The Impact of Blended Learning on Medical Students' Engagement and Achievement with English Language Terminology: A Case Study of Teachers’ and Students’ Self-efficacy and Attitudes at Jazan University (PYP) Saudi Arabia

By

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Abstract

Over the last decade, blended learning (BL) strategies that focused on the combination of traditional face-to-face learning and the incorporation of technology have started to become more popular and captured the attention of researchers. Many researchers have looked into the effectiveness of BL and have conducted an increasing number of studies that examine the impact of BL on teaching and learning. There has yet to be a case study that evaluated the effectiveness of BL on teaching English medical terminology to Saudi Arabian students. The research worked to determine the effectiveness of BL on the experimental group that used in-person lectures and two technological tools (WhatsApp and Jazan Jump Blackboard) to develop the vocabulary of male learners preparing to specialize in medical fields. Their learning was compared to the controlled group that only learned using face-to-face methods and a single technological tool (Blackboard). The current research explored the impact of using different types of BL on student engagement, self-efficacy, and self-learning regulation beliefs along with feelings of anxiety and attitudes in both the controlled and experimental groups. The research examined various aspects of English medical terminology teacher behaviours regarding their teaching experience and prior use of tools such as WhatsApp and Jazan Jump Blackboard, their preferred teaching methods, attitudes about technology, beliefs about constructivism, and digital self-efficacy knowledge. The current study used four sources to collect information, a pre-test and post-test, surveys, and interviews. The outcomes of the pre- and post-tests revealed that integrating face-to-face teaching with WhatsApp and Jazan Jump Blackboard can positively impact student achievement. The data gained from surveys and the analysis of the data showed that teaching, cognitive, and social presence in a hybrid environment impacted student engagement positively based on the results of the experimental group. Students were generally more self-regulated, capable, and experienced moderate anxiety when using WhatsApp and Jazan Jump compared to medical students in a traditional classroom. Teachers reported low to moderate skill levels regarding WhatsApp and Jazan Jump. Using BL with various technological tools results in positive learning outcomes for students that can motivate teachers of all technological skill backgrounds to embrace new learning strategies and technology into the classroom.
Keywords: Blended learning (BL), English for Specific Purposes (ESP), Cognitive Presence, Social Presence, Teaching Presence, Self-efficacy, Attitudes, English Learning Engagement, Achievement.
Declaration

I hereby declare that the substance of the present doctoral thesis is an original report of my own work, except as otherwise acknowledge and duly referred in the text. The material has not been submitted, either in whole or in part, for other academic awards at this or any other institution.

Signed: ___________________________ Date: _____________________

Norah Hussain Banafi
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Shukran!
List of Abbreviated Terms

BL:  Blended Learning
Col: Community of Inquiry Model
CP:  Cognitive Presence
DK:  Declarative Knowledge
EAP: English for Academic Purposes
EFL:  English as a Foreign Language
EMP: English for Medical Purposes
EOP:  English for Occupational Purposes
ESP:  English for Specific Purposes
EST:  English for Science and Technology
GK:  Genius Knowledge
JU:  The University of Jazan
PK:  Practical Knowledge
PYP: Preparatory Year Programs
SP:  Social Presence
SPSS: Software Package Statistical Analysis
TAM: Technology Acceptance Model
TP: Teaching Presence
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Chapter I: Introduction to the Research Project

1.0 Introduction
This chapter includes the background for the research and reasons why the project was conducted. It also provides the objectives, questions, and hypothesis along with the description of the study settings. Theoretical models, a list of technologies, and the thesis structure are also provided.

1.1 Background
The internet was created in the late 1960s in the United States of America as part of a project named ARPANET (Advanced Research Project Agency). The project later changed its name to the Defense Advanced Research Project Agency (DARPANET) and was aimed at connecting the United States through computer networks that would be resistant to nuclear war. In the early 1970s, the US Department of Defense and numerous research universities linked their computers to DARPANET. As a result of the connections, the computers that were part of the network had access to communication abilities and research (Steven Jones, 1994).

Ray Kurzweil (2005), an inventor and thinker who dedicated his life to studying the role of machines and technology in the future, described the notion of singularity as a process of exponential growth of technology that is becoming more rapid. The author states that “Before the middle of this century, the growth rates of our technology—which will be indistinguishable from ourselves—will be so steep as to appear essentially vertical...The growth rates will be...so extreme that the changes they bring about will appear to rupture the fabric of human history” (p. 30). Singularity refers to the modern digital tools that play a role in spreading information starting in the 20th century (Prensky, 2001:3). According to Ray Kurzweil (2005), when defined in terms of technology, singularity means that web-assisted education will be more advanced and better able to personalize the learning experience for each learner. Based on these improvements, each learner’s outcome should improve. New intelligent instructive software such as “Massive Open Online Courses” (MOOCs) represent some of the progress made in the instruction and education process. MOOCs have the power and ability to provide students with hundreds of free courses that contain many learning strategies and materials that focus on learner needs. One example is MIT’s Open Courseware that offers students courses in science and medicine. The virtual environment requires web access and
audio helps to provide an audio-visual-virtual reality classroom environment that will ideally result in full engagement, high resolution, and a convincing learning experience. Most academic institutions will eventually follow MIT’s lead and there will be an increase in the number of students who attend virtual classes.

Social media is an example of singularity as it provides an accelerated source of up-to-date information that flows in virtual spheres. Jay Cross (2007) states that information is increasing faster based on social, web, and communication networks. Virtual data are communicated using nodes and connectors. The nodes join with previous nodes and raise the importance of a network over a communication network that accepts new connections while maintaining previous connections. Linking networks together helps to speed up the development of the networks. Virtual online communities that involve interaction with users such as Twitter, Facebook, YouTube, Blogs, Wikis, and instructive programs such as Blackboard are becoming prevalent in academic settings to the point where it is difficult for a teacher or student to not use these tools at least once a week. According to Mark Blankship (2011), academic instructions can use social media to improve professional skills, increase institutional accomplishments, and expand student achievement and engagement. These factors are considered significant requirements for development. A survey carried out by the Babson Survey Research Group and the Converseon Company found that there is great instructive consultation on social media. The survey found that more than 90% of higher education institutions used social media as a part of courses. The Babson survey found that 40% of all faculty members used social media as part of course assignments and 30% used social media to provide extra resources for students to review and read outside of class. The survey also found that most faculty members at higher education institutions accepted social media sites as part of the teaching process and an overwhelming majority reported that podcasts and Wikis are dynamic social media tools that can be used to instruct and enhance group and collective learning (Mark Blankship, 2011).

In Saudi Arabia, the first use of the internet occurred in 1994 and was used to teach and conduct research in the medical fields (Alqarni, 2015). There is currently growth in using BL strategy to enhance the English learning process (AbouRezk, n.d.). The BL approach has become popular for teaching English in Saudi universities (Alaidarous, & Madini, 2016). Most academic staff use technology along with a traditional approach to provide students with a more effective learning environment. Examining the present status of technology adoption in Saudi Arabia can help administrators determine the needs of students and teachers (Alzahrani, 2017). Blended learning used to supplement face-to-face learning has
become a common practice in Saudi Arabia; however, the use of technology in education needs a clearer policy (Almalki, 2011). The decision makers at Jazan University created a strategic plan for the future use of technology. The plan works to adopt e-learning and other innovative, technology-based tools such as Blackboard and social media. The University will train teachers to use different methods that integrate technology into the classroom. The University has wired its campus to provide students with online access and books in an electronic, instead of a physical, format (Jazan University Self-Study Report, 2015).

1.2 Statement of the Research

O’Dowd (2008) wrote “Medical language is a special language. It is made up of a vast pool of words and terms, labelled ‘medical terminology’, that have been made specifically for doctors to use in their work and especially for doctor-to-doctor communication. Medical students in particular are required to spend many years studying and remembering medical terminology and medical language as they progress through to graduation as doctors” (O’Dowd, 2008:25). The work of O’Dowd relates to the current research since the current research asks Saudi students as Jazan University to recall medical terms and terminology and to use them in the workplace in a professional manner. Traditional learning techniques including note taking and memorization do not efficiently engage students in active learning that can help to build skills. These outdated instructional strategies are a reason why Saudi students have low achievement scores in medical English terminology tests (Alhaj & Banafi, 2015). There is a need to integrate new e-learning strategies into traditional medical education. Online networking has great potential and there are many expectations that this type of networking will supplement and perhaps even supplant traditional methods of teaching and learning the English language. Recent studies have found that social networks are suitable educational tools that are being increasingly used in medical education (Albarrak, 2011).

The use of social network tools provides value in the practice of medical terminology. Investigators reported that “Social media tools can be used safely in medical education settings and that their user may have a positive impact on learner outcomes” (Cheston et al., 2013:896). Different social networking sites not only work as tools that allow for long-range informal communication and association, but can be a method for learning. Digital educational trends have changed the older style of literacy and “literacies” are now viewed
based on usage, communication, social interaction, multiple modes of input and output, and fluid social practices (Reinhardt and Thorne, 2011 as cited in Reinhardt and Chen, 2013:15).

Prensky’s (2001) writings state that increases in information and communication technology are shaping a new Arab generation. This new generation is active on social media and uses technology often. They shop and make online purchases and use social networks including Facebook, Google+, and LinkedIn to market their products and business. Young, Arab digital users face socioeconomic challenges that require society and institutions to create new educational and policy models (Sabbagh et al., 2012). The term “digital immigrants” presented by Prensky (2001) can be used to describe the Arab digital generation that was not native to the technological and digital world, but has successfully adopted this technology into everyday life.

In an online report entitled, “The Most Popular Messaging App in Every Country,” Schwartz (2016) mentioned that WhatsApp was the most popular application used in 109 countries including Saudi Arabia. Many Saudi Arabians have become more familiar with social media applications as a method of exchanging information and engaging in discussions. The current study researcher and a group of female Saudi teachers from different universities attended a workshop called “Mobile LMS and Pedagogical for Social Media” led by Terese Bird as part of the 4th International Conference for e-Learning and Distance Learning on March 2, 2014. Some of the takeaways from the conference included the following: (a) forums that can be used for chatting, (b) user guidelines available in the LMS, (c) group study, (d) mobile access including sharing links that can be posted to social media sites, (e) a help tab for support, and (f) Blackboard training in every university. Saudi teachers provided suggestions that helped the current study researcher become more interested in practical uses of social media in teaching English medical terminology. The researcher worked with individuals at Jazan University to test ways to improve how students could learn medical terminology more effectively. Specifically, 150 students who were learning medical terminology at Jazan University were examined. The study obtained the following findings: (a) social web-based applications develop student engagement and performance in English, (b) combining English teaching materials with social networks is an effective motivator and provides a productive, collaborative environment for English learners, (c) social media is a modern strategy that could change the traditional ways of teaching a foreign language to others, especially English medical terminology, and (d) Saudi medical students feel that social networks are an effective tool for learning English (Alhaj & Banafi, 2015:164). The previous study is limited and there
are many opportunities for further research to be conducted including studies that include different medical groups and use a larger study population including English medical terminology teachers and students. Jazan University used an online program called “Jazan Jump.” According to the Jazan University website, the online program works to “make a transition from a traditional education to e-learning education. By not just limiting to the e-learning education but by designing a total e-learning solution, which allows interoperability in between various learning methods and programs, will optimize the learning environment, and will provide seamless learning experience.” The research worked to explore student engagement in the “globalized electronic education program” since these types of learning tools support student engagement (Dunlap & Lowenthal, 2009: 129). It is also critical to understand the impact of a learning management system (LMS) on student engagement and how these technological advancements can be used to develop campus-based education practices (Coates, 2005). As a result, there was an examination of the “CoI framework that represents the most concise descriptive model for understanding higher education online learning within an epistemic engagement pedagogical approach and recognizing that there are limits to the model might open door to research the literature on learner self-regulation that provides a strong foundation for articulating the roles of online learners. Central to any discussion of learner self-regulation is the concept of self-efficacy which emphasizes the interface between learner motivation and cognition” (Shea, Bidjerano, 2010:1723).

Focus was given to different interaction types and social presence. Moore (1980) suggested that online learning often lacks the face-to-face communication engagement and students often feel disconnected based on the physical separation. Online classes tend to decrease the sense of community associated with typical classrooms and can cause a sense of isolation. There is a need to investigate student interactions and socialization in online learning. Social, cognitive, and teaching presences are recognized in digital education studies as a way to think about social engagement and interaction for learners in a virtual classroom (Coates, 2005). Language engagement also involves other factors such as self-efficacy beliefs, attitudes, perceived enjoyment, and learning environment. These influences are essential in understanding the student language learning and achievement process (Zhang at all, 2009:205).

Hussein (2011) recommends that researchers examine student and teacher attitudes toward LMSs at Jazan University. The author also mentions that the National Centre for e-Learning and Distance Learning (NCeDL) provides Saudi universities with LMSs, but the study shows
that faculty members often do not use the features of the LMSs that provide users with advantages including being able to produce, develop, deliver, and simplify learning at any time and from any location (Sun, Ousmanou, & Williams 2004). Although LMSs have many benefits, one of the problems with the systems relates to the way that teachers feel that the LMS is only for storing materials and other resources (White & Larusson, 2010). The current study researcher believes that there is a need to investigate teacher beliefs and efficacy beliefs regarding technology, especially their declarative and practical knowledge. knowing the beliefs of teachers and students regarding Jazan Jump and social media is important to determine why some choose to use these tools while others do not. Looking into these factors can diagnose and address teacher and students’ beliefs and restrictions regarding the use of social media in Saudi universities that are working to important English language teaching and learning. Studies regarding social media show that social networking is a major part in any use of technology used in the classroom (Neil Selwyn 2013 :109). Social media has great potential for learning and teaching English, but the use of social media in Saudi classrooms has not been researched thoroughly. The use of social network applications in Saudi Arabia is often based on when the IT department at a school uses. Regardless of how practical and useful a technology can be, the degree of utilization depends on teachers and students having favourable attitudes and beliefs about the technology (Huang & Liaw, 2005).

1.3 Objectives of the Research
The purpose of this research is to examine factors connected with student engagement, achievement, and socialization in online learning. The study also works to measure technological self-efficacy of teachers based on their technological awareness, practical understanding, and actual usage level along with constructivist beliefs. The objectives of the research are as follows:

- see the differences between students’ achievement in pre-test and post-test results when comparing the experimental group using WhatsApp and Jazan Jump and the controlled group that is only using Jazan Jump
- examine students’ teaching presence, social presence, and cognitive presence and learner presence toward WhatsApp and Jazan Jump in both the controlled and experimental groups
- explore factors that increase student engagement in WhatsApp and Jazan Jump
• discover the relationship between learner presence composed of self-regulation beliefs and technological self-efficacy, and anxiety of medical students who experience learning through WhatsApp and Jazan Jump and their other CoI presences

• investigate student attitudes toward social media in the controlled and experimental groups

• examine the correlation between engagement presences and the attitudes of students who learn medical terminology using WhatsApp and Jazan Jump

• examine the experience of English teachers of Jazan University regarding teaching English, using Jazan Jump Blackboard and WhatsApp

• study the constructive beliefs and attitudes of teachers who use technology in their classrooms at Jazan University

• examine the declarative knowledge of teachers regarding technology along with their digital practical knowledge and genius knowledge regarding the use of WhatsApp and Jazan Jump in the classroom.

1.4 Study Context
This study took place at Jazan University from January 2016 through May 2016. Jazan University was founded in 2006 as a Saudi public academic institution for higher education. The University is located in Jazan City on the west coast of the Red Sea. The city has a population of 1.5 million. Jazan University offers a range of bachelor level courses and programmes in medicine, social sciences and humanities, business, biology, and arts (Jazan University Self-Study Report, 2015). The majority of freshman students join the Preparatory Year (PYP) program that provides them with basic knowledge that they will need for their undergraduate studies. The PYP lasts two semesters and aims to improve English language proficiency, computer, mathematic, and socialization skills along with health and physical education. This program is designed to reduce the gap between the English knowledge of all students to ensure that students are starting at the same general level. All classrooms at Jazan University have collaborative smart boards and projectors and each teacher is provided with a laptop (Oommen, 2012). The study works to involve medical students using multiple modern teaching strategies to allow the students to learn medical terminologies in a way that allows the students to recall the knowledge easily and use the terms professionally. The students
currently experience learning difficulty “because the nature of medical English vocabulary is difficult and complex to understand because it’s based on Greek and Latin roots in addition to similarities between suffixes and prefixes of medical terms” (Osman, 2017:357). Other scholars have found that Saudi students experience several issues when learning English including the way that English terminology is restricted to the classroom. These students do not have the opportunity to use English in their everyday lives such as supermarkets or in other common places (Khan, 2011). Using English regularly is essential for Saudi medical students to truly internalize the new information that they are being provided in class. Social media applications like WhatsApp provide professional collaborative opportunities and allow students to use the target terminology. Educational institutions should work to integrate technology into their curriculum to meet student needs and desires and properly prepare students to work in mixed communities of practice. These communities could involve online or face-to-face communication. Ultimately, institutions should want to ensure that students graduate with good experiences using technology and are fully prepared to be successful in the real world (King et al., 2009). English is the language used to teach medicine and is considered an essential requirement for Saudi medical students. There is a need for these students to be able to effectively communicate and engage with their teachers and peers using social media such as WhatsApp. This tool allows students to engage in professional collaboration using English. King et al., (2009:1) states that “Universities must integrate technology into educational environments to address learner needs, prepare students to work and function in blended (virtual and face-to-face) communities of practice upon graduation.”

The unit of analysis in any case study should refer to and include previous literature reviews that can serve as a guide to describe the case. The Saudi Ministry of Higher Education wants Jazan University and all Saudi academic institutions to adopt the most recent educational technologies and advancements and apply them over the next 25 years. The National Centre for e-Learning and Distance Learning (NCeDL), established in 2005, focuses on structuring a holistic instructive framework that uses the most recent technological applications that can help to make important changes in the educational and learning processes. The NCeDL would like to become a national reference for e-learning. Saudi Arabian universities have connected with this organization (Almergren, Al-Yafei, and Hashem, 2007). For example, Jazan University showed significant progress in its e-learning program through its national management system for the e-learning program called Jazan Jump. This program was established with the support of international specialists. The NCeDL provides training courses for faculty members on how to use and
activate the system to fit their teaching preferences (www.jazanu.edu Website). Jazan University is rapidly growing its efforts to transition from a traditional approach to a modern web-based education approach. The University adopted e-learning methods into its already healthy learning environment and launched the Jazan Jump program. This program is the university Blackboard program that uses international electronic education equipment using the latest technology and provides learners and professors to communicate at any time using the Blackboard system (www.jazanu.edu Website).

Neil Selwyn (2012) stated that research into online networking claims that social media has changed the nature of students entering colleges needs to be investigated. Social media websites not only serve as a strategy for long-range informal communications, but can be used as an effective tool in education. Many researchers and students believe that social media can be used at the educational level, not only the social level. Additionally, online applications can be used for certain purposes that aid learning. Social network sites are a place where students and researchers can share discoveries, offer academic data, conduct instructive reviews and surveys, post questions, and share knowledge with peers (Neil Selwyn, 2012). Tapscott and Williams (2007:52) state that “the new generation of learners are not content to be passive consumers and increasing their desire for choice, convenience, customization, and control by designing, producing, and distributing products themselves”.

Also, Ulbrich (2011:1) stated the following:

“Members of the Net Generation use the Web differently, they network differently, and they learn differently. When they start at university, traditional values on how to develop knowledge collide with their values. Many of the teaching techniques that have worked for decades do not work anymore because new students learn differently too. The Net Generation is used to network; its members work collaboratively, they execute several tasks simultaneously, and they use the Web to acquire knowledge”.

1.5 Research Questions

1. The first question is: What is the different between the achievement of students in the experimental group of WhatsApp and Jazan Jump compared to students in the controlled group using only Jazan Jump as determined by medical terminology pre-test and post-test exams?
2. The second question is: How do students view their teaching presence, social presence, cognitive presence, and the learner presence that includes self-efficacy beliefs, self-regulation beliefs, and emotional presence that includes anxiety beliefs toward WhatsApp and Jazan Jump in both controlled and experimental groups? In addition, the second question works to determine the factors that increase each engagement presence on WhatsApp and Jazan Jump?

3. The third question is: What is the relationship between learner presence that included self-regulation beliefs, technological self-efficacy, and anxiety that medical students feel when learning using WhatsApp and Jazan Jump and CoI presences?

4. The fourth question is: How do students' attitudes regarding social media differ in both controlled and experimental groups?

5. The fifth question is: To what degree do student attitudes about learning using WhatsApp and Jazan Jump correlate with engagement presences?

6. The sixth question is: Does the experience of English teachers at Jazan University in teaching English using Jazan Jump Blackboard and WhatsApp and their preferred teaching methods provide positive signs for the ability of teachers to integrate technology into the classroom?

7. The seventh question is: Do teachers at Jazan University have negative or positive constructive beliefs and attitudes about using technology in the classroom?

8. The eighth question is: Do teachers at Jazan University have high, moderate, or low levels of technological self-efficacy knowledge that include declarative knowledge, digital practical knowledge, and genius technological skills toward using WhatsApp and Jazan Jump in classroom?

1.6 Research Hypotheses
This research is a “case study,” an empirical inquiry that investigates a contemporary phenomenon. The researcher has the following hypotheses:

1. There is a significant difference in student achievement shown in pre-test and post-test results when comparing the experimental group using WhatsApp and Jazan Jump and the controlled group that is only using Jazan Jump.

2. There will be a significant difference in the means of students in the experimental group who learn through BL strategy and social media compared to students who only
have BL provided by Blackboard regarding their teaching, cognitive, social, and learner presence. There will be many factors that can increase these presences including self-efficacy and self-regulation beliefs along with emotional presence including anxiety beliefs.

3. The teaching, social, and cognitive engagement presences of students who are learning English medical terminology through both WhatsApp and Jazan Jump are highly correlated with learner presence composed of self-efficacy, learning self-regulation, and anxiety.

4. There will be a significant difference in student attitudes in the experimental group who learn through BL strategy and social media compared to students who only have BL provided by Blackboard.

5. There will be a positive correlation between the attitudes of the experimental group regarding social media attitudes and teaching, social, and cognitive presence.

6. English teachers at Jazan University have a lot of experience using WhatsApp and Jazan Jump along with experience using other teaching methods. This experience can predict a teacher’s positive tendency to incorporate technology in the classroom.

7. English teachers at Jazan University have positive constructive beliefs and attitudes.

8. English teachers at Jazan University have various levels of technological self-efficacy with WhatsApp and Jazan Jump.

1.7 Study Significance
The study provides important data related to the way that Saudi students utilize online networking applications for educational purposes. The study examines online presence, intentions, motivation, attitudes, technological self-efficacy, anxiety, and self-regulation beliefs that are seen as predictors of student engagement and achievement. The study will identify the factors and activities that could be used to increase learner presence elements including attitudes, beliefs, self-efficacy, and self-regulation. The study will also show how these elements help students perform better in a BL environment. Additionally, “investigators suggest that this focused analysis on the active roles of online learners may contribute to a more thorough account of knowledge construction in technology-mediated environments.
expanding the descriptive and explanatory power of the Community of Inquiry framework.” (Shea and Bidjerano, 2010:1721).

Based on the author’s knowledge, the majority of the investigations up until to this point have focused on western nations and little research has been conducted about the use of social networks when using social networking applications. This study will be helpful for researchers who want to learn about certain factors of student engagement related to online learning programs like Jazan Jump.

