on students' perceptions towards technology have been conducted in many countries, and all these studies found that students' perceptions have a bearing on their learning and need to be accounted for when using technology.

Concerning the Blackboard system in Majmaah University in general, and the college of Science and Humanities in Rumah in particular, the Blackboard was mainly used before the spread of corona virus (COVID19) for uploading lectures, study materials, assignments, and quizzes and hasn't been used for online classes. However, the Blackboard has been extensively used during COVID-19 period because the role has been turned from an extra to the primary instructional tool i.e., it's been used not only for uploading and downloading lectures, course syllabi, study materials, assignments, homework, and quizzes but also for virtual classes, discussion, blogs, electronic exams, assignments, course messages, and other online synchronous and asynchronous activities.

Similarly, students were encouraged to use Blackboard for virtual classes, online chats, discussions, and other tasks instead of attending on campus classes and having face-to-face interactions. This sudden shift in the learning style has resulted different perceptions in using Blackboard technology as a learning tool, in an online environment. Hence, this present study aims to identify students' perspectives using the Blackboard plat form.

Few studies were conducted in the Saudi Universities that are related to the use of Blackboard technology. Al-qahtani (2019) study revealed students' attitudes and perceptions towards virtual classes are positively and negatively affected by a number of factors which results; classes are easy to take as advantageous factor, whereas, sense of being unreal is considered as

disadvantage of these classes. However, Uziak et al. (2018) study concluded that students were generally comfortable using Blackboard; their performance improved, and communication with instructors were enhanced significantly. Likewise, mentioned students' positive attitudes towards Blackboard, as they were aware of the benefits of using E-learning. Similarly, Almelhi (2021) reported students' positive attitudes about using the Backboard platform, system quality and its convenience of use. On contrary, Almekhlafy (2020) study to concluded a negative impact about students' perceptions on Blackboard technology.

### **Conceptual Framework**

Technology Acceptance Model (TAM) theory attempts to frame how individuals come to accept and use technology. As it is known, TAM model was adapted from the theory of reasoned action (TRA) proposed by Fishbein and Ajzen (1975). According to Davis et al. (1989) the technology accepts a model (TAM), has been extensively used to understand technology adoption (Saade & Kira, 2007) and the value of TAM lies in its ease of use and usefulness. Moreover, TAM was proposed by Davis, Bagozzi, and Warshaw, duringthe 1989, explained IT users' intention and behavior regarding IT usage, it was based on the beliefs, attitudes and behavior paradigm of human behavior. It is one of the simplest, easiest to use, and most powerful computer usage models.

Studies support the usage of TAM to make effective use of technology so that users can accept it, learn to interact with software, and eventually adapt the technology as per their multiple tasks.

In order to investigate various educational issues, TAM has been used, for instance (a) to identify student's acceptance of online courses; (b) for Websites course as effective learning tools; (c) to check online student communication for a class project; (d) e-learning in undergraduate courses; (e) gender differences in pre-service teachers and students; and (f) student teachers and students' perceptions of computer technology in relationship to their intention to use computers" (Smarkola, 2007). Thus, TAM foresees user acceptance of technology that has been determined by three factors, namely; (a) perceived usefulness; (b) perceived ease of use; and (c) behavioral intentions.

### **Research Methodology**

The research methods employed to answer research questions, population and the sample which includes; research sites, information concerning proposed instrumentations i.e., dealing with validity and reliability, data collection procedures, and data analysis procedures. Thus, quantitative research design was chosen to answer the following research questions:

- 1. What are English as a Foreign Language (EFL) female students' perceptions on the use of Blackboard in their courses?
- 2. Do English as a Foreign Language (EFL) male students' have similar or different perceptions on the use of Blackboard in their courses?
- 3. Do English as a Foreign Language (EFL) female students' have similar or different perceptions on the use of Blackboard in their courses?

### **Research Design**

Research design is "an approach to integrate various elements of a research project in a consistent and coherent fashion in order to address a predefined set of study questions" (Gay & Airasian, 2002). This research design employs a case Study Approach within a quantitative research methodology using a small-scale survey to source data.