The study conclusions can help to show teachers and learners the advantages of social media and an LMS in language education. The knowledge could help to reduce the gap between teachers who adopt social media while teaching English and those who do not. As Saudi Arabia is currently experiencing a virtual revolution that impacts all aspects of education, the current research is based on the work of Garrison et al., (2010) who created a framework called the “Community of Inquiry” model that shows how social, cognitive, and teaching presences impact the online learning experience and how these presences work. Alaulamie (2014) stated that when teachers know the importance of various presences in student engagement, they may work to modify their instruction, provide assistance, and develop online content to provide additional enhancements. Educational institutions may also provide teachers with workshops that “focus on strategies that faculty may use to improve cognitive, social, and teaching presence, and should stress their importance to the students. Also, faculty will know about requirements of how to build online courses in a way that may improve their presence and their students' presence, as well as content presence, in order to enhance the whole online learning experience” (Alaulamie, 2014: 134-135).

The study clarifies and introduces recent studies about Blackboard and social networking applications that support English instruction. The study results can help to create an LMS that combines global teaching tools with social media. Technology aids teachers and learners in their language teaching approach and could ultimately alter the way that language is taught. As Watson stated (2012:2) “Communication becomes a techno-social activity where communications were no longer personal or private but instead become an open method of social networking.” The study encourages teachers to create open communication using social media applications to converse with students and engage in successful English language interactions. The growth of social media shows that social networking is global and provides opportunities for language learners to learn and improve their skills and for
educators to improve the delivery of teaching content and methods. The study focuses on exploring the possibility of using social media as a way to motivate language learning in Saudi Arabia.

1.8 Basic Theories

This study is based on two theories. The first theory is the “Community of Inquiry” model which focuses on teaching presence, cognitive presence, and social presence along with learner and emotional presence. The researcher chose the Community of Inquiry framework because its learning presences are connected to one another and the existence of one presence impacts the other presences in the learning setting (Garrison et al., 2010). The presences create a learning atmosphere that contributes to a BL environment (Garrison et al., 2010). Additionally, the “CoI framework represents the most concise descriptive model for understanding higher education online learning within an epistemic engagement pedagogical approach and recognizing that there are limits to the model might open door to research the literature on learner self-regulation that provides a strong foundation for articulating the roles of online learners. Central to any discussion of learner self-regulation is the concept of self-efficacy which emphasizes the interface between learner motivation and cognition” (Shea, Bidjerano, 2010:1723).

The study is also based on a model called “A Framework for Evaluating Educational Technology Integration.” This model was presented by Davies (2011) and focuses on the technology levels of teachers including awareness, praxis, and phronesis. The researcher selected Davies’ model because it uses technologies properly in the teaching process and works using the praxis and phronesis of the teachers. To improve learning activities, technology must be integrated properly and efficiently to aid in the achievement of targeted learning objectives (Davies, 2011). Regardless of how useful the technology can be, students will only benefit from the technology if teachers have the proper attitudes, knowledge, and beliefs about the technology’s use (Huang & Liaw, 2005).

1.8.1 Community of Inquiry (Engagement)

Higher educational institutions have worked to build academic communities that create a sense of interaction between students while also increasing learning outcomes (Nyachae, 2011). Garrison et al., (1999) developed the Community of Inquiry framework which was built on three main elements, cognitive, social, and teaching presence. The three presences
Figure 1.1 The Revised Col Model with learner presence, adapted from Shea & Bidjerano, 2010 and emotional presence adapted Cleveland-Innes & Campbell, 2012

**Cognitive Presence**

The first element of the Community of Inquiry framework is cognitive presence. This term is defined as “the extent to which online learners are able to construct meaning and critical thinking through sustained communication” (Ke, 2010:809). Mayne and Wu (2011:111) defined this concept as “level and depth of critical thinking evidenced in interaction and communication among members of the online learning community.” Garrison et al., (2001) argues that cognitive presence refers to the degree to which students can create and understand the meaning of a particular topic through reflective processes and discourse in a critical Community of Inquiry. Noteboom and Claywell (2010) stated that although teachers may consider cognitive presence as a complex element to facilitate, develop, and evaluate in a learning setting, the presence remains a vital part of a learning environment. Garrison et al., (2001) stated that creating higher cognitive skills relies on teachers being able to design educational tasks that engage students in the following four main phases:

- **Triggering event:** According to Garrison & Arbaugh (2007), a triggering event involves certain concerns or questions that require more investigation. Garrison et al., (2001) wrote
that this phase was the first step toward developing students’ critical thinking in a blended educational context. The teacher must introduce and integrate discussions related to issues that activate the learning process (Garrison et al., 2001, p. 10).

- Exploration event: According to Garrison & Arbaugh (2007), an exploration event involves students discovering a topic without teacher interaction using critical reflective discussions. This event follows the triggering stage where students work to examine and inspect target problems. The students will move from reflection to discussion multiple times as they interact with their learning community. The phase is “characterized by brainstorming, questioning, and exchange of information” (Garrison et al., 2001, p. 10).

- Integration event: According to Garrison & Arbaugh (2007), this event involves learners creating knowledge through concepts and a process that is developed during the examination phase. The integration event helps to develop the critical thinking process where students work to obtain a deeper understanding of certain topics based on the thoughts that they obtain from the group discussions and personal reflections (Garrison et al., 2001, p. 10).

- Resolution event: According to Garrison & Arbaugh, (2007) this is where learners show their new skills and apply gained information to instructive contexts or workplace settings (Garrison & Arbaugh, 2007). It is the final stage where the students apply their knowledge through examining a new problem by following the previous stages (Triggering event, Exploration event and Integration event) in order to develop cognitive presence (Garrison et al., 2001, p. 11).

Table 1.1 Categories and Indicators of Cognitive Presence (Garrison & Arbaugh, 2007)

<table>
<thead>
<tr>
<th>Categories</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triggering event category</td>
<td>Sense of puzzlement, recognition of problem</td>
</tr>
<tr>
<td>Exploration category</td>
<td>Information exchange, divergence, suggestions, brainstorming, intuitive leaps</td>
</tr>
<tr>
<td>Integration category</td>
<td>Connecting ideas, applying new ideas, solutions, synthesis</td>
</tr>
<tr>
<td>Resolution category</td>
<td>Apply, test, defend</td>
</tr>
</tbody>
</table>
Social Presence

Social presence in the Community of Inquiry model has been reviewed in depth. Garrison (2011:34) defines social presence as “the ability of participants to identify with the group or course of study, communicate purposefully in a trusting environment, and develop personal and affective relationships progressively by way of projecting their individual personalities.” Social presence is part of social constructivist theory and focuses on using group communication to construct knowledge when learning a new language. Douglas Thomas and John Seely-Brown (2011) stated that constructivism involves believing that learning is the result of interactions between students who are strongly involved with a task, educational materials, or the environment. The authors’ work states that a learning culture must consider knowledge and information as assets that can help people to view learning as a cultural and social presence that continuously changes the world. Constructivists believe that knowledge is built by individuals who engage in social activities related to problems or current responsibilities (Thomas and Seely-Brown, 2011). Cooperstein and Kocevar-Weidinge (2004) stated that various aspects of constructivism and discovery are found in technological learning and have helped to change the concepts related to traditional learning. This approach to learning is effective in social settings as learners can share and examine information to find connections and thought variations. Engagement is determined through the prior and current knowledge of students to determine how the learning experience plays an active role in building knowledge. Constructivism runs counter to the theories that state that learning can be achieved if students listen to experts and obtain the knowledge that the experts voice (Meyer, 2014). Forums and discussion boards provide students with an online collaborative learning environment that can foster social presence. Social applications online have helped to improve instructional effectiveness and socialization while acquiring a second language since chatrooms and other social media offer interaction that is very similar to face-to-face communication (Blake, 2000; Lee, 2002).

According to Garrison & Arbaugh (2007), developing social presence online depends on the ability of teachers to create educational tasks that involve students in the following three ways:

1. Effective communication is the first step needed to create social presence. It is critical to recognize the academic goal with the communication and not focus too much on interpersonal relationships. While interpersonal relationships can and should develop
over time, the building of these relationships should not be the primary goal (Garrison, 2011). According to Bouhnik & Deshen (2014), teachers should design activities that encourage students to present their personalities and emotions in online chats while engaging in effective communication (See Section 2.3.1.5 Social Presence Activities in WhatsApp).

2. Open communication is the second step in creating social presence and involves planning tasks that engage students in ongoing discussions (Garrison, 2011). For example, graded assignments could be used to increase students’ extrinsic motivation and engage them in discussions that will aid their social skills (An, Shin, & Lim, 2009). (See Section 2.3.1.5 Social Presence Activities in WhatsApp)

3. Group cohesion is the third step in constructing social presence and requires teachers to create collaborative activities that support collective learning (Garrison, 2011) (See Section 2.3.1.5 Social Presence Activities in WhatsApp).

<table>
<thead>
<tr>
<th>Categories</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Expression</td>
<td>Emotions</td>
</tr>
<tr>
<td>Open Communication</td>
<td>Risk-free expression</td>
</tr>
<tr>
<td>Group Cohesion</td>
<td>Encouraging collaboration</td>
</tr>
</tbody>
</table>

**Teaching Presence**

Anderson, Rourke, Garrison, and Archer (2001:5) defined teaching presence as “the design, facilitation, and direction of cognitive and social process for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes.” Teaching presence involves the capability of teachers to enhance social and cognitive presence by using various class management strategies, building greater understanding, and engaging in direct teaching (Dunlap & Lowenthal, 2009). Greyling and Wentzel (2007:656) stated, “teaching presence includes subject matter expertise and the design, management and facilitation of learning.” Bangert (2008) focused on the role of educators in the teaching process and identified certain methods that teachers could use to build the online teaching environment to create and maintain productive Communities of Inquiry (p. 40). Garrison & Arbaugh (2007) state that teaching presence consists of the following three elements:
1. Instructional design and organization: Anderson et al., (2001) considered the planning of class materials including the syllabus and lecturers to be part of teaching presence.

2. Facilitating discourse refers to a teacher’s ability to create activities that focus on interaction and communication (Anderson et al., 2001).

3. Direct instruction refers to the way that a teacher shares knowledge about the course topic in a way that students can understand and internalize (Anderson et al., 2001).

The CoI model was modified by Shea & Bidjerano (2010). The authors added learner presence which focused on student self-efficacy and self-regulation behaviors including the learners’ ability to use the internet (Schrum & Hong, 2002), set plans for future study sessions (Screw, 2007), use self-regulating strategies like asking questions, and engage in peer learning and thinking activities (Kassab et al., 2015). Cleveland-Innes and Campbell (2012: 283) added “emotional presence that is the outward expression of emotion, affect, and feeling by individuals and among individuals in a community of inquiry, as they relate to and interact with the learning technology, course content, students, and the instructor.” These thoughts were added to the modified CoI model.

Table 1.3 Categories and Indicators of Teaching Presence (Garrison & Arbaugh, 2007)

<table>
<thead>
<tr>
<th>Categories</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design &amp; Organization</td>
<td>Setting Curriculum &amp; Methods</td>
</tr>
<tr>
<td>Facilitating Discourse</td>
<td>Sharing Personal Meaning</td>
</tr>
<tr>
<td>Direct Instruction</td>
<td>Focusing Discussion</td>
</tr>
</tbody>
</table>

1.8.2 Evaluating Educational Technology Integration

The teaching theories in this study are based on “A Framework for Evaluating Educational Technology Integration” presented by Davies (2011). This framework for understanding technological literacy involves awareness, praxis and phronesis. Throughout the current research, awareness = declarative technological knowledge, praxis = practical technological knowledge, and phronesis = genius technological knowledge.

1. The first level of technological knowledge is “awareness.” The term refers to declarative knowledge that teachers have about a particular technology. In this way, teachers can answer questions like “What can WhatsApp or Jazan Jump Blackboard do?” For the most part, teachers are aware of technology, but are not able to use it professionally. For example, teachers know that they have
Blackboard available to them and can use the system at a basic level. In terms of awareness, teachers can be either ready or resistant regarding the new technologies. Teachers who feel that they are ready to use technology in the classroom are likely to search for opportunities to improve their skills while resistant teachers would be much less interested in spending time developing their awareness and skills regarding technology.

2. The second level is the “praxis” level which refers to the practical technological knowledge that teachers possess. Teachers can explain what WhatsApp and Jazan Jump can do and teach, but do not have the knowledge they need to use the technology to accomplish specific teaching goals. Some teachers may have the procedural knowledge and skills to design simple activities on the technology, but are not able to use the technology to accomplish specific goals. The technological acumen of teachers can be enhanced through additional training.

3. The third level is the “phronesis” level which refers to a teacher who is able to use a technology like WhatsApp or Jazan Jump with specific goals in mind. The teacher also has enough skill to use the technology for certain activities, but not others (Davies, 2011). At the highest level of technological literacy, teachers are professionals in the use of technology. These individuals are interested in learning about new technologies and are not afraid to use technology to achieve specific learning goals. Teachers are able to reach a level of practical wisdom when they are able to use technology in authentic situations appropriately. Examples of this type of use include designing activities with particular goals in mind and with a plan to use technology to accomplish these goals.

1.9 Terminology

The following terms that are critical to explore the impact of WhatsApp and Jazan Jump in engaging medical students in learning medical terms via a BL approach are discussed below:

1. **English for Specific Purpose (ESP)** – A method of teaching English used for subjects including medicine, science, art, and business

2. **Blended Learning (BL)**- A teaching strategy using the online and face-to-face methods.
3. **Engagement** – Ability to involve students in online and classroom learning through shared ideas, discussions, and collaborative tasks to solve problems. Teachers must design assessment activities that increase student learning and engagement with the course, the teacher, and their peers (Meyer, 2014).

4. **Technological self-efficacy** – Student and teacher opinions about skills using technology when teaching and learning tasks (Compeau & Higgins, 1995).

5. **Achievement** - An indicator of progress based on student exam scores.

6. **Self-learning Regulation** – Refers to self-paced learning skills.

7. **Anxiety** – A combination of self-perception, beliefs, feelings, and behaviours related to learning that arises from the language learning process (Horowitz, Horowitz and Cope, 1991:128)

8. **Asynchronous Communication** - Asynchronous discussions or messages that can start at any time. This type of communication does not require students and teachers to be logged in when the communication occurs.

9. **Synchronous Communication** – Communication that occurs at a specific time and place where all students are logged into their computers. An example could be a virtual classroom or an instant message.

1.10 **Structure of the Thesis**

This section offers a summary of the contents and organization of the chapters in this thesis.

Chapter 1 provides the background of the research project and the reasons for undertaking it. It also provides the objectives, questions, and research hypothesis. The description of the study setting is presented along with the theoretical models. A list of terminology is also discussed and the thesis structure is presented.

The second and third chapters include a literature review. Chapter 2 involves information about the history of the English language, its definitions, types, features of ESP courses, characteristics of ESP learners and teachers, and existence of ESP in higher institutions in Saudi Arabia for teaching English courses. Section 2.2 Blended Learning contains information about BL, its definitions, and its presence in universities for teaching English. The section also contains information about BL in Saudi Arabia, in particular, Jazan University. Section 2.3 Blended Learning Delivery Applications and Engagement provides a literature review about topics including BL delivery tools such as WhatsApp, Blackboard,
and face-to-face discussions. The section discusses how these modes impact engagement and presences. Section 2.4 Summary summarizes the chapter.

Chapter 3 is divided into three sections. Section 3.1 Self-Efficacy contains information about the concept of self-efficacy and students’ technological self-efficacy. The research examines the impact of technological self-efficacy on student achievement and their self-learning regulation along with their anxiety level and attitudes when learning medical terminology with BL. Section 3.2 Teachers’ Technological Self-Efficacy contains information about teacher self-efficacy and declarative technology self-efficacy knowledge, practical technology self-efficacy knowledge, and genius technology self-efficacy knowledge in BL settings. Section 3.3 Summary provides the reader with a summary of the chapter.

Chapter 4 involves methodology. Research design is defined as “a plan that guides the investigator in the process of collecting, analysing, and interpreting the data of interviews and surveys. It is a logical model of proof that allows the researcher to draw inferences concerning causal relations among the variables under investigation” (Nachmias & Nachmias.1992:77-78). Methodology involves the steps and procedures that are used to collect and analyse data while carrying out an investigation. Research design describes research techniques and can consist of general assumptions as well as detailed data collection, analysis, and interpretation methods. The research problem can help to determine the most appropriate research design. Other factors could include researcher experience and participant problems in their environment and how these issues impact the design used (Creswell, 2009). The chapter has five sections. Section 4.1 Overview of a Case Study contains information about the case study elements that the research followed including study questions and objectives, units of analysis, and the links between the data. Section 4.2 Method of the Case Study contains information about qualitative and quantitative research methods while Section 4.3 The Main Case Study focuses on providing information about the study components. Section 4.4 Summary provides a summary of the chapter.

Chapter 5 is made up of five sections. Section 5.1 Student Achievement in Blended Learning with Integrated Social Software and an LMS contains information about the statistical analyses of the pre- and post-test results. Section 5.2 Blended Learning Engagement contains information about the discussion of student survey results and the statistical differences between the controlled and experimental groups in relation to the study questions and hypotheses discussed in Chapter 1. The section also discusses the factors that appear to
demonstrate increased teaching, cognitive, and social presences in both Jazan Jump and WhatsApp based on the answers collected during interviews and student surveys. Section 5.3 Other Outcomes and Engagement shows the results of the correlation tests using the independent variables of social, cognitive, and teaching presence along with dependent predictors such as self-efficacy beliefs, self-learning regulation, and anxiety that relate the research to other hypotheses. Section 5.4 Social Media Attitudes provides details of the attitudes that students have toward social media and discusses correlation tests that show the relationship of student attitudes and engagement presences. Section 5.5 Summary provides a summary of how the results relate to student achievement and engagement in a BL environment.

Chapter 6 explores the teaching methods and experiences of teachers providing English instruction using Jazan Jump and WhatsApp along with the teachers’ attitudes toward technology, constructive beliefs, and digital self-efficacy knowledge. The chapter also examines if teacher experience in teaching English and using Jazan Jump Blackboard and WhatsApp influences levels of technological integration in the classroom. Section 6.1 Teachers’ Experience and Teaching Methods contains information about teaching experience and methods and the statistical analysis results of the SPSS analysis. Section 6.2 Teachers’ Constructive Beliefs & Attitudes contains information about teacher beliefs including attitudes about WhatsApp and Jazan Jump and relates this information to the study questions and hypotheses in Chapter 1. Section 6.3 Teachers Technology Self-Efficacy Knowledge contains information about the technological acumen of Jazan University teachers while Section 6.4 Summary provides a summary of the results.

Chapter 7 revisits the research objectives and research questions and presents conclusions. The chapter looks at the implications for the following five areas: (a) engagement, (b) knowledge of practice, (c) policy, (d) recommendations, and (e) suggestions for future research. The limitations and restrictions of the study are considered before a summary of the issues and questions raised by the researcher are discussed. In addition, the researcher provides a justification of the results.
Chapter II: Engagement in an ESP Blended Environment

2.0 Introduction
This chapter is broken into four sections. Section 2.1 English for Specific Purposes (ESP) contains information about the history of the English language for specific learning, definitions, types, features of ESP courses, characteristics of ESP learners and teachers, and a discussion of ESP in higher educational institutions in Saudi Arabia for teaching English and medical courses. Section 2.2 Blended Learning contains information about BL, including the definition of this learning method and the presence of BL in universities to teach English and medicine. Section 2.3 Blended Learning Delivery Applications and Engagement provides a literature review about WhatsApp, Blackboard, and face-to-face teaching. A separate section on vocabulary acquisition is not included because these teaching methods are discussed in the way that they allowed the teacher to convey medical terminology, definitions and terms to support teaching, social, and cognitive presences. A discussion of learning medical terminology through Blackboard and WhatsApp and how they relate to CoI is offered. Section 2.4 Summary includes a summary of the chapter.

2.1 English for Specific Purposes (ESP)
In the 1960s, English for Specific Purposes (ESP) became a new field in the sector of English Language Teaching (ELT). The start of ESP was helped by certain factors including World War II and massive growth in science and technology which made people more interest in learning English as it was seen as the international language for knowledge, technology and commerce. The development of ESP was also enhanced through funding from oil-rich countries which increased the number of international students who wanted to learn English abroad (Rahman, 2015).

In the last 20 years, the demand for ESP grew dramatically. Hewings (2002), the co-editor of the journal English for Specific Purposes, worked to examine the change that occurred in his journal for the last 20 years. The results of the study found that many ESP studies were conducted outside of western countries such as China and Hong Kong. As a result, ESP has become an internationally accepted academic discipline. Asadi (1990) found that most teaching materials about ESP involved English for medical purposes based on “text or discourse analysis”. The designers of educational materials created books that were geared toward higher education institutions that were teaching medicine. Asadi (1990) wrote that
“Authenticity of language data and learning tasks, as the authors of these materials note, was achieved via observations and audio/video recordings of consultations” (Asadi, 1990:51). This statement shows that there was a “growing realization that to provide convincing and effective ESP courses or material, we need to know a considerable amount about target situations” (Hewings 2002:3). The development of ESP has been an important influence on increasing the activity of research about various ESP topics (Ramírez, 2015). According to Johns (2013), most international journals that specialize in ESP have shown an expansion in the number of ESP submissions and publications. The growth of ESP has helped to create more international journals including English essays written on a particular subject or topic from a different background (Johns, 2013).

2.1.1 The Definitions of ESP
Many in academia provide different definitions for ESP. Rahman (2015) states that ESP is a method of teaching the English language used to enhance students’ needs since 1960s. An ESP teacher would teach English for a specific purpose and track student progress when achieving specific goals such as English business or medical terminology learning objectives. Teaching ESP does not focus on general English, but does involve listening, reading, speaking, and writing. Gatehouse (2001) states that ESP is a method of situational language teaching based on an analysis of student needs and what language skills are most wanted by students. The course materials including the textbook and other support material are selected based on what skills are needed. An ESP program could focus on the development of student vocabulary in a certain field such as the field of medicine. The program could also promote the improvement of speaking for students who would like to assist people when seeking health care. Belcher (2004) considered ESP an important part of the language field as it allows programs to meet learner needs and help them to improve to meet occupational needs and goals (Belcher, 2004). The courses work to prepare learners with a certain level of English proficiency that will allow them to be prepared for particular situations. For example, an English for Medical Purposes (EMP) course is designed for EFL medical students. This type of course will help to improve reading skills for medical students while providing them with medical terms that they would use in their academic classes. The medical students would also develop their academic and scientific writing skills while being provided with an introduction to English medical terminology (Robinson, 1991; Dudley-Evans and St. John, 1998; Strevens, 1998; Sujana, 2005 as cited in Arani, 2014).
2.1.2 Types of ESP
Carver (1983) divided ESP into the following three categories: English for Science and Technology (EST), English for Occupational Purposes (EOP), and English for Academic Purposes (EAP). Asadi (1990) describes each category of ESP in depth. The term EST refers to courses that use English to teach computer science, chemistry, biology, environmental science, engineering, medicine, and other related topics. This category has a noticeable position in ESP as a result of the technological and scientific revolution and because the English language has become the language used by most scientific researchers and communication practices (Asadi, 1990). English for Occupational Purposes refers to courses that use English to enhance students’ professional or vocational language skills to obtain success in the workplace. An example of EOP could include a doctor needing to learn English to speak with patients or to participate in conferences (Asadi, 1990). English for Academic Purposes refers to English courses offered by academic institutions to students who need to learn English to obtain admission to specific departments (Asadi, 1990). In the current study, the students learned EAP to obtain knowledge of medical terminology and English to complete their studies in medical majors including surgery or dentistry.

2.1.3 Features of an ESP Course
According to Carver (1983), ESP courses are as follows:

1) The course should be based on authentic materials (Carver, 1983). The current study used the book *Medical Terminology a Short Course* by Chabner which includes medical terms along with photos that involve students reading real medical cases with procedures that treat diseases.