### Population and Sample

John and James (1998) defined population as a group of people that have either one or more characteristics in common. The collected data is comprised of 120 (as a sample size of) male and female students that were purposively selected from English Language Department of College of Science and Humanities from Rumaah-Majmmah University. Only 100 students responded to the online questionnaire of 5-point Likert scale which was specifically administered to be analyzed using SPSS Program. In addition to that, the setting of this study was Blackboard platform integrated to achieve various goals such as to support the process of teaching and learning, to enhance teachers and students' performance, to improve the quality of education, and enhance students' achievement. For this reason, only students (55 male and 45 female) from the English Language Department-College of

Science and Humanities in Rumaah-Majmmah University were chosen for data collection. Thus, 100 EFL students were total in number participated in this research.Instrumentations

The data was gathered by means of an online questionnaire which consists of two sections; section one includes demographic data about Gender, measured by asking respondents "What is your gender?" with a dichotomized choice of male or female as guided responses. Whereas, section two includes 15 (1-15) items adopted from Alsaied (2016) questionnaire, in order to describe the participants' perceptions towards blackboard. Participants responded on a five-point Likert scale (1=Strongly Disagree2=Disagree3=Neutral 4= Agree5=Strongly Agree).

### **Data Collection**

Data collection is a technique to collect empirical research data, and this study has gathered data through quantitative mean, i.e., the Google online survey form with two sections (demographic information of the participants and their perceptions towards blackboard) was given to the participants via email and WhatsApp notifications. EFL students were requested to complete the questionnaires. A pilot study conducted before the actual collection of data in order to test the instruments before embarking on the main study. Piloting improves the reliability of the research which would employ a pre-testing of the instrument before carrying out the actual one. It includes three steps; first, adapted research instruments were checked according to research questions and objectives, second, two experts have translated the instrument items from English into Arabic language to language questionnaire items more comprehensible for the respondents, and third, a random sampling method was used to select 20 students from the department of English to participate.

### **Data Analysis**

Data analysis can be achieved through various software by systematically arranging all the collected data such as interviews transcript, field notes, and other materials that enable the researchers to comprehend what has been discovered. The collected data of this study was processed by using Statistical Package for Social Science (SPSS) program. It was used to analyze the data as descriptive statistics i.e., summing the data included frequency percentages, means, and standard deviations. T-test analysis was also performed to investigate the differences between respondents' gender with regards their perceptions towards blackboard.

### **Results**

This study aims to explore the perceptions of EFL students towards the use of Blackboard technology. The results of an analysis of the quantitative data collected from students through survey instruments as follows:

### Descriptive Summary of Students' Characteristics

Tables 4.1 through present the Percentages and Frequencies for the demographic variables contained in the survey instrument. Students' characteristics are presented in terms of demographic information, including gender. Table 4.1 presents demographic data of gender for EFL students. The sample consisted of 100 students. In the current research (55.0%; n=55) of the respondents were males while (45.0 %; n=45) were females.

 Table 1

 The Distribution of Respondents by Gender Groups

Gender	Frequency	Percent
Male	55	55.0
Female	45	45.0
Total	100	100%

## The EFL Male Students Perceptions towards the Use of Blackboard

Respondents were asked to answer the questionnaire items that related to their EFL male students' perceptions towards the use of

Blackboard. Negative statements were reversecoded before the analysis was carried out. Table 4.2 reports the results of descriptive statistics male students' perceptions towards the use of Blackboard.

(Percentages, Means, and Std. Deviations) of EFL

**Table 2** *Means, Std. Deviations and Percentages of EFL Male Students' Perceptions towards the Use of Blackboard* 

Means, sea. Deviations and Tereentages of Li E me			*				
Items	SD	D	Percen UN	A_	SA	Mea	n Std
Blackboard facilitates the users.	9.9	9.2	8.6	38.7	33.5	3.76	1.27
Blackboard is an interactive way to							
maintain a friendly teacher and student	28.6	20.9	11.4	20.4	18.7	2.79	1.50
relation							
Blackboard turns language teaching	12.2	11.6	8.4	33.8	24.0	3.65	1.27
Process easier	12.3	11.0	0.4	33.0	34.0	3.05	1.37
Blackboard supports Language teaching my	18.1	17.4	11.0	31.0	22.6	3.22	1 42
style of	10.1	1/.4	11.0	31.0	22.0	3.22	1.43
Blackboard helps to link the							
Pedagogical principles to technology	23.2	17.8	12.9	29.0	17.0	2.98	1.44
integration.							
Blackboard is widely appreciated because it is							
a structured e-learning	9.0	11.2	16.8	32.9	30.1	3.63	1.26
platform							
Blackboard provides sufficient support							
to manage the teaching aid	24.7	16.3	13.3	29.2	16.3	2.96	1.44
Documents online in a DL course.							
Blackboard helps students improve	28.2	24.9	0.7	247	12.5	2.68	1.42
Their language competencies	20.2	<del>2</del> 4·9	9.7	24.7	12.5	2.00	1.42
Blackboard provides a good online	28.0	21.3	8.8	26.0	15.9	2.80	1.48
Source for foreign language learning	20.0	21.3	0.0	20.0	15.9	2.00	1.40
Blackboard provides more activities in an							
easier manner for students to	16.6	13.1	7.3	39.4	23.7	3.40	1.40
Help them learn the foreign language.							
Blackboard tools facilitate the	242	19.4	11.6	27.7	17.0	2.94	1 45
Students-centered learning approach.	24.3	19.4	11.0	2/./	17.0	<del>2</del> .94	1.45
I believe use of Blackboard							
Encourages the students for self-study	24.9	18.3	10.1	24.1	22.6	3.01	1.52
learning.							
Use of Blackboard gives more							
confidence to the students to use	21.7	24.5	12.5	20.9	20.4	2.93	1.46
English for communication.							
Use of Blackboard would promote the							
collaborative language learning	14.0	8.8	11.6	31.4	34.2	3.70	1.38
Process in peers as well as in groups.							
The interface of Blackboard would							
Help students to learn English more	26.5	8.o	6.o	32.3	32.3	3.26	1.57
efficiently and quickly.							
Overall results	20.3	16.2	9.5	30.6	23.4	3.19	1.43

As illustrated in Table 4.2, EFL male students responded to 15 items related to their perceptions

towards the use of Blackboard. However, the most frequent positive perceptions towards the use of Blackboard were that, "Blackboard facilitates the users" (72.2% of the participants answered that they "agree or strongly agree" with that statement), with Mean score (M=3.76) and Std. Deviation (SD=1.27), Blackboard would "Use promote collaborative language learning process in peers as well as in groups" (65.6% of the participants answered that they "agree or strongly agree" with that statement), with Mean score (M=3.70) and Std. Deviation (SD=1.38), "Blackboard turns language teaching process easier" (67.8% of the participants answered that they "agree or strongly agree" with that statement), with mean score (M=3.65) and Std. Deviation (SD=1.37), and "Blackboard is widely appreciated because it is a structured e-learning platform" (64.0% of the participants answered that they "agree or strongly agree" with that statement) with Mean score(M=3.63) and Std. Deviation (SD=1.26).

On the other hand, the most percent of negative perceptions towards the use of Blackboard were, Blackboard helps students improve their language competencies (37.2% of the participants answered that they "strongly disagree or disagree"

with that statement), with Mean score (M=2.68) and Std. Deviation (SD=1.48), "Blackboard is an interactive way to maintain a friendly teacher and student relation" (39.1% of the participants answered that they "agree or strongly agree" with that statement) with Mean score (M=2.79) and Std. Deviation (SD=1.50), and Blackboard provides a good online source for foreign language learning (41.9% of the participants answered that they "agree or strongly agree" with that statement) with Mean score (M=2.80) and Std. Deviation (SD=1.48).