2) The course should include activities based on task which allows teachers to give students various tasks to encourage different skills (Carver, 1983). Chabner’s book aimed to “learn by doing” by providing a learning task on almost every page that asked students to write out answers, answer questions, or fill in blanks with proper terminology.

3) The course should include self-study tools to allow students to develop self-autonomy (Carver, 1983). Chabner’s book includes study tools and resources such as an audio dictionary for medical terminology, games, and digital flashcards to aid studying.

2.1.4 The Characteristics of ESP Learners and Teachers
Bojovic (2006) stated that ESP involves courses or programs that require specific goals and objectives based on student needs. There are specific characteristics for teachers who teach
the content and the students being engaged in the course content. Fiorito (2005) presents many of the characteristics of good ESP teachers. The teacher must have experience teaching English and designing lesson plans that integrate different instructive methods. The teacher should also have organizational skills that allow the teacher to plan classroom and online activities properly. The teacher should also have skills related to designing course activities with certain goals that will support student engagement and achievement. Teachers should also be able to create a good learning environment that provides students with the opportunity to use the English language in the classroom and should have experience designing suitable assessments to evaluate student knowledge. Fiorito (2005) lists many of the characteristics of good ESP students. An ESP student should feel a responsibility to develop his or her own English skills and should be interested in learning English in their specific fields. When a student is self-regulated, the student will be more likely to expand his or her English to become more fluent in certain topics and gain more experience for future jobs.

2.1.5 ESP in Higher Education
English is the most dominant language used in higher educational institutions in Europe (Ammon & McConnell, 2002 as cited in Coleman, 2006). Many non-English speaking countries in Asia and the Arab world are taking steps to adopt English as the language for instruction in their universities (Byun, et al., 2011; Ebad, 2014). With greater globalization, English has become the international language of academia especially in medicine, physics, space science, chemistry, and Earth sciences (Hutchinson & Waters, 1987 as cited in Alqurashi, 2016). ESP has developed as one of the most common areas of teaching English as a Foreign Language (EFL) due to students needing to learn English to have certain majors such as business and medicine. This demand leads to an increased number of academic institutions that offer ESP subjects as part of their short- and long-term courses and other degree programs (Brunton, 2009). Dudley-Evans (2001) mentioned that “the demand for English for specific purposes…continues to increase and expand throughout the world” (as cited in Brunton, 2009:1).

2.1.6 English as International Language for Medical Purposes
Presently, English is the language of medicine as most scientific papers are written in English (Castillo, 2009). This trend has had a significant influence on the health field. Many new medical terms are created in English and have become accepted into other languages. English is the internal language and has led to profound developments in medical science because it is widely accepted (Mićić, 2013). Teaching medical courses in English has become more
English proficiency has become a critical skill for medical management jobs including being an assistant administrator or clinical manager. Due to the specialized nature of certain jobs in the medical field and the use of English as an international language in the field, having proper English skills has become mandatory (Alharby, 2005).

2.1.7 English for Medical Purposes in Saudi Arabia

Students must spend six years to obtain a bachelor’s degree in medical school. Saudi colleges use English in the classroom, something that makes learning medicine more difficult for medical students since English is not their first language (Telmesani, Zaini, & Ghazi, 2011). Although Saudi students learn English for seven years during their elementary, intermediate, and secondary grade levels, many still have a limited English background when they enter a university and do not have the language skills needed to succeed in English undergraduate medical courses (Kaliyadan et al., 2015). The substandard English skills that many have can be attributed to the fact that students learn English in the classroom and are not able to practise their new skills outside the classroom since everyone speaks Arabic. Students attend English classes twice a week when in sixth grade and four times per week when they are in intermediate and secondary grades. These classes are 40 minutes long and the average class size is 40 students. The limited class time and the large class size creates an environment that does not allow students to practise their English much (Al-Seghayer, 2014).

Telmesani, Zaini, & Ghazi (2011) stated that the majority of Saudi medical colleges have adopted a traditional subject-based curriculum in which students take basic medical science courses for three years and then joined a clinical training program. This clinical training program would last for three years and would be followed by a one-year internship. Al-Kabbaa et al., (2012) wrote that a traditional approach is still used in most Saudi institutions even though medical courses allow students to experience and solve real-world medical problems. The curriculum in many of these universities is very teacher centric and involves a teacher discussing topics in a seminar setting (Al-Hazimi et al., 2004). The way that medicine is taught has been changing rapidly in Saudi Arabia. King Saud bin Abdulaziz University (KSAU), King Abdulaziz University, and Jazan University all encourage their teachers to use an innovative approach when teaching medical courses. Some educational strategies emphasize problem-based learning to increase student motivation. The strategies often involve the use of small group discussions managed by a teacher. There has been a growing
need to reinforce students’ English language skills through the use of modern strategies including games, projects, and assignments (Telmesani, Zaini & Ghazi, 2011).

2.1.7.1 Saudis Need to Improve English Proficiency to Study in International Medical Programs

English is the language of global learning and education (Kirkpatrick, 2009). Saudi Arabia provides scholarships for many medical students to allow them to pursue graduate and postgraduate studies abroad. In addition, the government provides students with full scholarships to study in master, doctoral, and fellowship programs in the medical fields at foreign universities (Abouammoh, Smith, & Duwais, 2014; Taylor & Albasri, 2014). Although, the Saudi government provides students with the ability to join medical programs in foreign countries, English language proficiency is a challenge that can impact the overall academic success of Saudi students (Amed, 2011; Barron, 2004 as cited on Alqurashi, 2016). Many studies address the reasons for the importance of the English language for medical students studying abroad. Some of these reasons are listed below:

• English language proficiency is important for Saudi students who want to pursue medical degrees abroad as many international institutions have different English language requirements such as tests for Vocational Education and Training (VET) programs including medicine, health care, and other related fields. These programs could also have language proficiency tests like the International English Language Testing Service (IELTS), the Test of English as a Foreign Language (TOEFL), or other language achievement tests that measure if a student has the proper English foundation (O’Loughlin and Murray 2007, Al-Jarf, 2008).

• Learning English is very important for Saudi students who would like to become doctors because it is the language used in most medical research, books, and academic conferences (Al-Jarf, 2008).

• English is important in publishing international papers. Many medical journals provide more credit to articles that are written well in English (Milosavljević, 2007).

2.1.7.2 Saudi Need for English Language Proficiency to Study in Saudi Universities

Admission to Saudi medical programs depends on a student’s grades in secondary school and also relies on the student passing a written English science exam (Telmesani, Zaini, & Ghazi, 2011). English proficiency is also required for the first year of a preparatory program for all medical students attending Saudi universities. During this preparatory year, students take English courses that cover many subjects including medical terminology, reading, writing,
speaking, and comprehension. All Saudi medical students must pass this year successfully to be fully admitted into a medical program. Getting high grades in this year is a criterium used for medical school selection (Alseweed & Daif-Allah 2012, Kaliyadan et al., 2015). Research has shown that the use of English as an instructional language in Saudi universities in preparatory year programs (PYPs) enhances students’ English skills and prepares them to master future skills and knowledge that will be taught to them in English (Al-Sharqi, Hashim, & Ahmed, 2015).

2.1.7.3 Saudi Need for English Language Proficiency for Individuals Working in Saudi Arabia
Developing English skills is an essential part of the health care agenda and is a key component used to determine if a medical student is employable in the health field (Chur-Hansen, Vernon-Roberts, & Clark, 1997). Various studies indicate that knowing English is important for success in any medical field since learning the language is a key component in communicating in an educational or occupational capacity (Kayaoğlu & Akbaş, 2016). Medical students must work hard to develop their English skills to succeed both in practice and research. Having proper English competence is an essential factor for medical professionals competing for jobs in Saudi Arabia (Al-Mously et al., 2013).

The growth of science and development of technology have maximized the need for ESP to improve the knowledge that students obtain as they specialize. The rapid development of ICT allows educators to design a syllabus and integrate technology into mainstream course development. The blending of ESP courses with web tools, eBooks, and software applications has become a trend in education (Chirimbu & Tafazoli, 2014), and is discussed next.

2.2 Blended Learning
This section reviews the literature on BL, the basis for this study. It highlights the diversity in BL definitions and the designs of this type of learning. The section also presents information about the adoption of BL in higher education when teaching medical terminology and the English language to students at Jazan University. The section also explores BL delivery applications such as WhatsApp and Jazan Jump Blackboard and the impact of these tools on teaching, cognitive, and social engagement.
2.2.1 Definitions of Blended Learning

There are various definitions of BL provided by various researchers. Sharma (2010) identifies three different concepts used to define BL. These concepts include a mixture of two teaching methods or web-based tools. Torrisi-Steele (2011) offered a definition for BL as an “enriched, student-centred learning experiences made possible by the harmonious integration of various strategies, achieved by combining face-to-face interaction with information and communication technology (ICT)” (p.366). This definition emphasizes the following three specific aspects that should be considered in any BL design: learner-centred educational involvement, teaching strategies, and delivery tools for teaching and learning. In the last few years, the use of technology has resulted in the creation of BL which involves hybrid learning. This type of learning has been rated as one of the top 10 instructive teaching methods by the American Society for Training and Development (Rooney, 2003). Dziuban, Hartman, & Moskal (2004) stated that BL is an academic approach that provides students with effective web-based and physical engagement opportunities through teachers who use modern instructional methods that lead to active learning and teaching potential. Vaughan (2007) wrote in the journal “Perspectives on Blended Learning in Higher Education” that BL is sometimes viewed as a teaching method that uses technology as an additional tool and is not a new form of teaching. The author states that BL is actually a new approach that provides teachers with tools to design and develop lesson plans that combine face-to-face communication with virtual instruction. Duhaney (2004) stated that BL includes online and classroom activity that support and provide new knowledge. Singh (2003) mentioned that the term “blended learning” was often connected with traditional teaching and online instruction. The term has developed to include many learning strategies and dimensions. A BL course could include virtual and face-to-face techniques while also involving tasks that engage learners in more dynamic communications. Additionally, BL could be a mix of structured learning and unstructured learning that occurs using textbooks, lectures, meetings, and discussions. This type of learning occurs using self-regulation and teacher-directed activities (Singh, 2003). Self-regulated learning activities provide students with self-paced tools and tasks that make them “metacognitively, motivational and behavioral active participants in their own learning process” (Zimmerman, 1989, p. 329). Teacher-directed learning involves teachers playing a key role in direct instruction that includes presenting information and designing activities in BL environments (Singh, 2003).
2.2.2 Adoption of Blended Learning in Higher Education for Science and for Teaching English Medical Terminologies

Ellis et al., (2006) conducted qualitative research to explore student experiences while learning psychology using a BL method. The teacher designed discussion topics for classroom sessions and had students continue the discussions that started in the classroom online. The authors used different data collection tools including open-ended questionnaires and semi-structured interviews to explore student opinions about the experience. According to the results, students reported that discussing topics using the blended method increased their cognitive skills and led to more cohesive and coherent thinking. These increases positively impacted the grades of many students.

Davies et al., (2005) observed the impact of BL on the development of analytical skills of physiotherapy students at the University of Birmingham. The design of web-based activities that included video clips of patients provided students with authentic materials that exposed them to real situations and prompted a higher level of critical thinking. The study highlights the importance of integrating online modules with classroom learning to link theoretical and practical experience when assessing health issues in a clinical setting. There is also recognition of the role that BL plays on discussions and tasks when developing student skills as reflective practitioners. The analysis of the online discussions showed that students involved in BL are able to share knowledge and reflect on their experiences (Guldberg and Pilkington, 2006). Cox et al., (2004) assessed the educational effectiveness of web-based discussions on learning business. The results of this work found that the impact of BL resulted in better learning outcomes. Webb et al., (2005) suggested that the BL model of teaching supported learning in a course called “Management Information Systems” (MIS). The authors’ findings suggest that the use of advanced technology helped college teachers to involve students in a learning environment and to motivate students to achieve higher levels of knowledge. In medical colleges, BL is becoming increasingly popular as more medical colleges integrate technology into their educational system (Thakore, 2006). The mixture of traditional and online learning generates a more integrated approach for instructors and learners that successfully applied these teaching strategies in the medical sciences (Karimzadegan, Mojtahezdadeh & Mohamadi, 2007). Integrating competency-based BL in a medical terminology classroom can help to meet the needs of students. This approach creates a positive learning atmosphere by having teachers use more tools to develop certain skills (Arani, 2014).
2.2.2.1 The Culture of Blended Learning in Saudi Arabian Higher Education and Jazan University

Alshathri & Male (2015) stated that the higher education sector in Saudi Arabia faces challenges when developing standards of excellence for the educational system to ensure that the institutions are ready to increase enrolment capacity. Combining e-learning with a face-to-face approach is a possible solution. In the last few years, technological instruction has led to the establishment of the Saudi Electronic University (SEU), the first electronic university in the Middle East. The SEU modernized the Saudi educational system through the adoption of the BL approach (Alshathri & Male, 2015). In addition, Alebaikan & Troudi (2010) mentioned that to increase the quality of education in Saudi Arabia, the Ministry of Higher Education designed the “National Plan for Information Technology” that created a flexible system of e-learning for the National E-learning and Distance Learning Centre (NELC) in 2006. The NELC offers technical services and software for all Saudi universities while also providing teachers with technical assistance, training courses, and workshops to encourage them to integrate multimedia resources into their classroom instruction (Alebaikan & Troudi, 2010). As a result, BL has become a teaching strategy in several Saudi universities. This trend has required researchers to study the advantages of using technology as a teaching tool and to determine what factors make the tool successful (Alsharq News, 2013 as cited in Alshathri & Male, 2015).

The technological advances in Saudi education has caused many researchers to examine the influence of online learning on student achievements. Despite the additional research, studies on BL in Saudi Arabia remain relatively rare (Alebaikan & Troudi, 2010).

Anwar et al., (2017) conducted a study about the use and effect of BL using various technologies and in-person lectures on student performance and achievement in Neuroscience courses at Alfaaisal University in Saudi Arabia. The e-learning teaching methods were implemented throughout a 10-week course. During the teaching process, the researchers used face-to-face instruction including lectures, clinical skill sessions, and laboratory sessions. The researchers also created and developed a Facebook page to aid the classroom objectives and exam preparation. The content of this page includes neuroscience articles, lectures, lecture notes, PowerPoint slides, and other discussion topics. The researchers found that most teachers recognized the potential that the internet has in education and found that technology can be a valuable resource in teaching. The study results stated that training programs would
be essential in improving the curriculum and teaching methods that could be used to supplement traditional instruction.

Yushau (2006) studied the impact of BL on Saudi student attitudes. His study was conducted on students who were taking computer and mathematics courses. The face-to-face instruction occurred three times a week along with a once a week online computer laboratory session to help students learn about the availability of online resources. The study concluded that the implementation of BL positively impacted student attitudes about mathematics and computer courses provided in a BL environment.

In the context of this current study, Jazan University is composed of 15 colleges and offers bachelor’s degrees for 46 programs. The University also has a community college that offers 4 diploma programs. The seven colleges in the university include the Colleges of Medicine, Dentistry, Pharmacy, Education, Business Administration, Engineering, and Architecture & Design. To achieve the University’s goals of using technology, the administrators established the “Kingdom’s National Science and Technology Policy”, (NSTP) in 2002. This plan specifies 10 strategic goals for scientific and technological development. The goals included “development of skilled human capital, research skills, technology transfer and adoption, quality research, innovation, and various other means to support science and technology” (Jazan University Self-Study Report, 2015:11). According Collis & Moonen (2001), administrators worked to blend education with technology to conduct investigations that helped them identify the benefits and drawbacks of implementing certain technologies in the learning process. To ensure that BL is beneficial to the students of Jazan University, Khurshid (2015) found that a blended approach was very successful in teaching English and motivating teachers to satisfy their needs. Both teachers and students should be given enough training to ensure that they can have the skills to use technology to achieve their academic goals. Jazan University’s plan stated that it “has been engaged in proactive initiatives to enhance its contribution to the knowledge-based development of the country and to enhance its broader social impact. With the help of its skilled workforce of faculty members and scholars, JU has introduced programs that improve its performance in education, research and scientific cooperation. In addition, the University geared its mission and future strategic direction toward positive and open participation and adopted a new Strategic Plan – Vision 2020, which was officially launched on the 14th of May 2014” (Jazan University Self-Study Report, 2015:11).
2.2.2.3 Adoption of Blended Learning in Higher Education for Teaching English and Medicine in Saudi Arabia

Since BL is popular in higher education in Saudi Arabia, several studies have been conducted to observe the effect of current practices using BL in various contexts to teach English. These studies discussed the way that students and teachers felt toward BL (Alseweed, 2013; Alebaikan & Troudi, 2010; Al Zumor et al., 2013; Ja’ashan, 2015; Al-Jarf, 2005). The studies investigated student views and attitudes about BL. One of these studies was conducted by Alseweed (2013). In his study, Alseweed examined the impact of three delivery modes, namely traditional, blended, and virtual learning, and the way that these modes impacted the attitudes and achievement of 37 EFL students at Qassim University. The researchers used pre-tests and post-tests and questionnaires to collect data. The results of the study were that students had positive attitudes and achieved better scores through BL. Al Zumor et al., (2013) studied various EFL student perspectives toward the BL experience using Blackboard as part of an online learning platform at King Khalid University. The researchers obtained data through quantitative instruments such as surveys. The analysis of data BL provided students with opportunity to increase their vocabulary and improve their reading skills. Ja’ashan (2015) examined Saudi student perceptions and attitudes toward learning English through BL at the University of Bisha. The research showed that there was a positive impact from BL on student satisfaction regarding their collaborative and interactive English learning experience. Alebaikan’s study (2010) investigated the opinions of 68 students and 7 instructors regarding the advantages of using BL to deliver Arabic courses, Islamic studies, and English classes at King Saud University. The data analysis process found a high level of enthusiasm for students and teachers toward the BL experience. Al-Jarf (2005) conducted a study at a Saudi university to explore the impact of combining the traditional approach with online tools in teaching. Based on the study, teachers were satisfied with student grades on achievement tests and students found that a BL strategy motivated their desire to enhance their English grammar.

As BL became more common in higher education in Saudi Arabia, researchers conducted studies that examined the impact of BL in different subjects including English courses and English for specific purpose courses (Alzahrani & Watson, 2016); family medicine courses (Makhdoom at el., 2013); medical science courses (Sajid et al., 2016); and medical, surgical, and nursing courses (Riad et al. 2013).
Alzahrani & Watson (2016) had students engage in individual and collaborative tasks in a BL environment using a Blackboard learning system and face-to-face sessions to learn English for medical purposes. The BL experience showed student improvement on awareness about techniques when studying English and medicine. Makhdoom et al., (2013) explored the effect of the combination of online and traditional approaches on the performance of Saudi medical students who majored in family medicine. The findings showed a significant impact of the BL program on student learning achievement. Riad and other scholars (2013) considered BL to be an effective method for teaching English medical and surgical courses and found that this method was suitable for teaching medical science in Saudi Arabia because the active structure motivates students to apply their knowledge and improve their critical thinking and recall (Sajid et al., 2016).

2.3 Blended Learning Delivery Applications and Engagement

Many technologies can be integrated in BL environments including classroom technologies such as PowerPoint presentations and interactive whiteboards and virtual communication tools to help teachers design activities to help students engage in chat and group discussions. In addition, social networking applications that enable students and teachers to socialize with one another using instant messages, YouTube videos, Wikis, and e-learning management systems to allow teachers to communicate with students using online conferencing systems, group collaborative software, and sites can be useful tools. Finally, mobile learning provides students and teachers with the ability to download platforms such as WhatsApp and Twitter to their personal mobile devices to allow them to communicate and learn using their phones from any location (See Allan, 2007 as cited in Higgins, & Gomez, 2014).

Thorne (2003:2) found BL to be a way of meeting “the challenges of tailoring learning and development to the needs of individuals. It represents an opportunity to integrate the innovative and technological advances offered by online learning with the interaction and participation offered in the best of traditional learning.” As a result, BL provides teachers and students with educational tools to design courses that meet student needs while taking into consideration their learning level and selecting the right technologies to allow them to learn effectively (Thorne, 2003). Singh (2003) mentioned that using one teaching tool may not provide students with sufficient learning opportunities, involvement, interaction, and resources for their academic needs. A BL approach is the best solution for this issue that can lead to successful learning outcomes. Singh states that BL depends on using various tools that
allow teachers to create different activity types using face-to-face instruction, online learning, and self-paced learning approach (Singh, 2003).

2.3.1 WhatsApp
Barhoumi (2015) wrote that WhatsApp is a popular smartphone application used by over 350 million users. Brian Anton and Jan Koom created the idea of using instant messages on a mobile application for communication. Sequoia Capital invested $8 million and the application was launched in 2009. The application is a mobile messenger application that can send and receive personal calls and group messages. The main reason that the application is used is because of its low cost and ability to have quick conversations with friends in a relatively private setting (Barhoumi, 2015).

According to Bere (2012), WhatsApp can be used as an educational tool because it has the following features:

a) Allows users to share videos, messages, photos, and recordings using a multimedia platform.

b) Offers students and teachers with the ability to create a group chat that consists of up to 50 members.

c) Provides easy download of the application and can be used on all phone brands including iPhone and Samsung.

d) Allows users to receive and save offline messages when their phones are off.

e) Provides students and teachers with free access as long as they have a monthly data plan or WiFi.

f) Facilitates the use of the application without having to input a username or password each time the application is opened.

Willemse (2015) found that the WhatsApp Messenger is a tool that can boost students’ reflective skills, something that is a critical part of experiential learning. The author also found that students who have different experience levels learning using the WhatsApp discussion group can all benefit. Student writing that reflected on the application showed that WhatsApp is beneficial for combining theoretical, clinical, and applied knowledge. In addition, the application allows people to access learning resources for test preparation and assistance from other students. Ashiyan & Salehi (2016) conducted a study to identify the impact of the application on learning vocabulary. To achieve their goals, a sample of 60 Iranian EFL learners from Kimiya Institute participated. The experimental and controlled
group used the same course book, “Vocabulary in Use Basic.” The controlled group was taught in person while the experimental group was allowed to learn in the traditional method and using WhatsApp. The study found that the group that was allowed to use WhatsApp had greater recall of vocabulary and were positively impacted.

WhatsApp has a few limitations. For example, students may send irrelevant messages repeatedly and can cause a flood of unimportant posts (Gon, Sonia, and Alka, 2017). The application also is not designed for formal communications and students can use the application to practise the English language in an informal instead of a formal way (Bouhnik & Deshen, 2014). Although researchers have found that WhatsApp can be used to teach vocabulary, researchers continue to have concerns about how the application can distract students from learning effectively (Zhang et al., 2011). In addition, Hayati et al., (2013) wrote that the use of WhatsApp can lead instructors to take a more passive role in the classroom where teaching-based interaction is more effective than interaction that occurs using mobile devices.

2.3.1.1 WhatsApp in Higher Education

The use of mobile devices is a popular phenomenon in universities that promotes active student involvement through discussion and encourage sharing knowledge using various synchronous or asynchronous tools including short messages, videos, audio, and images (Echeverría, Nussbaum, Calderón, Bravo, & Infante, 2011; Kasesniemi & Rautiainen, 2002). WhatsApp can be used as an instructive tool in the online community that can encourages students to contact one another using a group discussion after class. The application provides students with opportunities to catch up with class material instead of being forced to drop the course due to sickness, medical issues, or family problems that cause them to miss class. WhatsApp also makes the learning experience more informal and can lead to increased student self-confidence even in hesitant learners (Attewell, 2004).

Most higher educational institutions are willing to use WhatsApp as a teaching medium (Jeong, 2007; Kennedy et al., 2008). The use of WhatsApp for educational purposes confirms its efficacy in improving English skills. Plano et al., (2013) conducted a study that showed that Spanish learners benefitted from the use of WhatsApp when learning English. The study reported an increase in student desire and interest in learning language. In Saudi Arabia, Amry (2014) found that WhatsApp influenced student learning performance. The results of the study showed that educational technology can dramatically influence academic and
educational processes that led to higher student scores on achievement tests. The students felt more comfortable regarding mobile learning application and their attitudes showed that WhatsApp can make learning more fun and help students learn more easily.

2.3.1.2 WhatsApp and Medical Education
Most medical students have smart devices that allow them to have a mobile learning device with them at all times (Browne et al., 2015, Carnevale, 2006). The use of smartphones in teaching medication has been increased and mobile learning enhances learning because it contains applications that allow students to read e-textbooks, store medical videos that develop skills, and to download clinical reference guides (e.g., PubMed), medical calculators (e.g., for TIMI Risk Index, infusion rate, drug dose calculations), disease dictionaries (e.g. Oxford), and medical terminology flash cards (Anderson, 2006). Anastopoulou et al., (2012) found that mobile phones were very helpful in teaching medical students about good eating habits. Students used their mobile devices to record their daily intake of sugars, protein, fats, fiber, and water. Student data were imported into a system that calculated and analysed student data and presented the results graphically along with suggested nutritional adjustments.

Lohitashwa et al., (2015) assessed the attitudes of 52 medical teachers about using WhatsApp for teaching purposes. The findings of the study were that WhatsApp is a supplemental tool that accelerated the learning process. In another study, Johnston et al., (2015) used WhatsApp as the official learning tool for medical students from 8 a.m. to 8 p.m. for 19 weeks. The data analysis of WhatsApp stores communications and allowed medical students to engage in conversation with one another. The application platform was designed to allow for simple communication and this feature has helped to make it an effective teaching and learning tool.

Raiman et al., (2017) studied 19 students studying surgical medicine at the Princess Alexandra Hospital via WhatsApp. The teaching process began with an introductory session where the teacher explained WhatsApp and its features to the students. The groups had weekly in-person meetings and on WhatsApp to discuss course topics. These meetings were run using the medical school’s expectations for structure and content of a Problem Based Learning (PBL) feedback session. The study findings showed that WhatsApp had the potential to ease communication between doctors and students, motivate, create and hence learning opportunities, and improve understanding and learning while also distributing resources instantaneously.
2.3.1.3 Teaching Presence Activities in WhatsApp
Teaching and learning used to depend on the traditional method which involved teacher-centred instruction where teachers played an active role in leading class activities while students were the receivers of the instruction. Researchers centred some studies on the idea that higher education students learned best through the “spoon-fed approach” where the teacher is the only one responsible for class learning (Comrie, 2015). Due to advancements in technology, social networks have been created to foster web-based learning. Integrating WhatsApp mobile learning into classrooms can cause significant changes to a traditional learning system and has required teachers to be more knowledgeable about technology in the classroom (Veerappan et al., 2014). According to the “Community of Inquiry” model, the BL system of teaching expects the instructor to have the following three abilities: a) the ability to design and organize instructional materials; b) the ability to facilitate discourse and dynamic discussions; and c) the ability to direct instruction in a way that supports students to obtain greater applied knowledge. The literature has shown that teaching presence in a critical element that can build a successful sense of community (Garrison and Arbaugh 2007; Staudt and Kay 2013; Al-Balushi, & Al-Abdali, 2015).

Instructional Design and Organization in WhatsApp

Anderson et al., (2001) defined design and organization of teaching presence as the course syllabus, lesson plans, activities, and strategies that increase interaction and develop formative, summative assessments for BL. There are many techniques that teachers can use to build the learning environment in WhatsApp. These strategies are discussed below.

A user must first create an account on WhatsApp and name it “Learning Medical Terminologies.” The rules can be established initially and students can be asked to actively post English messages and to check the application frequently (Khubyari, 2016).

Second, pre-activities such as a concept map can be created (Susanti & Tarmuji, 2016). A teacher can ask students about certain topics before reading the questions to stimulate their prior knowledge and motivate them to make predictions about class topics. The students can be asked to post articles that relate to the course content and to post words that are difficult to understand. Other students can provide students with an explanation for these problematic areas. Teachers can also ask students to read the article again and write the main points in the text. These points can be posted for students as part of an incomplete concept map and
students can be asked to fill in the empty spaces in the map with article information. The answers can be reviewed and students provided with feedback (Omar, 2015).

Third, students can be provided with translations and pictures for certain English medical terminology (Lawrence, 2014). An activity in WhatsApp can be created called a “dialogue journal” where the teacher has students chat about questions that encourage the students to use target vocabulary when replying (Alsaleem, 2013).

Fourth, post-vocabulary activities that relate to the review process can be created. An example of this activity could be the teacher writing a sentence on WhatsApp that contains errors and then having students correct it. The teacher can post certain sentences on WhatsApp and ask students to re-write vocabulary with new sentences and puzzle games to review vocabulary (Susanti & Tarmuji, 2016). Bansal and Joshi (2014) stated that WhatsApp allows learners to have instant feedback for issues and to have deeper clarity on ambiguous issues. The learners can also learn from their mistakes and the mistakes of their peers along with having effective discussions.

Facilitating Discourse in WhatsApp

According to Anderson et al. (2001), “facilitating discourse” means that students are involved in collaborative instructional tasks to learn effectively. Teachers need to design activities that encourage students to continue engaging in discussion threads. Teachers should also design tasks that allow students to state their opinions and resolve disagreements. The instructor should also read and review student comments and provide them with regular feedback (Anderson, Rourke, Garrison, & Archer, 2001; Pedrosa-de-Jesus, & Moreira, 2012). The discussion activities provide students with benefits including increasing communication opportunities, providing adequate time to reflect and ensure cognitive processes, and enhancing student thinking skills by encouraging them to look for information independently (De Wever, Schellens; Valcke and Van Keer, 2006; Saadé and Huang, 2009).

Mwakapina, Mhandeni, and Nyinondi (2016) explored how WhatsApp communication facilitates English as a second language learning in higher education institutions in Tanzania. The researcher suggests the following 6 steps to promote discourse in WhatsApp:

1. Provide students with an introduction to the application and explain the functions of the application. The goals and objectives should be explained along with the expected behaviours in the web-based BL.
2. Ask students to create a set of rules regarding WhatsApp application and ensure that everyone agrees.

3. Create a reward system for participation and inform individual that 20% of the class grade is linked to WhatsApp activities.

4. Create a WhatsApp group and add all students into the group.

5. Post activities and engage students in tasks.

6. Provide students with weekly feedback about discussion performance.

**Direct instruction in WhatsApp**

Rüütmann & Kipper (2011) claimed that effective direct instruction relies on instructor attitudes and presentation skills to ensure that the instructor can motivate students to solve problems, think critically, work cooperatively, and share knowledge. Barhoumi (2015) mentioned the following ways that could improve teacher skills in using WhatsApp for direct instruction:

1. The application encourages online discussion and allows students to collaborate to simplify difficult information.

2. The application provides an BL experience to allow students to continue discussions even if they are not physically in the classroom.

3. WhatsApp facilitates knowledge creation and sharing so students can share knowledge through videos, podcasts, audio files, images, and messages.

The authors also suggested the following activities to foster direct instruction:

- Send a problem: Students can be divided into different teams and asked to write the name of the team and questions related to their course on WhatsApp. Other teams can write their suggested solutions. In the end, the teams can present videos of the various suggestions (Rüütmann & Kipper, 2011).
• The 1-minute paper: Students can be asked to write a summary about the important points and students can be encouraged to improve their vocabulary (Rüütmann & Kipper, 2011).

• Ambiguous points: Students can be asked about difficult or unclear parts of the lecture. They can then write in WhatsApp what was difficult and these points can be replied to online (Rüütmann & Kipper, 2011).

• Just in time: Students can post assignments on WhatsApp and can also be asked to complete mobile-based assignments from home. When the students come to class, the teachers can discuss issues with them and listen to their answers during the lecture. This activity prepares students in the class and engages them in the class content (Prince & Felder, 2006).

2.3.1.4 Cognitive Presence Activities in WhatsApp
According to Anderson et al., (2001), cognitive presence in “Community of Inquiry” occurs in a BL environment due to the following four stages: (1) “a triggering event”, where some topics or problems are recognized for additional examination; (2) “exploration”, where students do individual or group research to reflect on the problem, or on a certain issue; (3) “integration”, where learners build inferences based on evidence found during investigations; and (4) “resolution”, where learners apply the recently gained knowledge to classroom settings or working environment settings.

Anderson et al., (2001) discussed how the 4 stages of cognitive engagement can be stimulated using Robin’s approach (as cited in Sadik, 2008) to design digital stories for certain subject content such as medical terminology (Tiba, and Condy, Chigona & Tunjera, 2015) and sharing this knowledge through social media such as WhatsApp to promote collaborative learning. Sadik (2008) states that the first step in creating a digital story is to find the theme. Smith (2010:330) claims that “Social media sites are virtual platforms for interactivity and information exchange where issues are debated and defined.” Teachers can place students into a virtual WhatsApp group called “Medical Terminology Group Work” and can ask students to brainstorm problems and cases for use in a digital story (Tiba et al., 2015). In this stage, every student should explore a medical topic by selecting content and the images that should be used to create the digital story (Sadik, 2008). The students should create a folder to save pictures and use them in the digital story. Agarwal (2017) mentions that WhatsApp can be used as a storage space for documents and notes that students could use to create their digital story by engaging in the following steps:
1. Create an account and create a new group called “Medical Terminology Private Store.”

2. Add students from the phone address book to the group and save these contacts.

3. Go to the student group in WhatsApp and view the list of members.

4. Use the private store in WhatsApp to save notes, voice memos, and documents.

5. Transfer documents from a computer to the application using the WhatsApp website so these files can be accessed on WhatsApp.

6. If needed, ask others on WhatsApp for assistance.

Students can write stories about medical topics that are being investigated (Sadik, 2008). The structure of the story should involve the introduction, a body, and a conclusion. The framework will allow the writer to maximize reflective learning. The beginning of the story, the introduction, should describe the disease and the disease context. The body should describe the associated symptoms on the medical case and offer information about patient treatment (Sandars et al., 2008). The student should choose the easiest media application to represent the story to make the process more understandable (Sandars et al., 2008). Sandars, Murray, & Pellow (2008:755) stated that “New technologies allow easy collection of multimedia. For example, mobile phones can record photographs, videos, and sound. These can be saved by uploading onto personal blogs or digital repositories, such as Flickr or YouTube. The media can be sorted and assembled into the digital story. It can also be easily shared with a tutor or other students.” The students can use experiences to assess the stories created by classmates and shared on WhatsApp. Feedback can be provided by both the instructor and peers (Sadik, 2008).

2.3.1.5 Social Presence Activities in WhatsApp

Lu & Churchill (2014) examined the benefits of social communication between teachers and students in online communities. The study findings suggested that social presence is the primary factor that impacted student motivation for social communication and collaboration in a web-based teaching and learning environment. The teacher plays a significant role in encouraging students to create and share knowledge. The study showed that social interaction online must be balanced between the students and the teacher. If the discussion is only student-centered, the social interaction will be reduced. The teacher should run online
activities and provide rules for participation to create a successful online discussion. According to the “Community of Inquiry” model, Garrison (2007) states that activities that increase social presence are based on the following principles:

1. The teacher should design activities that encourage students to create an atmosphere for effective expression.
2. The teacher should design activities that involve students in open communication.
3. The teacher should design activities that encourage collaboration and show group cohesion.

WhatsApp Activities for Effective Expression

Creating a WhatsApp group as a learning platform increases social presence. Students can present their personality through online chats and show effective communication through their communications (Bouhnik & Deshen, 2014). There are many activities and strategies that teachers can use to enhance social presence. The teacher can design activities to provide students to introduce themselves and get to know each other through online communities (McGrath, Gregory, S., Farley & Roberts, 2014). Participants could be asked to share parts of their life such as a favourite photo, music, or video and why the selection is meaningful (Gerstein, 2012). Aragon (2003) mentions that humorous activities can be used to motivate students to learn and increase a sense of immediacy in the learning environment. Humour should be intended to enhance lesson goals and not detract or distract from the conversation. The teacher could send medicine-related jokes to ensure that the students are having fun and continue to learn vocabulary. In addition, students can be encouraged to send appropriate jokes that include target vocabulary or relate to the course topics (Zayed, 2016).

WhatsApp Activities for Open Communication and Group Cohesion

Social presence helps to build a collaborative setting that provides open, reflective communication and interaction in online discussions (Garrison, 2007). Social media such as WhatsApp can be used as a teaching tool to assist higher education learners. Advanced technology can help students adopt administrative and distributive characteristics by engaging in online activities such as uploading comments and content to the application. Social media allows students to be collaborators because of the interactive nature of the applications that allow individuals to cooperate with one another online. WhatsApp has allowed students to have team spirit and discovery skills to allow them to explore knowledge
and be more self-regulated (Raman, Sani & Kaur, 2014). Over time, WhatsApp has become a significant virtual environment that works for both teachers and students. The application allows students and teachers to communicate continuously even during non-school hours (Bouhnik & Deshen, 2014). As a result, WhatsApp has become an accessible e-learning platform to share information, strengthen peer cooperation, and provide inspiration in a dynamic, academic setting (Chipunza, 2013).

The following activities and strategies can be used to build open communication:

- Teachers can use WhatsApp to build an open community by creating a name such as “Medical Class” or “English Medical Class.” Students should be encouraged to take photos of course notes and record themselves asking or answering questions. Learning web links should be posted and other students should be asked to provide their comments (Bouhnik & Deshen, 2014). Peer discussion groups should be created to allow students to look for information and express their opinions about the topic being studied (Rovai, 2002).

- Reward activities can be planned to increase student social presence (Rovai, 2007). Lai, Liu, Liu, & Huang (2016) found that it is more likely to create successful synchronous learning experiences for students by creating questions that provide students with positive emotions and boost the level of achievement and learning performance (Hoffmann, Huff, Patterson, and Nietfeld, 2009).

- Teachers should design graded discussion assignments to increase students’ extrinsic motivation and involve them in active discussions that help to increase social skills (An, Shin, & Lim, 2009). Rovai (2003, 2007) examined the impact of required/graded discussions on students’ social and learning performance. The research noted the weekly increase in the number of student messages and a parallel increase in other course participation that accounted for 10% to 20% more discussion participation compared to courses that had ungraded discussions. These results suggest that planned graded discussions can inspire students to be more productive on online discussion.

**WhatsApp Activities for Group Cohesion**

Effective and open communication are essential elements in creating a sense of community. These social tasks help students to feel cohesion (Vaughan, 2004; Vaughan & Garrison, 2006). Wenger’ model, the Community of Practice, originating from a business context, can
be applied to teaching practices (1998 as cited in Rogers, 2000). In a teaching context, the Community of Practice can be used to motivate teachers by designing activities based on “mutual engagement”, “joint enterprise”, and “shared repertoire” in a BL setting to increase group cohesion.

Mutual engagement indicates that members in online communities like WhatsApp are involved in a common activity (Wenger, 1998). Castrillo et al., (2014) found that teachers can divide students into five WhatsApp groups that discuss topics about health issues posted by teachers. The researchers found that these communicative activities boost student motivation to participate and result in enhanced negotiation skills. The mutual engagement occurs when teachers create shared activities that give students opportunities to share their medical knowledge (Wenger, 1998). WhatsApp provides learners with a chat feature that supports collaborative learning. Cavus (2008) examined the potential of learning English vocabulary and terms using a short message service. He examined a teacher who used a system that allowed students to receive targeted words 16 times per day. The system also allowed students to work together and share the meaning of certain vocabulary words and to create sentences from 9:00 a.m. to 5:00 p.m. The level of vocabulary acquisition of students before and after the experiment was measured and the results showed that the short message service contributed to higher student achievement. According to Wenger (1998), joint enterprise means that teachers can design critical online activities that allow virtual communities to understand their topic of study through agreements or disagreements posted online. Shared repertoire is a term that means that teachers can increase coherence in online communities by providing students with resources including textbooks and audio files to aid in learning (Wenger, 1998). Rogers (2000) mentions that fostering coherence in mobile discussion communities requires teachers to create activities that provide learners with many ways to express themselves and engage in critical thinking.

2.3.2 Jazan Jump Blackboard
Jazan Jump Blackboard consists of the following 4 online development software systems: (a) Jazan Jump Blackboard Learning System, (b) Jazan Jump Learning Content Management System, (c) Jazan Jump Blackboard Portal System, and (d) Jazan Jump Blackboard Student Information System. Jazan Jump Blackboard “offers learning tools and interface systems to build a collaborative learning environment for students and instructors to actively participate and evaluate learning process. LMS establishes the student and teacher-centred learning system and configures the environment for evaluation” (Jazan Jump Blackboard Learning
Blackboard is generally thought of as the easiest LMS to operate, especially for teachers. Teachers are provided with digital instructions regarding how to set up their courses in Blackboard and run them efficiently (Dabbagh, 2005).

Jazan Jump Blackboard Learning System consists of the “Dean Menu” that includes tools that allows the Dean(s) to track the academic schedules of teacher and observe their activities. The “Course Menu” is composed of the dashboards that allow teachers to create the “To-Do List.” This list allows teachers to check completed tasks and get ready for upcoming tasks. The LMS includes the “Course Design Menu” that allows lesson plans, online activities, and assessment materials to be created. The Blackboard system includes media and virtual lecture. A virtual lecture could be an online instructional program that delivers real-time lectures regardless of time and space (Jazan Jump Blackboard Learning Management System User Guide).

Jazan Jump Learning Contents Management System is intended to provide teachers with tools to create learning resources. The system includes various features for design included web contents, electronic books, and discussion topics. In addition, the system can be used to create online quizzes and exams, upload hyperlinks, and post other learning resources. The content management system is composed of the “My Space Menu” and provides users with the options to manage materials, course contents, documents, and personalized profile. Users can make additions, deletions, and add copies of items in this menu. The “Application Menu” offers teachers the ability to combine more than one teaching medium including video recordings, movies, audio files, documents, and photos to create multimedia learning content. The system has a “Courseware” feature that provides teachers with resources that are contained in the course (Jazan Jump Blackboard Learning Content Management System User Guide, 2006).

Jazan Jump Blackboard Portal System is composed of various menus. The first is the “JUMP menu” that provides users with information about the Jazan Jump system presentation and supplies users with manuals and other general system information. The second menu is the “The News & Announcement Menu” that provides users with news and notices about upcoming events. The “e-Learning Menu” offers users with the links and resources posted on the LMS. The “Community Menu” offers users with features that allow collaboration including tools to create different spaces including study and discussion groups. The “My
Page Menu” is a personal space that allows users to share information about themselves, control their profiles, and to communicate privately with other users (Jazan Jump Blackboard Portal System User Guide, 2006).

Jazan Jump Blackboard Student and Teacher Information System is composed of e-Portfolio and Statistics for both students and instructors. The e-Portfolio section includes a “Personal Information” tool that shows user data and weekly academic tasks. Users can also access the “Grades” tool that allows students to view their assignments and exam grades. The “Academic History” tools allows students to see academic information such as their semester course resources. The “Forums” tool contains data that students discuss in group assignments, bulletins, and discussion boards. The statistics section contains the “Overview” tool which has statistics about courses that operate through Blackboard (Jazan Jump Blackboard Student Information System User Guider, 2006). However, according to Kamath (2015), Blackboard has many limitations. Blackboard is designed to help teachers upload long documents, but could turn into a storage space that can become easily overloaded with information. The process of working with Blackboard can be time consuming for teachers, especially for those who are not well versed in the use of Blackboard. The system also requires significant bandwidth and a slow internet connection could be a limiting factor. Since Blackboard can only be accessed online, students may begin to feel isolated due to the loss of physical contact with others (although in this current study blended learning is used). The use of Blackboard also requires that a teacher have a mastery of the course objectives to ensure that the e-learning resources are used most effectively.

2.3.2.1 Blackboard in Higher Education
Many studies involve LMSs such as Blackboard (Heirdsfield, Walker, Tambyah, & Beutel, 2011; Larsen, 2012; Mohsen, 2014; Alghamdi & Bayaga, 2016). Heirdsfield et al., (2011) states that the usage of Blackboard is an important issue in higher education. The study explored the views of 324 undergraduate students and 43 teachers engaging in e-learning using the Blackboard application at Queensland University of Technology (QUT). The study involved 6 additional students and 9 additional teachers in focus group discussions. The study revealed that teachers have a positive tendency to teach in a high-quality learning environment and use Blackboard tools such as announcements, emails, wiki, blogs, discussion forums, and the ability to upload learning resource and activities. Larsen (2012) conducted a study aimed at identifying how 5 English teachers and 41 students responded to the use of virtual learning environments in English as a second language education at a large
Midwestern university in the United States. The teachers stated that the collaborative planning hour prior to the start of the week helped them to employ a BL strategy with face-to-face teaching and Blackboard successfully. The BL strategy helped teachers provide students with a personal study space that made them more autonomous and responsible for their learning. As a result, teachers and students considered BL a move effective method of teaching than traditional teaching methods. Mohsen (2014) investigated the perspectives of 32 English language Saudi teachers teaching using Blackboard in a BL environment. Positive teacher attitudes about Blackboard and classroom teaching helped to ensure that there was proper collaboration and communication between administrators, teachers, and technical specialists to successfully implement BL in language learning courses. Alghamdi & Bayaga (2016) discussed how teachers adopted a BL strategy with Blackboard in four departments including computer science and information technology, education, science, and the arts at 6 Saudi universities. The results revealed that BL depends on teacher age and BL experience. The older teachers considered Blackboard to be beneficial in organizations for uploading resources. Younger teachers needed a larger amount of academic and practical training to integrate BL effectively.

2.3.2.2 Blackboard in Medical Education

Blackboard is the most common LMS in medical institution. Al-Drees et al., (2015) conducted a study to assess medical student perception about Blackboard utilization in medical courses at King Saud University in Saudi Arabia. The 341 students in the medical college were asked to fill in a questionnaire concerning the diverse views about teaching using Blackboard. The conclusion of the study was that Blackboard was poor and students found the system to be inflexible. The students reported that they needed to be trained to stimulate their interest and encourage their desire to use Blackboard. Webster & Hackley (1997) mentioned that Blackboard depends on student and instructor training and readiness to accept the system.

Zakaria et al., (2013) conducted a survey involving third-year medical student attitudes regarding their Blackboard experience in Saudi Arabia. A sample of 265 medical students was assessed based on their experience with various features of Blackboard that was integrated into their medical informatics course. Zakaria et al., (2013) found that students had more positive attitudes about Blackboard teaching and preferred face-to-face learning to be supplemented by Blackboard for a better understanding of the teacher’s planning experience. The author also stated that the benefits of BL with Blackboard are clearly seen when teachers
design a course with good objectives and assessment methods and suitable course assignments.

Al-Drees et al., (2015) stated that teachers should not lag behind in limiting teacher use of LMS when uploading lecture materials, making announcements, and submitting exam grades when compared to other communication tools. The Blackboard LMS includes interactive tools including discussion tools, chat rooms, wikis, and blogs that can help students communicate and become more efficient and practical learning (Lonn, Teasley & Hemphill, 2007).