The overall average for the Means EFL male students related to their perceptions towards the use of Blackboard was (M=3.19) and the Std. Deviation (SD=1.43) indicating that the EFL male students have overall positive perceptions towards the use of Blackboard application.

### The EFL Male Students Perceptions towards the Use of Blackboard

Table 4.3 reports the results of descriptive statistics (Percentages, Means, and Std. Deviations) of EFL male students' perceptions towards the use of Blackboard.

**Table 3** *Means, Std. Deviations and Percentages of EFL Female Students' Perceptions towards the Use of Blackboard* 

Items		Moss	Mean Std				
items	SD	D	UN	A	SA	Meal	ıı sıu
Blackboard facilitates the users.	26.9	28.2	14	16.8	14.2	2.63	1.40
Blackboard is an interactive way to							
maintaina friendlyteacher and student	11.8	14.0	9.9	22.8	41.5	3.68	1.42
relation							
Blackboard turns language teaching	26.0	19.8	21.9	19.1	13.1	2.73	1.37
Process easier	20.0	19.0	21.9	19.1	15.1	2.73	1.5/
Blackboard supports my style of	10.5	18.3	8.8	24.3	38.1	3.60	1.41
Language teaching	10.5	10.5	0.0	<del>-</del> 4·J	٠.٠٠	5.00	**4*
Blackboard helps to link the	_						
Pedagogical principles to technology	20.6	11.2	19.4	<del>2</del> 7.5	21.3	3.17	1.42
integration.							
Blackboard is widely appreciated							
Because it is a structured e-learning	11.4	12.3	10.3	26.5	39.6	3.70	1.39
platform							
Blackboard provides sufficient	6		-0 -	-0 -	-6 -	- 0 -	
support to manage the teaching aid Documents online in a DL course.	22.6	24.5	18.5	18.3	16.1	2.80	1.39
Blackboard helps students improve Their language competencies	18.7	16.8	20.6	21.9	21.9	3.11	1.41
Their language competencies							

EFL Students' Perceptions on the use of Blackboard Technology in English Language Learning

	Percent (%)							
Items	SD	D	UN	A	SA	Mea	n Std	
Blackboard provides a good online Source for foreign language learning	19.6	14	15.3	25.4	25.8	3.23	1.46	
Blackboard provides more activities in an easier manner for students to Help them learn the foreign language.	20.0	11.0	10.3	21.3	37.4	3.45	1.55	
Blackboard tools facilitate the students-centered learning approach.  I believe use of Blackboard	22.2	14.2	20.0	20.4	23.2	3.08	1.46	
Encourages the students for self-study learning.	18.7	16.8	20.6	21.9	21.9	3.11	1.41	
Use of Blackboard gives more confidence to the students to use English for communication.	19.6	14	15.3	25.4	25.8	3.23	1.46	
Use of Blackboard would promote the collaborative language learning Process in peers as well as in groups.	22.1	14.3	20.0	20.4	23.2	3.09	1.47	
The interface of Blackboard would Help students to learn English more efficiently and quickly.	10.5	18.3	8.8	24.3	38.1	3.61	1.41	
Overall results	19.1	16.8	15.4	22.2	26.6	3.20	1.43	

As illustrated in Table 4.3, EFL male students responded to 15 items related to their perceptions towards the use of Blackboard. However, the most frequent positive perceptions towards the use of Blackboard were that, "Blackboard is widely appreciated because it is a structured e-learning platform", with Mean score (M=3.70) and Std. Deviation (SD=1.39), "Blackboard is an interactive way to maintain a friendly teacher and student relation", with Mean score (M=3.68) and Std. Deviation (SD=1.42), and "The interface of Blackboard would help students to learn English more efficiently and quickly", with man score (M=3.61) and Std. Deviation (SD=1.41).