2.3.2.3 Teaching Presence Activities in Blackboard
According to Al-Balushi & Al-Abdali (2015), there are many elements that relate to the “Community of Inquiry” model that teachers can use to increase teaching presence when creating activities using Blackboard. Organizational tools including publishing tools to create PowerPoint presentations, lesson plans, and web links allow learners to have the opportunity to read, search, and save information (Mcvay, Murphy & Wook Yoon, 2008; Nyabawa, 2016 Al-Balushi & Al-Abdali, 2015). Communication tools like the chat room and discussion board can facilitate discourse in Blackboard. As Al-Balushi & Al-Abdali (2015) mentioned, teachers can suggest topics for students that will attract their attention, improve communication skills, and help them engage in meaningful discussion. Argumentative discussions and other tasks can help to encourage students to keep the discussion ongoing when teachers provide students with supplementary materials. Visual and audio media, PDF files, web links, articles, and books can strengthen student opinions with well-researched information and facts (Al-Balushi & Al-Abdali, 2015). The teacher can design student peer activities using wikis and discussion forums to allow them to have student-student interactions and learner-instructor interactions to obtain clarification when sharing opinions (De Lange, Suwardy, Mavondo, 2003 Nyabawa, 2016). Directing students to read supplementary materials and respond to queries and questions plays an important role in teaching presence (Al-Balushi & Al-Abdali, 2015).

2.3.2.4 Cognitive Presence Activities in Blackboard
According to Al-Balushi & Al-Abdali (2015), there are many elements related to the “Community of Inquiry” model that teachers can follow to increase student cognitive skills through Blackboard. Some elements match with the current study findings as discussed in the following sections.
Adopting questions Strategy to Evaluate Students’ Knowledge

To increase the cognitive presence of Blackboard, the teacher can ask questions (Al-Balushi & Al-Abdali, 2015). Questioning is an effective instructional technique to make learning more active (Kipper & Rüütmann, 2010). According to the Jazan Jump Blackboard Video Lecture User Guide Manual (2006), Blackboard has a virtual lecture tool in which the teacher can present information about various subjects in a virtual class. The feature provides teachers with the ability to create session that engage students in an active learning process in the “Users Area.” This area enables the teacher to ask students questions and monitor their participation and progress. Teachers can also use many Jazan Jump Blackboard tools including discussion boards and assignment tools that enable them to design questions instead of worrying about students who do not participate in class. When students enter the discussion tab, they will be able to see all discussion forums and topics designed by the teacher. Students can share their thoughts and ideas regarding instructor questions and post responses in these discussions. The teacher can check student knowledge through group or individual projects using assignment tools that can be answered by students online (Jazan Jump Blackboard User Guide, 2006). The teacher can use Eggen & Kau-chak (2006) and Adams (2015) for questions and strategies to expose students to different levels of cognition. These strategies are outlined below:

- Teachers can ask questions to activate the student knowledge level through activity designs for memory recall of specific information or vocabulary (Eggen & Kau-chak, 2006). Teachers could ask students in a lecture to write medical terminology that was recently learned. For example, a teacher could ask the class to “Name the symptoms of heart attack.” The teacher could also ask students short-answer questions or multiple-choice questions. The questions should engage students in ways that will not simply require memorization of information, but should show that the students have mastered the particular topic (Adams, 2015).

- The teacher should create comprehension activities that encourage students to use their skills regarding paraphrasing and analysing medical studies along with classifying medical terms. Teachers could post video or audio files on a discussion board and have students compare different disease types based on the information presented (Adams, 2015). Radix & Abdool (2013) stated that teachers should ask students to draw concept maps to sort through various medical terminology related to
specific prefix and suffixes using coloured pens or an online semantic map application. The students could upload their concept maps into the forums or the Blackboard system for future class use.

- A teacher should assign students tasks that encourage them to apply course content using problem-solving activities (Eggen & Kau-chak, 2006). Clark (2002) stated that the major aims of medical education involve encouraging the application of applied skills related to disease diagnosis, symptoms, and treatments. Medical education should focus on ensuring that students have the proper applied medical knowledge and skills to solve real-world problems. To improve student knowledge, the integration of e-learning into medical courses can have a significant positive impact on applied knowledge (Clark, 2002). Altiner (2011) mentioned that teachers can have students make digital flash cards, something that has been proven to be an active technique of teaching language because it engages students in memorization and the application of knowledge. Chen (2015) provides teachers with information about a tool called “Quizlet” that can be used to place students into groups and ask the groups to create flash cards for medical terms. Quizlet consists of the following three learning activities: 1) Guessing the word (read the definition and write down the appropriate term); 2) Speller (read the description of the term, listen to the audio file, and type in the suitable word); and 3) Quiz that involves either a multiple-choice vocabulary test or a true or false test. Quizlet offers two interactive games. One is called “Scatter” which involves matching words with correct meanings and the second is called “Space Race” which is a spelling game (Chen, 2015). According to the Quizlet website, students can insert any flash card list or worksheets designed on the site into Blackboard.

- Teachers can provide students with analytical learning tasks to encourage them to be more analytical using questions that help them engage in the process of illustrating and analysing the reasons of the health problems (Eggen & Kau-chak, 2006). A teacher could fulfil this aim by uploading a video into the system and ask students to listen to recorded files or media attachments and then write a summary or answer other questions based on what the students viewed (TeacherStream, 2013).

- Teachers can motivate student thinking skills and synthesis by designing activities that engage students in reflective tasks that allow them to link their topics to real life
(Adams, 2015). Teachers can use the discussion board in Blackboard to involve students in reflective activities that provide students with the ability to explore what was learned and determine how they improved in the cognitive and social domains (TeacherStream, 2013).

- Teachers should design evaluation tasks to assess student knowledge and student ability to answer questions that require critical thinking (Eggen & Kau-chak, 2006). The Blackboard system provides users with evaluation tools such as quiz and survey tools (Alaofi, 2016, Boshielo, 2014). Teachers can create and assign quizzes to certain course sections and have students answer the questions. The teachers can also assess the level of student thinking about certain medical cases that relate to major body processes. The responses can be shared during the lecture. The survey tool can be used to design survey questions for course evaluations to determine what people thought about the system and course design. The completed course evaluation will be a requirement for students to be able to check their final course grade. This step will ensure that all students fill out the survey (Jazan Jump Blackboard Video Lecture System User Guide, 2006).

The various knowledge levels all require teachers to provide students with supplementary materials using the Blackboard system to improve cognitive skills (Al-Balushi & Al-Abdali, 2015). Al-Jarf, R. (2007) discussed the importance of uploading vocabulary website resources that covered the terminology discussed during the course. The weblinks could have sentence examples, various exercises, puzzles, and tests.

Facilitate the Sharing of Ideas and Experiences

Blackboard includes asynchronous collaboration tools and synchronous communication tools (Dabbagh, 2005) that facilitate the sharing of ideas and experiences to increase cognitive presence (Al-Balushi, & Al-Abdali, 2015; Oztok et al., 2013).

Asynchronous Tools

Asynchronous communication is the most common method of online communication where students learn independently and interact with the instructor and other students on their own time and from any location (Johnson, 2006). These communications occur in threaded discussion forums where teachers and students can post and read replies on their own time. In
addition, users can click on attachments to view and download attached files and can use the “Like” or “Recommend” buttons to share their feelings of agreement with opinions and provide feedback in real time. In Jazan Jump threaded discussion forums, teachers can allow students to view previous data from past semesters (Jazan Jump Blackboard Learning Management System User Guide, 2006). To increase the cognitive presence on the discussion forums, teachers need to prepare materials for discussions that engage students in sharing comments and ideas in the chat throughout the week (Johnson & Aragon, 2003).

Another asynchronous tool is the Blackboard bulletin board (Dabbagh, 2005). The bulletin board is a tool that students can use to do simple tasks. The bulletin board is used by the instructor and students to allow both parties access to topics posted on the board (Jazan Jump Blackboard Learning Management System User Guide, 2006). The features of the bulletin board provide teachers with the ability to build teaching presence and develop students’ cognitive skills based on weekly assignments requiring bulletin board participation and journal entries (Townley, et al. 2010). The teacher can also use the Blackboard e-Portfolio to encourage students to share their personal information and success stories in studying (Jazan Jump Blackboard Student Information System User Guide, 2006; Dabbagh, 2005). In Blackboard, “students serve as portfolio owners who have control over the material, design, and membership of their portfolio. The students create presentation portfolios that showcase a collection of their accomplishments, evaluations, and reflections in a Web-based environment” (Buzzetto-More, & Sweat-Guy, 2007:337). Bashook et al. (2008) stated that the Blackboard e-portfolio allows medical students to write about their experiences by asking questions about their medical school journey. Teachers also reported that they received a significant amount of knowledge and feedback from students journaling their experiences and improvement in skills and thinking.

Branon & Essex (2001) stated that teachers should follow certain steps when designing activities using asynchronous tools. Teachers should first work to design group activities and encourage students to work in teams. In addition, teachers should provide students with feedback after tracking student performance and should set rules of communication that provide clear instructions for each activity assigned. Peer feedback activities should be designed to allow students to learn from one another and tools should be selected that allow students to have the ability to be notified whenever another student posts content to the forums or other areas of the Blackboard LMS.
Synchronous Tools

Synchronous communication is an online communication between students and teachers in the form of a chat or web-based meeting in real time and from any communication (Johnson, 2006). Synchronous communication tools allow teachers and students to work together and discuss different ideas and topics, display data using PowerPoint or another presentation program, and to work as teams on various tasks. Blackboard has synchronous communication tools including a chat room, interactive whiteboard, electronic messaging, screen sharing and instant video, and audio online meetings (Dabbagh, 2005). Martin et al., (2014) states that most virtual classroom technologies have a content structure and features that allow teachers to share documents, write or draw on the whiteboard, split sessions into group activities, chat with students, and voice chat using a microphone or telephone. Instructors can also use the poll feature to receive student opinions on certain topics and can allow students to share their own desktops during classes (Martin et al., 2014). Similar to the Jazan Jump virtual lecture room, an instructor can track class attendance, chat with students during online live sessions, and use file sharing tools to transmit files to students. The virtual lecture consists of four features including the document, whiteboard, video, and sharing features. The document feature includes all written resources and materials. This folder can be downloaded and the contents can be used by the students or other instructors. Documents that can be used include Microsoft Office documents (Word, Excel, PowerPoint), PDF, images, and other selected file formats. The share feature allows teachers to share his or her desktop with the class or to allow a student to share his or her desktop, with teacher permission, with the class during discussions (Jazan Jump Learning Management System User Guide, 2006). Branon & Essex (2001) stated that teachers could incorporate certain suggestions when planning online class activities. First, online group meetings should be small and teachers should chat with students frequently. Students should also be encouraged to be active participants and not do a lot of “lurking” while online. Teachers should assign online discussion topics that encourage students to post responses and have discussions with one another.

2.3.2.5 Social Presence Activities in Blackboard

According to Al-Balushi & Al-Abdali (2015), there are many elements related to the “Community of Inquiry” model that teachers can follow to increase their social presence on Blackboard. Students should be encouraged to talk about their daily activities and other general topics in the discussion forum. In addition, students can be directed to take part in small group forums and should also be encouraged to reply to their classmate’s posts,
questions, and queries. Students can also be asked to design short videos about themselves and to discuss issues once rules for online debates and discussion were established. The system can be set to send notifications via email or SMS messages to ensure that students upload their work on time or are aware that a new topic has been posted in the system. Teachers can adopt the strategies of Al-Balushi & Al-Abdali (2015) to increase social presence using Blackboard’s collaborative, content creation, and delivery tools (Dabbagh, 2005).

Blackboard has collaborative synchronous and asynchronous tools that allow students to be connected and work as a team even if they are physically distant. Group discussion areas provide groups with a way to stay connected and interact using file sharing and other tools that aid in completing tasks. Other tools such as virtual chat and the group posting area can support formal learning and involves students in educational activities that support the course objectives and goals. These tools can enhance informal learning by improving communication skills and developing self-learning regulation (Dabbagh, 2005). According to the Jazan Jump manual, after an instructor creates the group discussion, the team can then begin having ongoing discussions in the registered session. The teacher can observe the group communications and provide feedback, as needed. Blackboard also has a group assignment and project team features that the teacher can set to provide students with a space to work (Jazan Jump Learning Management System User Guide, 2006). For example, the teacher can assign group tasks or projects where group members exchange their ideas and work in a certain part of the Blackboard system. The teacher can monitor their progress. When the work is completed, the teacher can then evaluate the work according to pre-determined rubrics and provide grades (Jazan Jump Learning Management System User Guide, 2006).

Blackboard’s content creation tools help teachers to integrate and deliver a variety of course content and resources. The system has tools for students to interact with course learning materials like the “Course Information” and “Course Documents” features that allow teachers to display user personal information and create documents to engage students in reading, listening, writing, and communication tasks that help to increase learning and socialization (Dabbagh, 2005, Bradford, et al., 2007). Blackboard has social and content creation features like the announcement board that can be used to post news and other public events (Learning Management System User Guide, 2006). The system also has the “Course Information” feature that can help users find information about available courses and the content of those courses (Jazan Jump Student Information System User Guide for Professor, 2006). There are
many strategies that instructors can employ to establish social presence including making various announcements, providing certain complete documents, and posting grading rubrics prior to the official assignment of a project or paper (Elwood et al., 2012:339).

Blackboard has community tools that help to boost social skills. According to Serdyukov & Serdyukova (2015), communication is the main strategy for active learning because it develops social skills, facilitates knowledge creation, and establishes a learning community. Chou et al., (2009) mentions that Q&A and informal discussion boards are examples of the communication tools that enhance the collaborative learning process by playing a key role in information transfer and the establishment of a shared learning environment. These tools encourage students to work with one another and learn about their classmates’ interests, concerns, and issues (Chou et al., 2009).

2.4 Summary
This chapter introduced the concept of ESP which is a technique that involves teaching English based on the analysis of students’ professional/academic needs (Rahman, 2015). The success of an ESP program using a BL strategy depends on the specific characteristic of the teacher and students. The literature review highlighted the significance of the teacher’s ability to plan and create an interactive learning environment using communication skills and teaching presence (Garrison and Arbaugh, 2007; Staudt and Kay, 2013; Al-Balushi & Al-Abdali, 2015). Previous studies stressed how teaching resources should be based on authentic content that involve students solving real medical cases. Teachers should design the course in a way that allows students to engage in individual and group tasks to stimulate their cognitive and social learning skills. Teachers should also integrate textbooks with technology tools that give students a self-paced environment that allows them to be self-regulated in their learning (Carver, 1983). This type of learning environment provides students with various characteristics such as being responsible for the development of their own English skills since they are allowed to select what materials they use and work independently and on their own time (Fiorito, 2005). The literature review presents suggestions for educators based on the “Community of Inquiry” model that can help educators build a successful BL community that increases teaching, social, and cognitive presence through the use of activities available in WhatsApp and Blackboard (Al-Balushi & Al-Abdali, 2015).
Chapter III: Student and Teacher Self-Efficacy in Learning and Teaching in a Blended Environment

3.0 Introduction
This chapter is broken into three sections. Section 3.1 contains information about the broad concept of self-efficacy and the specific research topics regarding technological self-efficacy. The research looks at the impact of technological self-efficacy on student achievement and self-learning regulation along with their anxiety level and attitudes when learning English medical terminology in a BL environment. Section 3.2 contains information about teachers’ technological self-efficacy and the research covers topics about the teachers’ declarative technology, practical technology, and genius technology self-efficacy knowledge in BL teaching settings. Section 3.3 provides the reader with a summary of the important points of the chapter.

3.1 Self-Efficacy
Self-efficacy is a type of self-confidence and impacts the ability of people to set themselves up for success (Thompson & Gomez, 2014). This term also involves the way that people process self-beliefs and how these factors allow individuals to control their own behaviour, thoughts, and actions to achieve their goals (Bandura, 2001). The social self-efficacy theory describes how efficacy views affect the way humans feel, meditate, act, and behave in terms of the patterns and relationships within the environment (Bandura, 1993). Individuals perceive and understand actions that they have already done and the beliefs that they have about their own skills. Individual actions can be predicted by prior performances. This theory does not mean that individuals cannot complete projects that they have not done in the past, but they may not have the same self-perception or self-efficacy regarding projects they have not done in the past (Pajares, 1997).

3.1.1 Sources of Self-Efficacy
Self-efficacy comes from four sources. The first source is inactive mastery experience that refers to past knowledge. The knowledge gained from a previous experience of a learner is the greatest source of efficacy information that can be an indication of the degree to which a person will be able to work successfully. Learners build opinions about their abilities through self-examination of past experiences that may have been either positive or negative. Having strong, confident beliefs about past experiences reinforces the learner’s sense of self-efficacy while negative interpretations will weaken self-efficacy. When the feelings of efficacy beliefs
are powerful, the expectations of success can increase. This rule states that the most significant source of self-efficacy beliefs toward any new project is having prior successful experiences the past (Bandura, 1997, Chen, 2007).

A vicarious experience is another source of self-efficacy that discusses the way social appraisals are made between a single person and a watched model (Hodges & Cox, 2008). Efficacy can be developed and increased when a person watches a good model and holds beliefs that he or she has the same ability as the model to perform similar or parallel tasks. Although vicarious experience can foster views of competency when detecting the successful act of peers, watching a peer engage in an unsuccessful performance can undermine beliefs in a person’s ability to succeed. Modelling is an authentic source that helps individuals gain or lose self-esteem about abilities. As a result, peer modelling is an additional tool that can impact personal efficacy (Bandura, 1997, Chen, 2007).

Social persuasion is a third source of efficacy information that refers to the efficacy beliefs that individuals develop based on verbal judgements received from others about competencies. While this source of information is weaker than mastery and vicarious experiences, social persuasion could offer supplementary methods to improve a person’s conception about what can be done. Bandura (1997:101) states that “It is easier to sustain a sense of efficacy, especially when struggling with difficulties, if significant others express faith in one’s capabilities than if they convey doubts.” Positive comments and feedback can inspire and strengthen competencies by helping to create self-confirming beliefs that prompt achievement. Negative persuasions, in contrast, reduce an individual’s perception of competence and do not allow efficacious beliefs. Positive reinforcement must be provided within reasonable limits to avoid the use of false praise.

Emotional and physiological state is a fourth source of self-efficacy that refers to emotional factors such as anxiety and stress and how these factors relate to low self-efficacy beliefs. Negative feelings like fear can lower a person’s perception of his or her capabilities and generate stress that hurts performance. In contrast, a relaxed, positive emotional state about a task can create feelings of anticipated success. In terms of cognition, experience and high self-confidence helps to foster productive thinking and better academic performance (Schwarzer, 2014).
3.1.2 Students’ Technological Self-Efficacy

Technological self-efficacy relates to a person’s perception of himself or herself and how his or her technological skills can be used to complete tasks. Several dimensions of self-efficacy beliefs or judgements including magnitude, strength, and generality play a role in a teacher's or student’s view and actions about technology use (Compeau & Higgins, 1995). The magnitude of technological self-efficacy refers to the degree of difficulty. For instance, students may feel that they are able to successfully perform a low magnitude, relatively easy task like using Microsoft Word, but they may not have the confidence to perform a higher magnitude, harder task. As a result, students with high technological self-efficacy see themselves as being able to perform difficult technological tasks than those who have low technological self-efficacy. A student with greater confidence regarding technological skills will be better able to overcome obstacles. Self-efficacy is something that is restricted to certain activity domains. Those who have high technological self-efficacy may be able to use different web-based applications while those who have low technological self-efficacy may have a limited ability to use various web applications.

Research into technological self-efficacy shows that higher levels of self-efficacy increase student achievement and self-learning regulation while reducing anxiety and developing positive attitudes using a range of activities that lead to active learning using a BL strategy (Abdelraheem, 2014; Sam, Othman, & Nordin, 2005. Schunk (1995) stated that when learners are involved in activities, self-efficacy improves and allows students to better achieve their learning outcomes. In relation to the way that technology aids concept acquisition, BL is a teaching method that aligns with a technological framework. The BL method produces positive outcomes through the use of innovative applications combined with regular instruction in an attempt to enhance student self-efficacy, self-regulation, and motivation through active engagement of students, teacher, and course content (Zimmerman, 2008). The blended approach tends to shift from teacher centred to student centred by providing learners with different instructional techniques and tools that increase student self-efficacy and make students more self-regulated while learning the English language (Zarei, & Abdi, 2016). Fish and Baird (2005) found that incorporating web-based collaborative learning assignments into the course design is an efficient way to foster student independence and self-regulation. Based on previous studies, a blended delivery module supports student independence while learning English as long as the teacher plans the course content properly and maximizes web and face-to-face communicative activities that enhance the practice of
using the English language (Richards, 2010; Senior, 2010). A teacher must create a balance between in-class and online activities to increase student self-efficacy and overall academic achievement (London, Norman & Gurantz, 2008).

### 3.1.3 Blended Learning and Student Achievement

Based on the literature, many researchers have shown the success of BL over traditional learning in increasing student achievement. Al Qahtani & Higgins (2013) reported that BL provides positive support in the academic achievement of undergraduate students at UmmAl-Qura University in Saudi Arabia. Garrison and Kanuka (2004) stated that student achievement level rises and more efficient learning occurs in a BL environment compared with traditional learning environment. In addition, Akkoyunlu & Soylu (2006) found that the BL strategy is useful based on their study of 64 students who studied Instructional Design and Authoring Languages of Computers at Hacettepe University. The researchers discovered that BL positively impacts learner achievement. Many modern studies investigated the impact of BL combined with social media and face-to-face instruction on student achievement in higher education. These investigations included studies by Army (2014) and George & Dellasega (2011).

Army (2014) conducted an experiment in which 15 students in the experimental group had access to WhatsApp as mobile learning support. The controlled group only received face-to-face instruction. The author noted that the experimental group performed significant better in the achievement test than the controlled group did. The BL group with WhatsApp usage had a significant increase in the perceived and actual learning outcome. George & Dellasega’s (2011) study involved 15 studies and worked to determine how the use of five social media applications such as Skype, YouTube, Flickr, Twitter, and blogging impacted student achievement and motivation learning medical terminology at the Penn State College of Medication. The authors concluded that BL with social media applications were the tools that enabled students to improve their critical thinking and cooperation skills most effectively.

The following studies compared BL with face-to-face classroom learning: Al-Saai, Al-Kaabi, & Al-Muftah, 2011; Ghaith, 2013; Hamad, 2015; Naqvi, 2006; Thomas & Storr, 2005; Entristle, 1991; Garcia, 1995; and Pintrich, 1995.

Al-Saai, Al-Kaabi, & Al-Muftah (2011) conducted research that illustrated the effect of a blended e-learning environment on student achievement. The authors studied 43 female students enrolled in photography courses at Qatar University (QU) in 2009. The participants
were divided into a controlled group that received traditional instruction and an experimental
group that received online instruction through Blackboard and face-to-face instruction. The
outcome of the study showed that there was no clear difference between blended e-learning
and traditional learning based on the scores of the groups on the achievement exam.

According to researchers, this result may have been caused by the type of course and how it
was divided into theoretical and practical areas. The major focus of the course was the
theoretical. To achieve good results using BL, researchers should work to create a balance
between the practical and theoretical aspects of the course by using appropriate multimedia
presentations and online interactions. Saengsook (2006) stated that BL should focus on
applying visualized teaching and self-paced learning. Digital teaching tools can enhance
achievement levels. A BL approach is also based on personalized instruction in which
learners apply their new knowledge in a practical setting.

Ghaith (2013) conducted a study that recognized the influence of using the BL approach on
academic achievement at the College of Basic Education. In the study, 26 Kuwait female
students and teachers were the controlled group who learned using the traditional face-to-face
teaching approach and 39 students were assigned to the experimental group that learned using
Blackboard and face-to-face learning. In addition, 31 female students were in an experimental
group that used Facebook as a supplement to the face-to-face learning that they received. The
results of the study were that BL methods resulted in better achievement levels compared to
face-to-face learning alone.