On the other hand, the most percent negative perceptions towards the use of Blackboard were, Blackboard facilitates the users, with Mean score (M=2.63) and Std. Deviation (SD=1.40), "Blackboard turns language teaching process easier" with Means core (M=2.73) and Std. Deviation (SD=1.37), and

Blackboard provides sufficient support to manage the teaching aid documents online in a DL course with Mean score (M=2.8o) and Std. Deviation (SD=1.39). The overall average for the Means EFL male students related to their perceptions towards the use of Blackboard was (M=3.2o) and the Std. Deviation (SD=1.43) indicating that the EFL female students have overall positive perceptions towards the use of Blackboard application.

### Perceptions Differences According to Gender

Differences between the research variables based on respondents' gender were investigated by using T-test analysis. T-test analysis was performed to investigate the Differences between respondents' gender in their perceptions towards the use of Blackboard application.

**Table 4** *Means, Std. Deviation, and T-test Results of the Research Variables based on Gender Groups* 

					Levene's Tes	st for Equality of			
					Variances		t-test for	<b>Equality</b>	of Means
	Gender	Mean	SD	N	F	Sig.	t	df	Sig.
Perceptions	Male	30.91	5.91	55	0.926	0.336	-3.518	463	0.000*

	Levene's Test for Equality of	
	Variances	t-test for Equality of Means
Female 22.01 6.20 45		1

\*Significant at p<0.05

As shown in Table 4.4, for the perceptions towards the use of Blackboard application, the males group reported a Mean (M= 30.91) with Std. Deviation (SD= 5.91) while females group reported a Mean (M=32.91) with Std. Deviation (SD=6.30). AT-test between the Means gave (t (1,463) = -3.518 at p<0.05). The results indicated that there were statistically significant differences in the perceptions towards the use of Blackboard application. Mean among the gender groups. In other words, the Means of males and females indicated that differences in the Means favoring females' group as shown in Table 4.4. The findings showed that there were a gender differences in the perceptions towards the use of Blackboard females' application and group significantly have higher Means of perceptions towards the use of Blackboard application than the males group.

### Discussion

### Perceptions towards the Use of Blackboard

Perceptions of users play an important role in the implementation of Blackboard and considered as one of the key factors for the successful utilization in language teaching and learning. Researchers from all over the world believed that the use of blackboard tools for the educational transformation entirely depends on the perceptions of its users. Thus, it is the users' perceptions that can determine the extent to which technologies are used in the process of teaching and learning.

In this research the participants were asked to respond as per their level of agreement or disagreement on a five-point scale to fifteen statements that reflected perceptions on the use of Blackboard for educational purposes. The fifteen items included statements on Blackboard enhancing learning and teaching, making jobs easier, improving productivity, saving time and efforts and enriching the curriculum. The EFL male

students mean score was 3.19 with a standard deviation 1.43, whereas the EFL female students mean core was 3.20 with a standard deviation 1.43 on 5-point Likert scale ranging from strongly disagree (1)

to strongly agree (5). The results revealed that most male and female students possess positive perceptions towards the use of Blackboard technology educational purposes.

Findings from the surveyed data suggest that participants had positive perceptions towards the use of Blackboard for educational purposes. The results may develop the usefulness of Blackboard technology in the field of education; therefore, it is suggested to the teachers to use it more frequently in order to enhance the quality of education while making a difference in students' work. Even if students find it valuable then they will definitely use it.

### **Differences According to Gender**

A T-test analysis was used to find out the differences in EFL students' perceptions towards the use of Blackboard for educational purposes. In terms of gender difference in EFL students' perceptions on the use of Blackboard for educational purposes, findings confirm that there were statistically significant differences in the EFL students' perceptions while using Blackboard for educational purposes. Thus, the mean scores of male and female indicated the differences favoring female group, where female teachers have a higher mean score on the EFL students' perceptions using Blackboard than male do. The findings also suggest that there was a significant difference between male and female EFL students' perceptions towards Blackboard use for educational purposes. Hence, overall findings showed that female students tend to use Blackboard tools more for educational purposes more than the male students.