Hamad (2015) conducted a study to identify the impact of using technology like Blackboard
on student achievement. The participants in this study were divided into two groups with
30 female students being put in the controlled group and 30 female students being put into the
experimental group. The controlled group was taught using the face-to-face approach while
the second group was taught using the BL approach. The study was conducted over 8 weeks.
The analysis of the achievement exams showed that there was a positive impact on student
learning achievement in favour of a blended e-learning approach. The research encourages
teachers to use any means of technology available to enhance student learning outcomes.

Many studies have searched for effective learning benefits that could be obtained by using
LMSs such as Moodle, Blackboard, and WebCT on student achievement. Naqvi’s (2006)
study described the influence of WebCT on student learning experience. The study observed
that the use of WebCT had a significant positive impact on the enhancement of student understanding in the course.

Thomas & Storr (2005) outlined a number of studies on WebCT and student achievement based on the work of Entristle, 1991; Garcia, 1995; and Pintrich, 1995. The authors reported that WebCT successfully improved student enthusiasm, curiosity, engagement, and achievement. According to Thomas & Storr (2005), 82% of students agreed that their learning abilities increased.

Based on the review of the literature, BL along with face-to-face instruction helped to increase student achievement. Thompson (2003) found that BL received more focus in student achievement as it helped students improve their memorization through the use of media and Blackboard tools. Junco, Heiberger, and Loken’s (2011) study investigated the effectiveness of social media such as Twitter and LMSs on learning engagement and achievement in a sample of 125 students in pre-health courses. This study showed the significant differences between the group that used BL with face-to-face instruction, Twitter, and the LMS and the other group that only used face-to-face instruction.

3.1.4 The Impact of Blended Learning on English Medical Students’ Achievement

Makhdoom et al., 2013; Bryner et al., 2008; and Roche et al., 2007 worked to determine the effects of the BL approach learning approach on student achievement. Makhdoom et al., (2013) conducted a study that worked to determine the effectiveness of BL in teaching medical terminology to a group of 121 fourth-year medical students at the at the College of Medicine at Taibah University in Saudi Arabia. The authors found that there were statistically significant differences between the students who received the BL approach and those who received the traditional method based on the results of the medical exams. Bryner et al., (2008) conducted a study to examine the effectiveness of BL with computer-based interactive modules that include animation, games, images, and online resources to enhance the achievement of the 102 medical students in the study. The results of this study were that a difference was found between the experimental group and the traditional learning group on achievement. Based on the work of the author’s medical students may learn more effectively when taught using interactive modules with traditional instruction. Roche et al., (2007) compared traditional and BL groups in a study that had some students supplementing their
learning with a compact disc that contained media. The authors noted a significant increase in the post-test grades of the students who were in the BL course.

Alshwiah (2009) conducted a study to investigate the effects of a BL strategy in teaching medical vocabulary at Arabian Gulf University (AGU) on student learning outcomes. The study found that there was a small, but significant effect favouring BL conditions over additional learning conditions. This effect was positive in the first midterm exam and slightly negative in the final exam where the controlled group performed significantly better than the experimental group. The author concluded that BL methods sometimes work extremely well or poorly based on student test scores. The reasons for the performance could be due to a lack of administrative support and encouragement. For example, students did not receive credit for studying online and the online unit was an add-on to the course without an educational objective associated with the addition.

Ilic, Hart, Fiddes, Misso, & Villanueva (2013) studied 61 medical students at Monash University in a study designed to compare the educational effectiveness of a blended strategy in an Evidence Based Medicine course (EBM) taught with the traditional method. The results showed that a BL approach improved the educational experience based on competence shown in some assignments while the traditional method did not achieve the competence shown in the same assignments. The findings from this study agreed with those of a systematic review that concluded that the traditional teaching approach may only improve the achievement of medical knowledge, but not attitudes, skills, and self-efficacy of learning regulation. The authors stated that “a blended learning approach to teaching EBM promotes greater student appreciation and increase in self-confidence in using the EBM principles within the clinical setting. This direct application to the clinical environment provides an opportunity to bridge the gap between theory and practice” (Ilic, et al., 2013: 9-10).

3.1.5 The Influence of Blended Learning on Student Learning Self-Efficacy
The following studies have been conducted to assess the relationship of using a blended strategy as opposed to traditional teaching methods through the teaching English language courses: Zheng, 2009; Young, Wagner, & Brewer, 2005; and Warschauer, 1996; and technology: Abdelraheem, 2014; and Orhan, 2007; and science Joo, Bong, 2000.

Zheng et al., (2009) investigated the effects of BL on 31 Chinese students learning English using the 3D game Quest Atlantic (QA) and by attending their regular English classes. The researchers found that the integration of technology in teaching and learning the English
language can help to produce higher academic performance in a variety of aspects in
language learning due to changing self-efficacy beliefs and attitudes of students and
instructors regarding how they acquire and utilize language. The BL strategy with English
learners helped to create more positive attitudes about English language learning. The
students generally felt that learning English by navigating virtual worlds and engaging in
games made the process more exciting and pleasurable than learning in a classroom in a
traditional way. Developing students’ self-efficacy through BL methods helped to improve
self-efficacy regarding English language learning and could foster language performance
(Zheng et al., 2009). Quest Atlantis provided students with the ability to visit virtual lands to
accomplish and perform educational tasks while engaging learners in discussions with users
and mentors in chatrooms (Barab, Thomas, Dodge, Chateaux, & Tu-Zun, 2005).

Warschauer’s (1996) study investigated the effectiveness of a computerized blended
technique in teaching academic English writing to an ESL group of 167 high school students.
The author found that integrating technology into a language teaching environment positively
increased student motivation, attitudes, technological self-efficacy, knowledge, and skills.
These factors helped to improve English language performance and allowed students to
become digitally literate in performing language learning tasks effectively using web-based
applications. (Warschauer, 1996).

Abdelraheem (2014) examined the influence of BL in enhancing student learning and raising
self-efficacy through a study of 28 undergraduate students. The study occurred from 2011 to
2012 at Sultan Qaboos University. A self-efficacy scale was used and students were asked to
take an achievement test. The study was conducted in a course called “Instructional
Technology: Theory and Field.” Both the experimental and the controlled group had
14 students. The results of the study revealed that the BL model did not noticeably influence
candidates’ self-efficacy about web-based, computer-based, and Internet-based instruction
due to teaching and instructional strategies. That means there is a strong relationship between
learner self-efficacy and the quality of their learning. For example, Kassab, Al-Shafei, Salem
& Otoom (2015) revealed that students who perceived high quality of teaching had higher
self-efficacy when applying the strategies, they learned in the classroom and the virtual
environment. Students who experienced poor quality teaching were more likely to have low
self-efficacy when performing learning tasks. These findings could represent a message to
course designers and indicate that courses need to focus on curricula supported with modern
teaching strategies to increase student self-efficacy.
Joo, Bong, and Choi’s (2000) study stated that BL was an established educational approach in science education throughout the world. The impact of BL depended on the teacher’s planning and instruction. Instructors worked to strengthen student self-efficacy skills by designing activities that involved self-efficacy skills. Other studies have proved the effects of the BL strategy on self-efficacy in the Instructional Technology field. Orhan (2007) attempted to investigate the effect of using BL in teaching the content of the “Instructional Technology and Material Development” course. The study involved 74 student candidates and concluded that BL was supported by self-regulation strategies that increased student self-efficacy beliefs.

3.1.6 The Influence of Blended Learning on Students’ Medical Self-Efficacy
Several studies showed a relationship between BL and self-efficacy in the medical field. Some studies concluded that self-efficacy in learning medical terminology increased when applying BL strategies (Madorin and Iwasiw, 1999; Neafsey, 1997). Some studies found that the degree to which student self-efficacy was improved did not differ significantly between the experimental and controlled groups (Woltering, Herrler, Spitzer& Spreckelsen, 2009; Sung, Kwon & Ryu, 2008).

Madorin and Iwasiw (1999) studied the impact of BL in the surgical education of health care students. A medical program using BL which included online learning and face-to-face instruction was administered to 12 new nurses while traditional classroom instruction was administered to 11 new nurses. The authors compared variables including the degree of motivation, goal-setting, and achievement with medical learning self-efficacy beliefs. The experimental, BL medical group revealed a considerably higher level of self-efficacy regarding the comprehensiveness of their medical knowledge. This group also showed higher motivation and success levels that differed significantly from the controlled group. The study concluded that blended strategy with e-learning and face-to-face instruction in the classroom improved medical knowledge and individual self-efficacy. Moreover, Neafsey (1997) conducted a study to determine if an online home-study program with face-to-face instruction increased the self-efficacy beliefs of 27 students regarding medication knowledge. The study suggests that the addition of computer instruction to supplement traditional lectures did not have a significant impact on student performance regarding their self-efficacy in pharmacokinetic and drug knowledge.
Waterings et al., (2009) conducted a study to determine the effect of the BL model by studying university-level students studying medicine. The students’ self-satisfaction, motivation, and self-regulation were measured. For the experimental and controlled groups, questionnaires, group interviews, and exams were used. The study involved 185 total students. Of these, 97 were in the experimental group and 88 were in the controlled group. These students were enrolled in Aachen University in Germany in the spring term of the 2009-10 academic year. The courses were taught using a BL problem-based learning model using a multimedia “group wiki”, a bulletin board that used tutors to communicate with students, and a group medical system that used question-based activities guided by tutors. The research revealed that the BL problem-based learning model contributed more to increased student self-efficacy, knowledge, and self-directed learning. There was no significant difference between the groups due to the reduced presence of tutors who monitored performance. This finding meant that some parts of BL problem-based learning could play a key role in increasing student self-efficacy and motivation. The results also show that a course should focus on improving teacher skills when applying a BL model. Some of these skills include giving hints during self-direct learning and properly guiding online discussions.

Sung et al., (2008) examined the effects of the blended approach on students’ self-efficacy. A total of 26 nurses in the experimental group at Samsung Medical Center participated in web-based learning during regular medication-administration classes. The 24 nurses in the controlled group participated in face-to-face instruction in the classroom. The participants completed a self-efficacy survey containing approximately 23 questions related to nursing care before starting the BL and at the end of blended instruction. Both analyses revealed that BL positively impacts medication knowledge. Student self-efficacy for medical learning was not significantly different compared to the controlled group.

### 3.1.7 The Influence of Blended Learning on Student Self-Learning Regulation

Many studies reported that the BL environment provided meaningful self-regulation strategies for students and positively impacted students’ learning experience in different fields including second language (L2) acquisition (Liu & Yu, 2012; Ting & Chao, 2013; Shen & Liu, 2011) and in Humanities and Sciences (Al-Ani, 2013; Cobanoglu & Yurdakui, 2014).

Liu & Yu (2012) examined the relationship between self-regulation strategies and BL model. The authors made this connection using a questionnaire that asked if the online aspect of the
BL experienced increased or decreased the self-learning regulation level of students. The results indicated that using BL helped students have better learning efficacy and become more self-regulated and motivated to learn English.

Ting et al., (2013) conducted a study that examined the link between BL and self-regulated learning in a group of 22 students studying Applied English in a foreign context. In the study, technology influenced academic performance positively and enriched the learning process in a way that lead to greater student self-regulation. The positive benefits of using BL in second language classrooms have been documented by MacDonald (2008). The BL approach provides English teachers with opportunities to create activities that strengthen student self-regulation beliefs. These activities could include debates, plays, and speeches along with supplemental computer-based activities (Shen & Liu, 2011:1108).

Another study carried out by Al-Ani (2013) found that the BL model was used to teach humanities and sciences courses. The study used students from Sultan Qaboos University in Oman. There were 283 students in the study. The results demonstrated that “the BL approach using Moodle also helps students to develop their learning skills and be more self-regulated in searching for new scientific information. Looking at the results of the learning motivation domain, students find the BL approach using Moodle interesting in tracking lecture notes and reading materials. In addition, students feel that using Moodle helps them in developing positive attitudes toward course subjects” (Al-Ani, 2013:103).

Cobanoglu & Yurdakui (2014) investigated whether there were any significant effects related to the BL approach on students’ self-regulated learning strategies and achievement. The study included 65 senior students at an educational college taking an “IT & Ethics” course. The study involved the following parts: Achievement Test, Cognitive Flexibility questionnaire, Self-regulated Learning Skills Scale, Student Demographics Form, On-line Discussion Evaluation Scale, Course Evaluation Form, Expert Evaluation Form, Reflective Diary Form, Interviews, and notes from experts. The study showed that the students obtained their highest achievement scores in achievement and cognitive mind skills. The authors found that BL enhanced student self-regulatory abilities.

3.1.8 The Influence of Blended Learning on Medical Students’ Self-Learning Regulation
A review of the literature shows that there are studies using the BL environment that have shown that the self-learning regulation of medical students can increase. These studies
include the following: Kassab, Al-Shafei, Salem, & Atom, 2015; Alzahrani & Watson, 2016; Rezaee & Mosalanejad, 2015; Mosalanejad, Alipor, Zandi, Zare & Shobeiri, 2014; and Valiathan, 2002.

Kassab et al., (2015) studied a web-based blended e-learning environment in a study of 171 students from the Royal College of Surgeons in Ireland, at the Medical University of Bahrain. The findings showed that BL impacts students by increasing their self-regulated studying strategies including asking questions, peer learning, and thinking activities that increase student achievement on exams. A study conducted by Alzahrani & Watson (2016) provided experimental evidence that shows students can be trained to improve their self-regulation skills and their medical English language skills through collaborative online teaching strategies in a BL context. For example, medical educators need to provide students with learning strategies to ensure that they are engaged in reflective and collaborative learning. In these cases, students often choose the strategy that applies best. Little (2003) argues that as teachers and students engage in newer, more effective learning techniques, there will be enhanced self-paced and self-regulation skills. Rezaee & Mosalanejad (2015) state that a BL experience with Web Quest and digital library sessions that promote self-regulation in students can lead to a measurable increase in student learning. The authors studied students in a mental health course.

Teaching using blended methods leads to increased self-regulated learning, a term defined as “the degree that students are metacognitively, motivational and behavioral active participants in their own learning process” (Zimmerman, 1989, p. 329). Mosalaneja et al., (2014) states that the advantage of using blended education is that it helps students develop their understanding of medical subjects and encourages students to improve their cognitive and critical thinking since the students receive content in a way that helps to deepen the learning experience. An investigation of the effects of this approach found that it should be used to develop new student behaviour by designing activities that engage students through classroom meetings, discussion forums, webinars, team work projects, and online debates that use chat applications (Valiathan, 2002). Another study had results that showed that BL improved student motivation to learn English, something which plays an important role in self-directed learning and achieving greater scores (Alajab, & Hussain, 2015).
3.1.9 The Influence of Blended Learning on Students’ Learning Anxiety

Many language learners suffer from tension and stress during the language learning process. Anxiety has been considered an essential reason for students’ poor language skills. Horowitz, Horowitz, and Cope described anxiety when learning a second language as a “distinct complex of self-perceptions, beliefs, feelings and behaviours related to classroom language learning arising from the uniqueness of the language learning process” (1991:128). Anxiety is connected to self-efficacy beliefs. The way that second language learners perceive themselves is an important part of their language development. Those who see themselves as skilled in acquiring a foreign language will be less anxious in the classroom and will view obtaining linguistic success as a possible goal. The high level of self-esteem will help second language learners to learn and improve their skills with relatively little tension (Zare & Riasati, 2012).

There has been significant research related to the impact of BL on anxiety as carried out by the following authors: Hajhashemi, Shakarami, & Khajehei, 2013; Mellati, Shanghai, & Khademi, 2015; Huang, 2013; Roed; 2003; Diakou, 2015. Aldalalah & Gasaymeh (2014) conducted a study regarding technical education.

Hajhashemi et al., (2013) stated that to enhance language learning, researchers need to investigate the way that technology helps to create virtual communities and improves self-efficacy for second language acquisition. When students learn in digital environments, they construct knowledge through research and then discuss what they have learned by sharing their “preliminary repertoire of knowledge” with others in the virtual world. Digital multimedia helps to enhance the data that are presented to learners and also provides learners with access to consult various technological sources that can lead to greater learning. A high sense of self-efficacy with computer and social networks can help to enhance a language learner’s skills. According to Mellati et al., (2015:249) this means “Technology self-efficacy increase learner's level of independence and reduces the students’ level of anxiety” in learning the English language.

In a Taiwanese EFL context, Huang (2013) found a significant relationship between reduced learning anxiety and the use of technology-based environment along with the significant influence of multimedia technology in promoting language acquisition for college students. Students are generally less anxious in the classroom and the author stated that English can be effectively acquired through multimedia environments. Technology-based instruction creates a less stressful, more relaxed English learning environment that had a tendency to lower the anxiety of second language learners. Several studies noted that computer-assisted
environments help students develop their English skills and reduce language anxiety (Roed, 2003).

Aldalalah & Gasaymeh (2014) looked at the impact of technology on student anxiety from a different perspective. The employment of modern technology in a BL environment is associated with good outcomes for students which created a moderate level of anxiety for students and caused an increase in curiosity and motivation in learning science. Diakou (2015) examined the impact of web-based instruction and multimedia-supported education on anxiety of English language learners. The results indicated that modern technologies led to a moderate reduction on student anxiety and a significant increase on their language learning. The integration of technology into English learning environments helped to create more comfortable feelings and higher language proficiency.

3.1.10 The Influence of Blended Learning on Medical Students’ Anxiety
Research has indicated that content delivered in a blended manner can impact student anxiety in learning medicine. The following studies focused on this topic: Kenny, 2002; Bryner, Saddawi Konefka, & Gest, 2008; McMullan, Jones, & Lea, 2012; and Pickering & Bickerdike, 2017.

Kenny (2002) stated that 21 students enrolled in a Health Informatics course were asked to participate in individual and focus group interviews. Results showed that there was an increase in student stress and reported that the BL environment made learning medical terminology flexible and increased student self-confidence in working with computers. The results indicated that a moderate level of anxiety motivates students to learn and work to develop their skills so that they can feel more relaxed. Bryner et al., (2008) conducted a study with 102 medical studies. The online survey and quiz were used to assess students’ knowledge and the perceived level of anxiety in both the experimental group that was exposed to a computer-based learning and the controlled group that received traditional treatment. The findings of the study stated that the integration of information technology into clinical medicine increased students’ knowledge and reduced the difficulty of anatomical and physiological concepts. Both groups had a moderate level of stress and the results of the study concluded that medical students could learn more effectively in a BL environment with a certain degree of anxiety that does not negatively impact performance.

Pickering & Bickerdike (2017) stated that combining web-based learning with classroom instruction can greatly impact students’ learning experience. The study assessed the
effectiveness of supplementing traditional classroom teaching with Facebook on student anxiety. The study was conducted using 119 second year medical students at the University of Leeds who participated in the course to prepare for summative anatomy. The course was electronically supported using the Facebook module for communication purposes. It was also traditionally supported using a curriculum module that involved students taking part in practical sessions and teacher-led sessions along with self-directed learning resources including e-lectures, videos, and online exercises related to course content. The Likert-style questionnaire used in this research explored the impact of BL on students’ anxiety and assessments. Students believed they had higher confidence and less anxiety toward learning anatomy after conducting of the course. The study concluded that the use of the blended educational method is recommended for teaching in medical preparation programs.

3.1.11 The Influence of Blended Learning on Students’ Learning Attitudes

Many studies investigated learner attitudes toward BL regarding the learning of the English language. These studies included the following: Lin, 2003; Levine, Ferenz, & Reves, 2000 in biology; Yapici and Akpyin, 2012 in business; and Chen and Jones, 2007 and Wheaton, K, 2017.

Lin (2003) suggests that BL was a strategy that worked with 46 Taiwanese students at Wenzao Ursuline College of Languages and increased student motivation and attitudes in learning English. Levine et al., (2000) showed positive evidence of using Microsoft Word and Netscape Navigator and E-mail applications on student attitudes toward English language learning. Ushida’s (2003) study found that the chat allowed 26 students develop English language skills and affected students’ attitudes and motivation positively. Blended learning was effective in increasing student attitudes. Yapici and Akpyin (2012) focused on the attitude of 107 science learners about the integration of web-based instruction in a biology learning program. The authors obtained a web-based survey filled out by the students at the end of the 2009-10 academic year at NevzatAyaz Anatolian High School in Diyarbakir. The survey results indicated that the majority of biology learners had a positive attitude about the use of technological resources in their learning program. The students liked that they had the opportunity to use multimedia resources that led to the development of their language achievements.

Interestingly, BL was not favoured over traditional instruction in Chen and Jones’ (2007) study. The authors examined the influence of the BL model for business students’ attitudes
toward web-based instruction at a university in the Northern United States. To determine student attitudes toward BL, the survey was administered to the experimental students who were exposed to online and face-to-face instructional delivery and the controlled group which was taught using traditional methods. The results of the study revealed that most teaching methods significantly and positively influenced the business students’ candidates’ attitudes and achievement.

Keengwe and Kang (2013) stated that the impact of BL can drive students to meet their needs and can positively impact their attitudes, achievement, and academic performance when the teachers integrate BL with the Community of Inquiry framework, it can guide instructors to design activities that increase student engagement and student-teacher engagement. Wheaton (2017) examined the relationship between student engagement and social and cognitive engagement. The survey was administered to 384 graduate level students enrolled in the Master of Divinity program, Master of Arts in Ministry Leadership program, Spiritual Formation program, and Doctor of Education at George Fox University. Results from SPSS analysis confirmed there are relationships among the three elements of the Community of Inquiry framework (e.g., social, teaching, and cognitive) and students’ perceived educational attitudes.

3.1.12 The Influence of Blended Learning on Medical Students’ Attitudes towards Learning

Researchers have been devoted to examine the impact of a BL setting on medical student attitudes. These studies include the following: Valiathan, 2002; Shantakumari & Sajith, 2014; AlAbdulkarim & Albarrak, 2015; Delialioglu & Yildirim 2007; and Taradi, Taradi, Radić, & Pokrajac, 2005.

Valiathan (2002) stated that teachers can increase medical student attitudes in BL by creating materials that engage students with peer-to-peer communication in a risk-free environment such as a webinar and group project. The results of the study showed that the BL method can increase student learning rate. According to Shantakumari & Sajith (2014), BL can be used to teach medical courses and could be an alternative method to traditional teaching methods since it allows medical course content to be more easily learned while also increasing student attitudes and motivation.

AlAbdulkarim & Albarrak (2015) conducted a study that investigated the impact of the BL classroom environment on medical student attitudes. The study was conducted at King Saud
University, College of Applied Medical Sciences, using undergraduate females in the field of Rehabilitation Sciences. To examine student attitudes, a questionnaire was prepared. The data obtained from the responses to the questionnaire indicated that student attitudes in the BL and classroom environment were high and that the students had a presence for working in groups and having large discussions.

Delialioglu & Yildirim (2007) examined the impact of the BL process on their computer skills in learning medicine. The BL strategy offered 25 university medical students with the opportunity to enhance collaborative interaction and allow them to have good communication skills. The findings of the study showed that BL could operate well using a course website, group and individual activities, educational games, and traditional classroom teaching.

Taradi et al., (2005) conducted a study that examined the benefits of BL that included WebCT tools with traditional learning and compared these factors to a traditional classroom that only had classroom lectures. The study explored the impact of web-based small group and problem-solving activities on 121 second-year medical students' attitudes and accounted for other variables including satisfaction and achievement. The study focused on acid-base physiology modules at the Zagreb Medical School and the content of the course was electronically supported using a WebCT learning management system. The collaborative learning technological environment showed there was significant change observed in the performance and achievement of the BL group and the survey results revealed that these individuals showed strong improvement and had positive attitudes related to the learning environment.