### Limitations

The objective of this study is to explore the perceptions of students regarding the use of

Blackboard; however, it has certain limitations that need to be considered when it comes to its contributions. There are four important limitations identified which includes exploring English as a Foreign Language (EFL) student' perceptions on the use of Blackboard in their courses. The current study is limited to a random sampling of 100 male and female students of departments at the college of Rumaah-Majmaah university. In addition to those generalizations from the study should be limited to only the population described and cannot be applied to any other group. It shows limitation while using only questionnaires methods for data collection.

### **Research Implications**

This study explored EFL students' perceptions towards using Blackboard for educational purposes, therefore, this research study is significant in many ways; because it focused on the use of Blackboard technology in educational field which is a crucial topic for rapid educational changes due to a sudden shift in society. Hence, this research has given reasons to pay more heed towards the use of Blackboard and encouraged its usage. In addition to that it has some significant implications for educational institutions, administrators, and policy makers. There are a several implications extracted

from this study are worthy of consideration by all the stakeholders such as; it offered future professional development programs to prepare students to use Blackboard for advanced educational purposes, it supports lectures, and classroom activities, since the availability of technical support at the college level is important to ensure that students actually use Blackboard for educational purposes. Consequently, it contributed to the future use as well as a valuable addition to the existing literature.

### **Recommendations for Future Research**

The are some suggestions can be made for future research studies, therefore, it is recommended that further research to be conducted to confirm the results of this study with other set of populations. Also, future researchers need to consider the indepth qualitative study such as observations and in-depth interviews. They should focus on other important factors affecting uses of Blackboard for educational purposes such as training, expertise, motivation and access, and additional studies should be conducted to discover students' need in order to motivate them to use Blackboard more frequently.

### References

- Almelhi, A. M. (2021). The role of the Blackboard LMS in EFL Course delivery during the COVID-19 Pandemic: Investigating attitudes and perceptions of faculty and students. *International Journal of English Linguistics*, 11(2), 46. <a href="https://doi.org/10.5539/ijel.v11n2p46">https://doi.org/10.5539/ijel.v11n2p46</a>
  Google Scholar Worldcat Fulltext
- Almekhlafy, S. S. A. (2020). Online learning of English language courses via blackboard at Saudi universities in the era of COVID-19: perception and use. *PSU Research Review*, 5(1), 16–32. <a href="https://doi.org/10.1108/prr-08-2020-0026">https://doi.org/10.1108/prr-08-2020-0026</a>
  Google Scholar Worldcat Fulltext
- Al-Qahtani, M. H. (2019). Teachers' and Students' Perceptions of Virtual Classes and the effectiveness of Virtual Classes in Enhancing Communication Skills. *Arab World English Journal*, 1, 223–240. <a href="https://doi.org/10.24093/awej/efl1.16">https://doi.org/10.24093/awej/efl1.16</a> Google Scholar Worldcat Fulltext
- Alokluk, J. A. (2018). The effectiveness of blackboard System, uses and limitations in information management. *Intelligent Information Management*, 10(06), 133–149. <a href="https://doi.org/10.4236/iim.2018.106012">https://doi.org/10.4236/iim.2018.106012</a>
  Google Scholar Worldcat Fulltext
- Alsaied, H. I. K. (2016). Use of blackboard application in language Teaching: Language Teachers' Perceptions at KAU. International Journal of Applied Linguistics & English Literature, 5(6). https://doi.org/10.7575/aiac.ijalel.v.5n.6p.43

  <u>Google Scholar Worldcat Fulltext</u>
- AlSeghayer, K. (2005). Teaching English in Saudi Arabia: Slowly but steadily Changing. In G. Braine (Ed.), *Teaching English to the world* (pp. 115-130). Mahwah, NJ: Lawrence Erlbaum Association.

### Google Scholar Worldcat Fulltext

Al-Johani, H. M. (2009). Finding a way forward: The impact of teachers' strategies, beliefs and knowledge on teaching English as a foreign language in Saudi Arabia. (Unpublished doctoral dissertation). *University of Strathclyde, Glasgow*, Scotland, UK.

Google Scholar Worldcat Fulltext

Al Shumaimeri, Y. A. N. (2003). A study of classroom exposure to oral pedagogic tasks in relation to the motivation and performance of Saudi secondary learners of English in a context of potential curriculum reform (Unpublished doctoral dissertation). University of Leeds.

Google Scholar Worldcat Fulltext

Ben-David, M. F. (2000). The role of assessment in expanding professional horizons. *Medical Teacher*, 22(5), 472-477.

### Google Scholar Worldcat Fulltext

Bhagat, R., & Chauhan, V. (2021). A Framework for Integrating Digital Technology in Management Education: A way forward for the new normal. *Revista Gestão Inovação E Tecnologias*, 11(2), 01–16. https://doi.org/10.47059/revistageintec.v1112.1638

### Google Scholar Worldcat Fulltext

Blackwell, C. K., Lauricella, A. R., & Wartella, E. A. (2014). Factors influencing digital technology use in early childhood education. *Computers & Education*, 77, 82–90.

https://doi.org/10.1016/j.compedu.2014.04.013

### Google Scholar Worldcat Fulltext

- Bradford, P., Porciello, M., Balkon, N., & Backus, D. (2007b). The blackboard learning system: the be all and end all in educational instruction? *Journal of Educational Technology Systems*, 35(3), 301–314. <a href="https://doi.org/10.2190/x137-x73l-5261-5656">https://doi.org/10.2190/x137-x73l-5261-5656</a>
  <a href="Google Scholar">Google Scholar</a>
  <a href="Worldcat">Worldcat</a>
  <a href="Fulltext">Fulltext</a>
- Bridget, S., & Niki, D. (1997). Using technology effectively in teaching and learning. New Fetter Lane.

Google Scholar Worldcat Fulltext

- Banathy, B. H. (1996). Designing social systems in a changing world. In *Contemporary systems thinking*. <a href="https://doi.org/10.1007/978-1-4757-9981-1">https://doi.org/10.1007/978-1-4757-9981-1</a>
  Google Scholar Worldcat Fulltext
- Cuban, L., Kirkpatrick, H., & Peck, C. (2001). High access and low use of technologies in high school classrooms: Explaining an apparent paradox. *American Educational Research Journal*, 38(4), 813–834. https://doi.org/10.3102/00028312038004813

### Google Scholar Worldcat Fulltext

- Chang, C. L. (2008). Faculty perceptions and utilization of a learning management system in higher education (pp. 1–302). https://etd.ohiolink.edu/letd.send\_file?accession=o hiou1210864179&disposition=inline Google Scholar Worldcat Fulltext
- Doczi, M. (2000). Information and Communication Technologies and Social and Economic Inclusion. Ministry of Economic Development, New Zealand, Information Technology Policy Group.

Google Scholar Worldcat Fulltext

Ertmer, P. (1999). Addressing first and second-order

barriers to change: Strategies for technology integration. Educational Technology Research and Development, 47(4), 47-61. Educational Technology Research and Development. 47. 47-61. 10.1007/BF02299597.

### Google Scholar Worldcat Fulltext

Hakami, T. (2023). Impact of blackboard technology acceptance on students learning in Saudi Arabia. *The Journal of Educators Online*, 20(3). <a href="https://doi.org/10.9743/jeo.2023.20.3.13">https://doi.org/10.9743/jeo.2023.20.3.13</a>
Google Scholar Worldcat Fulltext

Hu, Paul, Clark, Theodore & Ma, Will. (2003). Examining technology acceptance by school teachers: A longitudinal study. *Information & Management*. 41. 227-241. https://doi.org/10.1016/S0378-7206(03)00050-8.