3.2 Teachers’ Technological Self-Efficacy

Zayim, Yildirim, & Saka (2006) mentioned that researchers considered technological self-efficacy beliefs to be the most important factor in the utilization of technology. Based on Pandora (1997), the definition of self-efficacy is a teacher’s belief in his or her ability to use technology skilfully and efficiently. Pan & Franklin (2011) stated that when teachers have lower self-efficacy, they will not prefer to adopt digital tools in their teaching style and feel more frustrated in the adoption of technology in the classroom. Moore-Hayes’ (2011) conducted a study that asserted that teachers who were not familiar with technology integrated into the curriculum expected to have less technological efficacy in the teaching process. To make teachers feel more comfortable with technology, there is a need for continual support and training programs designed to cater to teacher needs (Fook, 2011).
According to Healey et al., (2008:5) the “TESOL Technology Standards Framework” shows that teachers generally have higher self-efficacy and integrate technology into the classroom well when they know the needs of the educational institution and their students regarding English skills and the overall curriculum. Teachers who have high technological self-efficacy are able to engage students effectively using technology as long as they know how to design assessment tasks properly to evaluate student knowledge and language skills. The ability of teachers to design activities and tasks that align with specific language learning objectives can also help to produce creative and effective ideas. Levin & Wadmany (2008) mentioned that teachers generally have higher self-efficacy and integrate technology into the classroom when they receive adequate training and could increase their self-efficacy by engaging in ongoing learning. The teachers who did not participate in training sessions will often lack the ability to cope with new technologies in education. Mayo & Kajs (2005) stated that when teachers participate in continued training, they enhance their self-efficacy and obtain the skills they need to use digital tools. Higher educational institutions should provide teachers with ongoing training to motivate them to use technology in the classroom (Zayim et al., 2006:220). These training programs could include specialists who increase teachers’ technological self-efficacy using the following three steps. First, experts should provide teachers with guidelines to ensure that the use of any application or tool is easy and comfortable. The specialist should know that teachers need to have their lesson plans prepared so that they can receive technical support for the lesson plans, if needed. The trained experts should ensure that they are progressing at a comfortable pace (Ertmer & Ottenbreit-Leftwich, 2010). Chen (2012) recommended that specialists encourage teachers to use such communication as email, social media, or meetings that they are comfortable with to obtain technical support. Zhao and Bryant (2006) mentioned that although training is important to develop teachers’ technological self-efficacy, training is not the only influenced factor that can lead to advanced levels as practical and genius technology integrated instruction knowledge (Davies, 2011).

3.2.1 Teachers’ Awareness of Technology Self-Efficacy Knowledge in Blended Learning
“Awareness” refers to a low level of declarative self-efficacy integration in which teachers are familiar with digital applications without having a practical understanding of the application (Davies, 2011). Masood, Khan, & Waheed (2010) presented a study about the technical knowledge of medical teachers at Avicenna Medical College. The survey answers
revealed that doctors have moderate computer skills and most medical staff believe that they were familiar with technology, but would need greater computer skills to use the technology in education. According to Donavan, Hartley, & Strudler (2007), when teachers have some technical knowledge, they could feel hesitant to use digital tools because they could face challenges when implementing the technology in their current teaching practices. A study conducted by Henry (2007) explored English teacher perceptions regarding technological literacy and their self-efficacy beliefs using surveys. The results found that teachers feel uncertain about their ability to effectively adopt new technology into their classes. Henry stated that technical specialists at educational institutions should work to improve teachers’ technological attitudes and beliefs to improve teachers’ technological skills to allow them to be comfortable enough to use this technology in the classroom. To improve teachers’ technological declarative knowledge, there is a need to examine the relationship between teachers and the target teaching tool (Lee et al., 2003).

Kumar, Rose, & D'Silva (2008) conducted a study that showed that teachers did not need to be hesitant about adopting technology in the classroom if they had positive attitudes and were convinced that using a specific technology would impact student performance positively. Davis (1989:320) referred to “perceived usefulness” and “perceived ease of use” as the primary motivational features for adoption and utilization of technology. The perceived usefulness can help to illustrate the extent to which the person believes that the adoption of technological tools like social media will provide beneficial consequences. In the study, “useful” was a term that was used to indicate that a person’s technological skills are “capable of being used advantageously” (Davis, 1989:320).

Some factors impact the increase in teachers’ declarative literacy regarding the adoption of technology that specialists should take into account. Davis (1985, 1989) stated that there is a direct relationship between perceived ease and the use of technology. If a technological tool is accessible and easy to use, it is more likely to be accepted and used heavily. Davis also stated that perceived ease had an indirect effect on the performance of the technology. If a system appears to be very complicated and difficult to use, users may not use the system and it may not be considered as useful or enjoyable. Positive teacher attitudes about the use of new technology can motivate individuals to use the technology in the classroom (Karagiorgim & Charalambous, 2006). It is important to understand what can be done to increase teachers’ declarative self-efficacy literacy by focusing on the ways to develop teachers’ positive attitudes about using new technologies.
3.2.1.1 Perceived Ease of Use
Perceived ease of use refers to the belief that using digital applications like Blackboard and social media is easy (Davis, 1989). According to Cox, Cox, & Preston (2000), there are many institutional efforts to improve teachers’ perceived ease of use. Institutions should have policy that require teachers to use certain applications regularly to improve their technological experience since incorporating technology into the classroom is beneficial (Rozell & Gardner, 1999). Institutions should also provide each teacher and all students with computers. The institutions should also provide technical support in schools as the support would help to motivate teachers to integrate technology into their classes without wasting time trying to solve computer problems (Cox et al., 2000, Wang, 2008). The institution should create teacher development groups to help teachers learn more about technology and discuss their difficulties and share solutions (Cox et al., 2000, Wang, 2008). Finally, institutions should help to build teachers’ technological confidence by giving them time to practice using modern tools and providing them with opportunities to communicate with experienced teachers and obtain training on the best use of technology (Cox et al., 2000; Wang, 2008).

3.2.1.2 Perceived Usefulness
According to Higgins and Huff (1999), perceived usefulness refers to two dimensions. The first dimension is “performance outcome expectations” which indicates the degree to which the use of technology will improve and develop user abilities and productivity. The second dimension is “personal outcome expectations” which refers to a person’s expectations about receiving positive or negative experiences, feelings, or rewards. Cox, Cox, & Preston (2000) stated that technological advancements can help to develop teacher performance, but teachers need to be shown how the technology will make the teacher’s life more enjoyable, fun, and improve teaching materials. Davis et al., (1992) states that trained specialists can use motivational theories to present the virtual effects of intrinsic motivation that are associated with social media and technology use. The author described perceived enjoyment as an “intrinsic source of motivation.” In Ryan and Deci’s work (2000:56), intrinsic motivation was defined as doing an “activity for its inherent satisfactions rather than for some separable consequence. When intrinsically motivated a person is moved to act for the fun or challenge entailed rather than because of external prods, pressures, or rewards.” It is important to develop teachers’ personal outcome expectations by illustrating to teachers how they will gain advantages such as prestige and individual recognition along with greater confidence and career experience (Cox, Cox & Preston, 2000). The personal expectations named by
Davis et al., (1992:60) also include extrinsic motivation outcomes defined as “a construct that pertains whenever an activity is done in order to attain some separable outcome.” Based on this definition, perceived usefulness is considered extrinsic. The author studied both intrinsic and extrinsic motivation in the workplace and found that the intentions and attitudes of individuals about technology are impacted by their insights on how enjoyable and useful it is at developing job performance and educational skills.

3.2.1.3 Teachers’ Traditional and Constructivist Beliefs on Teaching

In a survey of over 4,000 individuals, Ravitz, Becker, and Wong (2000) found that “behind all teaching practices and beliefs about teaching are two overarching approaches to teaching… traditional transmission instruction and constructivist-compatible instruction” (p. 4). There are many differences between constructivist and traditional teaching methods. Some teachers prefer one particular method while others use a combination of methods. Currently, it is critical for teachers to know how to combine various methods in the classroom. According to Savery and Duffy (1995), the constructivist approach focuses on providing learners with problem-solving tasks to keep them involved with the learning process. Luck (1999) stated that constructivist learning activities focus on giving students questions and then asking the students to find solutions to these questions. Dalton (1954) stated that when a teacher uses a constructivist approach, the teacher plays a significant role in developing the thinking skills of students by involving them in activities that provide students with the opportunity to ask questions, learn about a topic, and use web-based resources to solve problems. As students examine the topic, they are able to construct their own understanding and revisit prior understandings. In this way, students ultimately answer questions based on the knowledge that they gain from lectures, discussions, and their own reflection.

Students are encouraged to become autonomous learners through the use of metacognitive learning tasks such as discussion forums, webinars, team projects, and online debates using chat applications (Valiathan, 2002). Based on the constructivist approach, learners should have an active role in class activities because constructivist tasks motivate students to be more curious and have them apply their knowledge in a final presentation or project (Lucks, 1999).

In contrast to constructivist teacher beliefs, Raine & Collett (2003) stated that teachers who used the traditional approach tended to provide students with all information and explanation. In this approach, “Teachers' first set behavioral goals, then determine appropriate reinforcers,
select procedures for changing behaviors, implement the procedures, and record the results… finally, they evaluate progress and revise as necessary” (Duru, 2006:25 as cited in Gürbüztürk & Şad, 2009 ). A teacher with these traditional beliefs focuses on explaining course content and evaluating student knowledge using traditional assessment methods like essays, multiple choice tests, and oral exams (Brooks, 1999). A comparison of both approaches can be seen in the following table.

Table 3.1 Comparison of Traditional and Constructivist Teachers Beliefs (Adopted from Gurbuzturk & Sad, 2009:203).

<table>
<thead>
<tr>
<th>Traditional teacher beliefs</th>
<th>Constructivist teacher beliefs</th>
</tr>
</thead>
<tbody>
<tr>
<td>The main aim is to transfer knowledge and make students memorize information (rote learning)</td>
<td>The main aim is to develop critical thinking, creative thinking, and problem-solving skills</td>
</tr>
<tr>
<td>Content is determined by the teacher and different content areas are taught separately</td>
<td>Student ideas are considered for content selection. Lesson contents are integrated with similar ideas and real life.</td>
</tr>
<tr>
<td>Teaching is mainly a technical job</td>
<td>Teaching is an intellectual and ethical effort which helps students perceive the world surrounding them by improving their skills to make critical interpretations about different points of views and their social, cultural, economic, and political foundations.</td>
</tr>
<tr>
<td>Learning is a result of development</td>
<td>Development is learning itself</td>
</tr>
<tr>
<td>The teacher is responsible for dividing the absolutely correct knowledge into meaningful units and transmitting these units to the students effectively.</td>
<td>The teacher is responsible for facilitating student learning. Teachers are not only interested in what students learn, but also how they learn. The teacher allows students to become autonomous learners. Teachers know everything while students know a little. Teachers will work to do what is best for students.</td>
</tr>
<tr>
<td>Students do not actively get involved in lessons</td>
<td>Students are encouraged to become aware of their capacity to construct reality, make decisions, and express ideas and feelings.</td>
</tr>
<tr>
<td>Measurement and evaluation is done with the main focus on the product (output) using classical methods.</td>
<td>Measurement and evaluation mainly focus on improving the process using formative achievement tests, observation forms, activity reports, project and performance tasks, concept maps, and self-evaluation and peer-evaluation forms, etc.</td>
</tr>
</tbody>
</table>
Constructivist teaching practices and technical skills are both involved with technology integration. Vannatta & Beyerbach (2000) assert that teachers must have positive attitudes and beliefs about constructivist teaching strategies to be properly motivated to use technology as part of the curriculum. Research suggests that technological abilities were associated with attitudes about technology and constructivist uses of web-based applications (Schmidt at el, 2002). Becker (2000) found that teachers who used web-based applications frequently often have constructivist philosophies and beliefs. Teacher beliefs about this type of technology can be formed through their own participation in online communities and through their experiencing using these applications, both in and out of the classroom (Farah, 2011). Both Douglas Thomas and John Seely-Brown (2011) proposed the notion of “collective learning environments” which states that teachers and students have the freedom to work together at different times for various reasons or to withdraw from the group at any time. The sharing and participation in various environments depend on the curiosity, need, knowledge, and skills of participants. Although digital media provides teacher and students with many teaching and learning sources (Lee & Tsai, 2005), teachers must know how to properly incorporate technology into the classroom based on self-efficacy beliefs and the teacher’s own constructivist beliefs about a technology-based learning environment. Cooperstein and Kocevar-Weidinge (2004) wrote that various aspects of constructivism and discovery are found in a technology-based environment that is working to change the concepts of traditional learning into active learning. The constructivist approach of learning can be applied best in a social online setting since learners have the ability to share and examine information to determine the connections and variations of their thoughts along with the thoughts of others. Constructivist teachers and students believe that knowledge is built by people who are attracted to online activities such as shared speaking and problem solving. To effectively implement Internet-based learning environments, it is important to know what teachers and students like and want. Hermans et al., (2008) stated that after examining 525 primary teachers and their use of technology in a formal school setting, the researchers found that teachers all have their own reasons for adopting or not adopting technology in the classroom. It is likely that teachers who believe in technology would support student learning and have constructivist beliefs. Traditional teachers often feel that there is a negative impact associated with using technology in the classroom. The study found that 185 pre-service
preschool teachers with high technological self-efficacy are more likely to favour an online learning environment where web-based applications can be used easily and opened-ended investigations of learning activities can occur (Liang and Tasi, 2006).

3.2.1.4 Teachers’ Technological Attitudes
Keengwe and Onchwari (2008) provided evidence that suggested that the success of teachers in implementing educational technology in class largely depends on teacher attitudes and their readiness to integrate technology in the classroom. Demici (2009) studied the influence of the innovative use of Geographic Information systems (GIS) in Turkey. The study found that there was a relation between teacher attitudes and technological integration. Interestingly, there was a significant association between 79 geography teachers and the positive utilization of technology. In a similar study, Gilakjani (2012) performed a literature review and found that there were positive English foreign language teacher attitudes about using new, innovative approaches that helped teachers make key decisions regarding designing and implementing technology into the English language learning environment.

Judson (2006) conducted a study that worked to examine the attitudes of 32 teachers at Arizona State University. The author found that although teachers were more positive about their attitudes regarding technology, they were relatively negative about integrating digital applications into their teaching practices. As a result, training was identified as a key factor to motivate teachers who have positive attitudes about the use of technology in education. These training programs should provide teachers with strategies and activities that foster technological integration (Zhang & Espinosa, 1997). There is an ongoing need to create new training requirements for teachers to assist in the adoption of technology in the classroom (Fisher, 2000).

3.2.2 Teachers’ Praxis Technology Self-Efficacy Knowledge in Blended Learning
Praxis technology self-efficacy knowledge refers to the ability of teachers to use technology as an academic strategy to enhance and guide the development of classroom learning processes (Davies, 2011). According to Deaney, Ruthven, & Hennessy (2006), teachers with practical technological levels use digital tools in different ways. First, teachers use the Internet to increase classroom resources and references. For example, teachers can use free online materials to take advantage of resources including visual and audio materials, lessons, text transcripts, and exams to help students improve and expand their medical knowledge (Thoma, Joshi, Trueger, Chan, & Lin, 2014). Teachers can also practice using technology that helps to produce greater knowledge (Deaney, Ruthven, & Hennessy, 2006). The online
world provides teachers with opportunities to choose which networks are suitable for enhancing student learning and could motivate students to generate and share new knowledge (Lewin, 2000). Teachers can also use technology to improve student understanding of course material (Deaney et al., 2006). As Wilson (1996) mentioned, multimedia formats provide virtually limitless opportunity for teaching and instruction that allows learners to construct their own understandings by encouraging thinking and reflections. Teachers can also use technology to foster independent learning and inspire new, innovative lessons and activities (Deaney et al., 2006). Khine (2003) and Sharp (2002) claimed that the technology-rich learning environment prepares students to become independent learners because it reduces the effort associated with teaching and allows the teacher to devote more energy to maximize student potential. The different ways that technology can be used here are in line with the various stages of CALL, which align with changes in language teaching methodologies. For example, students in the “Behaviouristic CALL stage”, are asked to check web-sites that contain extensive exercises and grammatical explanations. The “Communicative CALL stage” would facilitate the use a technology like Blackboard to teach language. The Blackboard project feature can be used to involve students in group assignments and the discussion board tool can be used to motivate students to use language while discussing certain topics. In the “Integrative CALL stage”, multimedia applications like YouTube, Wikis, and blogs would allow students to publish certain content or read the content published by others can be used (Warschauer & Healy, 1998).

3.2.3 Teachers’ Phronesis Technological Self-efficacy Knowledge in Blended Learning
Davies (2011) mentioned that technology phronesis level refers to how genius and professional teachers have “practical wisdom” which is the ability to know how or why certain used in teaching. According to Diehl (2005), high-quality professional training is a factor that impacts the increase of a teacher’s practical wisdom and allows teachers to create a meaningful balance between teaching and using technology. These connections are vital to the development of students’ thinking skills and learning experience. Lawless and Pellegrino (2007) claim that teachers need long-term technology training programs to reach a level where they feel comfortable adopting technology into their teaching process. These programs provide teachers with activities that concentrate on course content. As a result, teachers can build their practical competency in applying technology and will help them to achieve greater confidence and have positive attitudes about integrating technology into their teaching to help
students experience greater achievement. Chen (2008) stated that professional trainers need to design training programs that match course goals and the syllabus. The culture of the educational environment also plays a role in motivating teachers to improve their skills. For example, when an institution makes a concerted effort to provide teachers with significant training time and time to discuss how to implement technology into the classroom, the institution should have some expectation that teachers will integrate technology in the classroom. These training programs are key to improving teachers’ practical knowledge and transforming the classroom experience (Levin & Wadmany, 2008).

3.3 Summary
Technological self-efficacy refers to student and teacher beliefs about their skills using technology when engaging in online course activities (Compeau & Higgins, 1995). The focus of the literature review was to investigate the use of BL in teaching English medicine and discussing the perceived benefits in increasing student achievement (Makhdoom et al., 2013; Bryner et al., 2008; Roche et al., 2007) and improving self-learning regulation (Kassab., Al-Shafei, Salem, & Atom., 2015; Alzahrani, & Watson, 2016) while reducing levels of anxiety (Pickering, & Bickerdike, 2017). The literature review discussed the positive impact of teachers’ technological proficiency in preparing learners for self-directed learning and the possibility of using technology in a clinical setting (Mohsenpoor et al., 2008). Generally, teachers who provide their students with self-paced learning tools, good materials and resources, and feedback will have a classroom that has good, positive learning experiences (Werth et al., 2013). As Amin & Khuziakhmetov (2016) mentioned, the technological knowledge of teachers is the main factor in the blended teaching process. Teachers who do not have sufficient digital knowledge will have difficulty integrating online activities with face-to-face teaching. It is important for teachers and educators to have the proper technological background (Keengwe and Kang, 2013). The development of teachers’ computer literacy is key to ensuring that they can provide an authentic learning experience and create activities that are based on cognitive, socioaffective, and metacognitive strategies that meet students’ language learning needs (Loyo, deMagnago, 2001). New educational innovations depend on the experience of teachers using technology to motivate learners and teachers to reach new heights (Chen, 2001).
Chapter IV: Methodology

4.0 Introduction
Research design can be defined as “a plan that guides the investigator in the process of collecting, analyzing, and interpreting the data of interviews and surveys. It is a logical model of proof that allows the researcher to draw inferences concerning causal relations among the variables under investigation” (Nachmias & Nachmias, 1992:77-78).

Methodology is comprised of the steps and procedures used to collect and analyse data in the process of carrying out an investigation. Research design is the term used to describe the research techniques. The research design can consist of general assumptions as well as detailed data collection, analysis, and interpretation methods. Understanding the nature of the research problem or issue helps to determine the selection of the most appropriate research design. Other factors, including the researchers’ personal experiences and the participants' problems in their environment, impact on the design used (Creswell, 2009). This chapter covers five sections. The first section, Section 4.1, contains information regarding the case study elements that the researcher followed in the current study such as the questions of the study, objectives of the study, the units of analysis, the links between the data, and the discussion of these findings. Section 4.2 contains information about qualitative and quantitative research methods. Section 4.3 focuses on providing information about the study’s primary components. Section 4.4 provides a summary of the chapter along with an overall review.

4.1 Overview of a Case Study
The case study is an experimental inquiry that examines a current phenomenon in detail and within its realistic setting. In this case study, there is no clear, defined boundary between the phenomenon and the situation (Yin, 2009). This research uses a case study to examine the real-life impact of integrating Jazan Jump learning management system with social media applications such as WhatsApp on medical students' engagement as they take part in English language medical terminology course at Jazan University. Yin (2009) mentions that the case study analysis involves different environments that can provide many different variables that could be investigated. The research focuses on Saudi Arabia and examines variables that relate to the digital engagement of students including their attitudes, anxiety, technological self-efficacy, and self-regulated learning.
Originally, a case study was considered a “one-shot-post-test only.” This belief was corrected by Cook and Campbell (1979:96), who argued that “…the case study as normally practiced should not be demeaned by identification with the one-group post-test-only design” (Cited in Yin, 2009:25). Case studies have become associated with special research designs and there are many second language (L2) case studies (e.g., de Jong et al., 2014; Zhang & Han 2012; Maza et al., 2016) that examine the impact of English language development using BL. The development is examined in a single general field such as the medical field.

4.1.1 The Components of a Case Study
According to Yin (2009), the case study consists of the following five elements: (1) a study’s questions; (2) a study’s hypothesis; (3) a study’s units of analysis; (4) the logic linking the data to the research questions; and (5) the criteria for interpreting the findings.

4.1.2 Study Questions
The important questions for a case study are the so-called “w-questions” such as “who”, “what”, “where”, “how”, and “why”. Each case study can be used for different goals such as exploratory goals. The current study is an exploratory case study that answers the “what” questions such as “What are the factors that increase engagement presence on both WhatsApp and Jazan Jump?” This type of question is considered the basis for an exploratory case study and there are many research methods that can be used to collect data such as an exploratory survey. The survey could be used to examine students’ self-efficacy beliefs and attitudes regarding a certain web application. In addition, an exploratory experiment could involve examining the possible benefits associated with using specific web-based application(s) to teach English. An exploratory case study could involve testing that works to distinguish the significance of “first-time” self-efficacy beliefs and attitudes regarding a certain type of social media from the self-efficacy beliefs and attitudes of students and teachers who had prior experience in using social media to assist in the teaching and learning of English. The exploratory case study can focus on other “what” questions including questions that work to determine certain quantities and extents. A question that could help to determine this type of information could include “What type of technology applications available at Jazan University has been used in the last five years?” or “To what degree does student attitudes who learn using WhatsApp and Jazan Jump correlate with engagement presences?”
An exploratory case study can also be used to answer “how” questions to trace certain issues. An example of this type of question could be “How do students view their teaching presence, social presence, cognitive presence, self-efficacy beliefs, self-regulation beliefs, and anxiety beliefs toward WhatsApp and Jazan Jump in both the control and experimental groups?” Another question could be “What are the factors that increase engagement presences on both WhatsApp and Jazan Jump?” The investigator can use this type of study to determine how social media impacts student achievement and performance and could use this information to devise, plan, and conduct a series of experiments. If the investigator wants to know the “what” outcomes of the new program, the investigator could find the information needed by using survey questions such as “How many students and teachers did the program serve?” and “What types of benefits were received?” The investigator could also examine data that relate to a certain program. If the researcher wants to know “how” or “why” “social media works successfully, the investigator should create a case study design or experiment and conduct interviews that would allow for the collection of the necessary information (Yin, 2009).