### Google Scholar Worldcat Fulltext

Kearney, M., Schuck, S., Aubusson, P., & Burke, P. F. (2017). Teachers' technology adoption and practices: lessons learned from the IWB phenomenon. Teacher Development, 22(4), 481–496.

https://doi.org/10.1080/13664530.2017.1363083

### Google Scholar Worldcat Fulltext

Kirkwood, A., & Price, L. (2005). Learners and learning in the twenty-first century: what do we know about students' attitudes towards and experiences of information and communication technologies that will help us design courses? *Studies in Higher Education*, 30(3), 257–274. https://doi.org/10.1080/03075070500095689

### Google Scholar Worldcat Fulltext

Lim, C. P. (2007). Effective integration of ICT in Singapore schools: Pedagogical and policy implications. *Springer* 

### Google Scholar Worldcat Fulltext

Mooij, T. (2004). Optimising instruction and learning by ICTs: multilevel transformation theory and an empirical pilot. Nijmegen, The Netherlands: University of Nijmegen, Instituut voor Toegepaste Sociale wetenschappen.

https://doi.org/10.13140/RG.2.1.4263.0002.

### Google Scholar Worldcat Fulltext

Pearson, Matthew & Somekh, Bridget. (2006). Learning transformation with technology: A question of sociocultural contexts?. *International Journal of Qualitative Studies in Education*. 19. 519-539. https://doi.org/10.1080/09518390600773353.

### Google Scholar Worldcat Fulltext

Rahman, M. & Alhaisoni, E. (2013). Teaching English in Saudi Arabia: Prospects and Challenges. *Academic Research International*. 4(1), 112-118.

### Google Scholar Worldcat Fulltext

Rakes, G. C., & Dunn, K. E. (2010). The impact of online graduate Students' Motivation and Self-Regulation on academic procrastination. *Journal of Interactive Online Learning*, 9(1), 78–93. https://www.ncolr.org/jiol/issues/pdf/9.1.5.pdf

### Google Scholar Worldcat Fulltext

Roblyer, M. D., & Edwards, J. (200). *Integrating Educational Technology Into Teaching* (2nd ed.). Merrill

### Google Scholar Worldcat Fulltext

Shaikh, N. Z., & Saqlain, N. U. (2014). Analyzing Pakistani tertiary classrooms under Grice principles - Getting the meaning across! [Review of Analyzing Pakistani tertiary classrooms under Grice principles -Getting the meaning across!]. Ma'arif Research Journal, 37.

### Google Scholar Worldcat Fulltext

Smeets, E. (2005). Does ICT contribute to powerful learning environments in primary education? *Computers & Education*, 44(3), 343–355. <a href="https://doi.org/10.1016/j.compedu.2004.04.003">https://doi.org/10.1016/j.compedu.2004.04.003</a>

### Google Scholar Worldcat Fulltext

Underwood, J. (1998). 'Making Groups Work', In: M. MONTEITH (Ed) *IT for Learning Enhancement*, Exeter, Intellect Books.

### Google Scholar Worldcat Fulltext

Uziak, J., Oladiran, M. T., Lorencowicz, E., & Becker, K. (2018). Students' and Instructor's Perspective on the use of Blackboard Platform for Delivering an Engineering Course. *The Electronic Journal of e-Learning*, 16(1), pp1-15. https://doi.org/10.34190/ejel.16.1.2367

### Google Scholar Worldcat Fulltext

Watson, D. M. (2001). Pedagogy before Technology: Re-Thinking the Relationship between ICT and Teaching. *Education and Information Technologies*, 6, 251-266.

### Google Scholar Worldcat Fulltext

Wong, K. T., Teo, T., & Goh, P. S. C. (2014). Development of the Interactive Whiteboard Acceptance Scale (IWBAS): An Initial Study. *Journal of Educational Technology & Society*, 17(4), 268-277.

Google Scholar Worldcat Fulltext

Zhao, Y., & Cziko, G. A. (2001). Teacher adoption of technology: A perceptual control theory perspective. *Journal of technology and teacher education*, *9*(1), 5-30.

Google Scholar Worldcat Fulltext

Choy, D., Xiao, J., & Iliff, J. (2005). How can technology help improve the quality of Blackboard faculty training and encourage faculty to use Blackboard? In *Proceedings of the 2005 Annual Conference* (Vol. 1, p. 130). Orlando, FL.

Google Scholar Worldcat Fulltext