4.1.3 The Propositions of the Study

Yin (2009) states that propositions are the objectives of the study that help readers focus on the aspects of the study that help to answer the research questions. Some of the propositions in the current study are as follows:

- See the differences between students’ achievement in pre-test and post-test results when comparing the experimental group using WhatsApp and Jazan Jump and the controlled group only using Jazan Jump
- Examine students’ teaching presence, social presence, and cognitive presence and learner presence toward WhatsApp and Jazan Jump in both the controlled and experimental groups
- Explore factors that increase student engagement in WhatsApp and Jazan Jump
- Discover the relationship between the learner presence that composed of self-regulation beliefs, technological self-efficacy, and anxiety of medical students who experience learning through WhatsApp and Jazan Jump and their other engagement presences
• Investigate student attitudes toward social media in the controlled and experimental groups

• Examine the correlation between engagement presences and the attitudes of students who learn medical terminology using WhatsApp and Jazan Jump

• Examine the experience of English teachers of Jazan University regarding teaching English, using Jazan Jump Blackboard and WhatsApp

• Study the constructive beliefs and attitudes of teachers who use technology in their classrooms at Jazan University.

• Examine the declarative knowledge of teachers regarding technology along with their digital practical knowledge and genius knowledge regarding the use of WhatsApp and Jazan Jump in the classroom.

4.1.4 Unit of Analysis (The Study Problem)
The unit of analysis concentrates on defining research problems. Regin & Becker (1992) define a problem as a situation that poses obstacles for researchers as they work to initiate case studies. This particular study works to determine the research problems that are hindering English proficiency at Jazan University and why medical students do not engage effectively in the educational process. Platt (1992) mentions that a case study focuses on collecting data about individuals, events, or programs. According to Platt, the individual is the basic unit of analysis and, to collect information about the individual, investigators must study the research question(s) to obtain significant details that will help to answer the research question(s). As Yin (2009:32) wrote the following regarding this topic:

“Selection of the appropriate unit of analysis will start to occur when you accurately specify your primary research questions. If your questions do not lead to the favouring of one unite of analysis over another, your questions are probably either too vague or too numerous- and you may have trouble doing a case study.”

The problem in this study surrounded the impact of using BL in teaching medical terminology in a way that allows students to memorize the terms and use them in a professional environment. Osman (2017) stated that medical students often have difficulty learning medical English terminology because these terms have roots in Greek and Latin. As a result, the terms can be confusing since they have similar suffixes and prefixes, but different meanings. Other research has shown that Saudi students face obstacles when
learning English. The use of English terminology is limited to the seminar room and students often have no opportunity to use English in their daily life (Khan, 2011). There is a need to provide Saudi medical students with a learning environment that allows them to use English regularly. A teacher can use social applications such as WhatsApp to create a professional collaborative environment for students to practise using English with their peers and teachers. Universities should work to integrate technology into the teaching curriculum to meet student needs and to fulfil learning objectives (King et al., 2009). English is a requirement for Saudi medical students since medicine is taught in English. As a result, Saudi students must improve their English skills to be able to learn and interact effectively in these classes. The use of WhatsApp as a teaching tool allows students to engage in professional collaboration.

4.1.5 Linking Data to Questions
An investigative technique can be used to link data to propositions. In this case, the researcher adopted a strategy known as “pattern matching logic” that compares variables to decide if they match or do not match various patterns. The researcher can use this strategy to measure values with the research hypothesis and decide if the data support the hypothesis (Hak & Dul, 2009). Yin (2009) describes two forms of pattern matching, (a) quasi–experiment that results in different outcomes which represent varied dependent variables, and, (b) an experiment with non-equivalent independents that is a form of simple comparisons that based on fewer variables. The researcher can evaluate each form with various methods and measures. In this study, the researcher will examine the effects of Jazan Jump and WhatsApp on medical students regarding their teaching engagement, cognitive engagement, social engagement, self-efficacy beliefs, attitudes, self-regulation beliefs, anxiety, and achievement. The study will also observe English medical teachers and their beliefs about technology which can include their attitudes, constructivist beliefs, and self-efficacy knowledge. The study outcomes will be determined through various teaching valuables including pre- and post-test results, surveys, assignments, class activities, and observations (Yin, 2009).

4.1.6 Analysis of Findings
Statistical analysis is a common way to interpret research findings. If the value of the analysis is 0.05 or less, the observed differences are considered significant (Yin, 2009). To achieve the study objectives and data analysis, the statistical methods were entered into the SPSS program. The researcher answered the study questions using statistical methods including
percentage and frequency analysis, weighted mean, standard deviation, Pearson correlation, and paired-samples t-test. These steps are described in the main study in step 10.

4.2 Method of the Case Study
The current case study may include qualitative and quantitative research design. This type of case study, as described by Yin (2009) “goes beyond being a type of qualitative research, by using a mix of quantitative and qualitative evidence. In addition, case studies need not always include the direct and detailed observational evidence marked by other forms of qualitative research” (p. 19).

4.2.1 Qualitative Research Design
Qualitative research involves the gathering and analysis of narrative data. These data could include structured or unstructured observations, interviews, and journal entries. A researcher who decides to use qualitative means must know who needs to be interviewed and what elements need to be asked about (Mertler 2008). A qualitative research interview seeks to describe the factors that increase social, cognitive, and teaching presence when engaging in learning medical terminologies in a blended environment (Valenzuela & Shrivastava, 2002).

In this research, the researcher used qualitative interviews to collect data. This method has the following characteristics as described by Valenzuela & Shrivastava, (2002):

1. The interviews will involve medical teachers and students at Jazan University.

2. The interviews will be easy and ask respondents for their opinions about using WhatsApp and Jazan Jump in the learning and teaching of English medical terminology.

3. The interviewer will provide adequate time to conduct interviews to ensure that enough data can be obtained.

4. The researcher will be trained in the proper conduct of interviews during the pilot period to ensure that the researcher can respond to possible contingencies.

The concept of in-depth interviewing is a type of qualitative research design. For this reason, the current study follows the stages as outlined by Boyce & Neale (2006:4-7) regarding the conduct of interviews to collect data from study participants about how they feel about WhatsApp and Jazan Jump. The five stages of a good in-depth interview involve “plan,
develop instruments, train data collectors, collect data, analyse data.” These stages describe the details of the main study presented in step 7.

4.2.2 Quantitative Research Design
Quantitative research is a tool used to explore issues using the collection and investigation of statistical data including pre-test and post-test scores, opinion surveys, and attitude scales (Mertler, 2009). The current study uses a rating scale survey that is suitable for investigators who want to ask participants questions that are designed to obtain answers regarding various levels of agreement or disagreement. The rating scale is an effective instrument to estimate learners’ attitudes, beliefs, and behaviors. Likert and Likert-type scales are crucial rating measurements. These scales contain statements that can be used when an investigator asked a sample group to respond on an agree-disagree scale. Generally, the Likert scale is divided into five points which are as follows: 1 = strongly disagree, 2 = disagree, 3 = no opinion, agree = 4, and strongly agree = 5. A Likert-type scale is another form of the scale that measures quality such as “excellent” or “poor”. This type of scale can be used to measure items like web applications and software. The scale also represents the frequency of usage, such as “every time” or “never” for certain applications and can also signify the degree of ease of various applications such as stating that something is “very easy” or “very difficult” to use (Mertler, 2009).

The experimental method could be designed as a quantitative research method by including descriptions of participants, instruments, and procedures. In this set up, the researcher must mention the size of the study population and describe the method used to select a sample group. The participants can be selected either as a random group or as a framed group. The researcher can assign individuals to study groups randomly, a method called “true experiment” where each person has an equal chance to be selected from the population. The investigator can match each participant to a group according to the pre-test score, ability level, or other demographic variables. The researcher can use another selection strategy called “a quasi-experiment” in which each individual is assigned to a specific group is a purposeful manner (Keppel, 1991, as cited in Creswell, 2009). In both methods, the researcher must identify the uncontrolled independent variables in the experiment that refer to attitudes, characteristics, and controlled independent variables such as age and gender. The researcher must also clarify dependent variables such as the experiment results to show the process of the study (Creswell, 2009).
The researcher must also describe the instruments to be used during the experiment (observations, pre-test, post-test, classroom materials) in detail. The researcher also needs to name the type of experimental design. These designs could include “pre-experimental designs,” “true experiments,” “quasi-experiments,” or “single-subject designs”. If the researcher decides to use the pre-experimental design, the researcher does not need to compare the controlled and experimental group. Instead, the researcher must study only a particular group involved in the experiment. In a quasi-experiment, the researcher should use a non-random controlled and experimental group. In this project, the investigator will design a “true experiment” to allow the investigator to assign individuals randomly to the study groups. Creswell (2009) provides researchers with a 15-question checklist to assist in the planning of the experiment. The questions are as follows:

- Who takes part in the case study?
- How many respondents are in the case study?
- How are the subjects chosen in the case study? Is there a random choosing way used?
- How is the researcher going to select participants randomly? Will they be matched? How?
- How many respondents are going to be in the empirical and control group?
- How many dependent and independent variables does the researcher (i.e., outcome variable) use in the study? How does he or she test the outcomes? Shall the researcher make pre-and post-test for the experiment?
- How does the researcher treat the controlled and experimental groups?
- Is there any correlation between variables of the study? How will they be measured? If not random, how will they be selected?
- Which research design and model will be used?
- What sort of instruments will be used to test the study results? What is the reason behind this chosen? Who improve it? Is it valid and reliable? Does the researcher take a permission to use this instrument?
- What are the procedures of the study case?
• What are the internal and external validity threats? How will the researcher present them?

• Is the researcher going to do a pilot measure of the experiment?

• What type of statistics of data analysis will be used?

• How is the researcher going to explain the findings?

The researcher must describe the procedures of designing the study tools including tests, surveys, and interviews. In the current research, the procedure involved the 10 steps as described in Section 4.3.4 Procedures involved in Teaching Observation.

4.3 The Main Case Study
In this section, the researcher presents the methodology used in the current research based on the quantitative and qualitative design. The researcher used certain procedures to achieve the study objectives. These procedures were selected by determining the sample and making decisions regarding the best, best effective tools to use. In addition, the researcher identified the statistical methods that would be most appropriate for data analysis and processing.

4.3. 1 The Methodology of the Study
The current study used four major sources to collect data and evidence as mentioned by Yin (2009):

1. Pre-Test and Post-Test (See Appendix (3) and Appendix 4).

2. Students’ Survey (See Appendix (7) and Appendix 8, and Teachers’ Survey (See Appendix 6 & Appendix 9).

3. Students’ Interviews (See Appendix (10)).

4. Teachers’ Interview (See Appendix 11).

4.3.2 The Sample
To provide answers for the research questions, the study was conducted at Medical College, Jazan University in the Kingdom of Saudi Arabia. The study had 300 participants, 200 of whom were EFL medical students who answered survey questions exploring the impact of using different types of BL on their engagement, self-efficacy, and self-regulation beliefs along with the way that they are impacted by anxiety and overall attitude. The sample was also applied to 100 teachers in the Preparatory Year at Jazan University regarding their teaching experiences and prior use of tools such as WhatsApp and Jazan Jump Blackboard,
The students participated in the research related activities of this study as the part of their regular classroom activities. The researcher needed the collaboration of the following elements:

i. Student Survey: The 200 student participants were native Arabic speakers between the ages of 18 and 26 years old. They were all Saudi Arabian and were in their first year of medical college (MED 164-3prep courses) at Jazan University. They were divided into two groups: 100 for control group and the other 100 for the experimental group.

ii. Student Interview: The samples of the interviews were three students who are from the same pool of students who filled out the survey.

iii. Teacher Survey: The teacher survey was administered to 100 EFL medical teachers who were asked to look at their experience using different teaching methods and tools like WhatsApp and Jazan Jump to see if their self-efficacy, knowledge, constructive, and communicative approaches benefitted their students. The teachers were between 30 and 60 years old, taught at Jazan University, and had a variety of nationalities.

iv. Teacher Interview: The samples of the interviews involved three teachers who were from the pool of teachers asked to complete the survey.

The study was conducted from January 2016 through May 2016. The information collecting instruments were used to obtain evidence and justification to answer the questions and hypotheses presented in Chapter 1.

4.3.3 The Variables

This study is based on a number of independent variables related to the impact of WhatsApp and Blackboard on student self-efficacy and self-learning regulation beliefs in addition to feelings of anxiety and attitudes. The dependent variables included student achievement and engagement in the controlled and experimental groups. Also, the current research investigated many aspects of the English medical teacher behavior regarding their English technological practices like their experience teaching English and using WhatsApp and Jazan Jump Blackboard, their preferred teaching methods and their technological attitudes, beliefs about constructivism, and digital self-efficacy knowledge.

The current research investigates the impact of teacher experience on teaching English. Preferred teaching methods, constructivist beliefs, and attitudes about technological self-efficacy were also evaluated.
4.3.4 Procedures involved in Teaching Observations

The researcher cooperated with Dr. Ahmed Alhaj, the teacher of course Medical164-prep3-level two. The teacher took an active role in teaching EFL medical terminology using WhatsApp and Jazan Jump. The researcher observed the students on WhatsApp and Blackboard and had the opportunity to provide students with assistance and advice, when needed.

Dr. Alhaj is an experienced English language teacher who has a history of teaching medical terminology and working with technology in the classroom. He is skilled in English as a Second Language (ESL) and foreign language (EFL) teaching, lecturing, English, writing, and tutoring. He obtained his PhD in Applied Linguistics from the University of Gezira in Sudan. He is an a very knowledgeable translator and interpreter who has a strong command of reading, writing, and speaking English, Arabic, and French. He also has some experience with Urdu and has 20 years of hands-on experience working with multinational learners in Sudan and Arab countries. Dr. Alhaj has presented at and attended many local and international conferences. He is currently an experienced university lecturer at the Medical College (PYP) of Jazan University in Saudi Arabia and works on various academic and administrative issues, especially “ELT”. Below are some courses he has completed:

**Teacher Training Courses:**

- Intel® Teach to the Future (10 days) at Jazan University of (12/5/2008 to 23/5/2008).
- Training course in Typing Skills, 27 days at Jazan University from (02/01/2009 to 28/01/2009).
- Professional Development Workshop in E-learning “The Deanship of E-learning and Distance Education-Jazan University” on (9/4/2010).
- Training Program for the Staff Members of ELC at Jazan University on (2/10/2010)
- Training course in Classroom Management, Jazan University ELC for 3 weeks on (3/5/2011).
- Training course in how to teach listening, Jazan University ELC from 2/25/2012 to 3/21/2012
- Training course in how to teach speaking, Jazan University ELC at Jazan University from 3/31/2012 to 4/27/2012
• Jusur System for E-learning Management, The Deanship of E-learning and Distance Education, course of 2 days, 14 hours in the second semester of the 2011-2012 school year
• Skills of Using Virtual Classes, The Deanship of E-learning and Distance Education, course of 1 day, 7 hours in the second semester of the 2011-2012 school year
• Tell Me More Training Program, Jazan University in collaboration with TMM, course trainers Yvan Floret & Troy Tilus from 11/10/2012 to 11/13/2012
• Developing Research Abilities: Idea Formulation and Research Management Help, King Abdul-Aziz City for Science and Technology General Directorate of Research Grants (KACST), 1-day course at Jazan University on 11/25/2012

Teacher Responsibilities:

• Dr Alhaj was a coordinator of the engineering college from 2010 to 2012
• Member of PYP Deanship for Following Up
• Member of the Global English Committee (Faculty of Medicine) (2009)
• Member of Tell Me More Committee (TMMC) (ELC- Prep. Year 2009-2011)
• Head of Excuses & Sick Leaves & Medical Reports Committee (Prep. Year 2009-2011)
• Head of Social and Cultural Committee (JU- Prep. Year 2009-2010-2011)
• The General Coordinator of English language for Summer Course (2011)
• A English language lecturer in the Deanship of E-learning and Distance Education, 2011-2012
• An English language lecturer in the Deanship of Community College for Continual Education (Summer 2011)

Dr. Alhaj designed his lessons using a communicative approach and had activities that involved all participants. He also used semantic maps including a socialization approach, group storytelling, and role-playing games. The researcher worked with Dr. Alhaj to ensure that the same activities were used for all participants in the study. Dr. Alhaj and the researcher were in communication with the experimental group using WhatsApp.
Dr. Ahmed’s group consisted of the students who registered for course code 164-prep3 in level two. Dr. Ahmed selected 200 students for the study. Of the 200, 100 of the students were put into a control group which was then divided into two groups. The remaining 100 students were placed into the experimental group that was then divided into two groups.

**Course Distribution:**

The medical course for this term was distributed and designed by the course instructor according to the following time table below.

**Table 4.1 Medical College (Level 2) Course: PRE-164 20162 Course Instructor: Dr Ahmed Altayeb Alhaj, Office: 2729**

<table>
<thead>
<tr>
<th>Week</th>
<th>Hijri Date</th>
<th>Gregorian Date</th>
<th>Medical Terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>07/04/1437</td>
<td>17/01/2016</td>
<td>Orientation &amp; Make up Pre-Test</td>
</tr>
<tr>
<td>Week 2</td>
<td>14/04/1437</td>
<td>24/01/2016</td>
<td>Chapter 4 (page:123-136)</td>
</tr>
<tr>
<td>Week 3</td>
<td>21/04/1437</td>
<td>31/01/2016</td>
<td>Chapter 4 (page:137-147)</td>
</tr>
<tr>
<td>Week 4</td>
<td>28/04/1437</td>
<td>07/02/2016</td>
<td>Chapter 4 (page:150-165)</td>
</tr>
<tr>
<td>Week 5</td>
<td>05/05/1437</td>
<td>14/02/2016</td>
<td>Chapter 5 (page:167-175) Jump Quiz-1</td>
</tr>
<tr>
<td>Week 6</td>
<td>12/05/1437</td>
<td>21/02/2016</td>
<td>Chapter 5 (page:176-183) Quiz-1</td>
</tr>
<tr>
<td>Week 7</td>
<td>19/05/1437</td>
<td>28/02/2016</td>
<td>Chapter 5 (page:184-195) Jump Quiz-2</td>
</tr>
<tr>
<td>Week 8</td>
<td>26/05/1437</td>
<td>06/03/2016</td>
<td>Chapter 5 (page:196-205) Progress Test 1</td>
</tr>
<tr>
<td>Week 9</td>
<td>04/06/1437</td>
<td>13/03/2016</td>
<td>Mid-Semester break</td>
</tr>
<tr>
<td>Week 10</td>
<td>11/06/1437</td>
<td>20/03/2016</td>
<td>Chapter 6 (page:207-219)</td>
</tr>
<tr>
<td>Week 11</td>
<td>18/06/1437</td>
<td>27/03/2016</td>
<td>Chapter 6 (page:220-232) Jump Quiz-3</td>
</tr>
<tr>
<td>Week 12</td>
<td>25/06/1437</td>
<td>03/04/2016</td>
<td>Chapter 6 (page:233-245) Quiz-2</td>
</tr>
<tr>
<td>Week 13</td>
<td>03/07/1437</td>
<td>10/04/2016</td>
<td>Chapter 6 (page:246-258) Jump Quiz-4</td>
</tr>
<tr>
<td>Week 14</td>
<td>10/07/1437</td>
<td>17/04/2016</td>
<td>Chapter 6 (page:259-272) Progress Test 2</td>
</tr>
<tr>
<td>Week 15</td>
<td>17/07/1437</td>
<td>24/04/2016</td>
<td>Chapter 6 (page:273-288) Make Quizzes + PTs</td>
</tr>
<tr>
<td>Week 16</td>
<td>24/07/1737</td>
<td>01/05/2016</td>
<td>MT Workshop Practical Exams Post-Test</td>
</tr>
</tbody>
</table>
**Course Content:**

The teacher obtained course content from the book *Medical Terminology: A Short Course*. This book was the 6th edition and was written by Davi-Ellen Chabner. The book contained many medical puzzles and created semantic map tasks that could use WhatsApp and Jazan Jump. The teacher created health cases by having students design digital stories about different medical cases including cardiology and oncology. The teacher also provided students with some communicative language skills. Based on a socio-cultural point of view, second language development takes place during collaborative talks between students and teaches and through discussions and online activities. Teachers direct unskilled students, as needed, to reach appropriate speaking and writing levels. According to Mitchell & Myles “Second Language Learning Theories”, in Vygoskyan terms, "Collaborative tasks help the student to be more capable of regulating her or his own performance on another similar situation (197)". The assessment of students was based on observations and completed classroom tasks along with weekly assignments and student grades in the pre- and post-test exam. The teacher also evaluateed their class and group activities.

**4.3.5 Procedures for Applying the Study Tools**

The researcher designed the survey after conducting a pilot study to determine the tools that would be used. The research also reviewed the theoretical framework for the experiment, consulted other previous similar studies, and obtained research recommendations about the effectiveness of technology in a BL environment. This research and other preparation allowed the researcher to create an appropriate design for the current study that would involve the tools, tests, surveys, and interviews occurring in the following steps and table 4.2

**Step 1: Determine the objectives of the study tool:**

The objectives of the study tool emerged from the main objectives of the study, which were presented in Chapter 1.
Table 4.2 Data Collection Steps

<table>
<thead>
<tr>
<th>Time</th>
<th>Data</th>
<th>Aim</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 2015</td>
<td>Piloting Student Survey</td>
<td>To support the main survey and allow the researcher to diagnose problems that may occur during the main study.</td>
<td>See Step 3 in Section 4.3.5, and Appendix (6)</td>
</tr>
<tr>
<td>September 2015</td>
<td>Pilot Teacher Survey</td>
<td>To make professor Helen Kelly Holmes and 10 Jazan University teachers who specialize in English provide comments regarding study suitability and judge its content regarding the ability to support the main study.</td>
<td>See Step 5 in Section 4.3.5, and Appendix (7)</td>
</tr>
<tr>
<td>January 2016</td>
<td>Distribution of a pre-test at the beginning of the semester</td>
<td>To measure student knowledge prior to the experiment</td>
<td>See Step (2) in Section 4.3.5 and Appendix (4).</td>
</tr>
<tr>
<td>January to April</td>
<td>Observation of teaching medical terminologies using technology</td>
<td>To observe student engagement on WhatsApp and Blackboard</td>
<td>See Section 4.3.4</td>
</tr>
<tr>
<td>End of April 2016</td>
<td>Distributed a post-test exam at the end of the semester</td>
<td>Measurement of student knowledge after treatment</td>
<td>See Step (2) in Section 4.3.5 and Appendix (5).</td>
</tr>
<tr>
<td>May 2016</td>
<td>Distributed the main student survey in university lectures</td>
<td>Examination of student teaching presence, social presence, and cognitive presence in computer-mediated environment. The study also worked to measure student self-efficacy, attitude, and anxiety along with self-regulation in relation to technology.</td>
<td>See Step 4 in Section 4.3.5 and Appendix (8)</td>
</tr>
<tr>
<td>May 2016</td>
<td>Distributed the main teacher survey to faculty members during their office hours.</td>
<td>To assess the technological knowledge of teachers and examine their constructivist beliefs and attitudes about social media and Jazan Jump Blackboard.</td>
<td>See Step 6 in Section 4.3.5 and Appendix (9)</td>
</tr>
<tr>
<td>May 2016</td>
<td>Conduct interviews with 3 teachers and 3 students</td>
<td>Ask students and teachers about factors that increase teaching, cognitive, and social presence</td>
<td>See Step 7 in Section 4.3.5. and Appendix (10) and (11)</td>
</tr>
<tr>
<td>June 2016-December 2016</td>
<td>Data Analysis</td>
<td>To answer research questions</td>
<td>See Chapter 5</td>
</tr>
</tbody>
</table>
Step 2: Designing the Pre-test and Post-test:

The current research used tests as a source of quantitative data. The pre- and post-tests (See Appendix (3)) were considered a research method that would collect paired data obtained by comparing participant scores on comparable tests given at different times. The tests measure changes that could occur after students are exposed to various educational techniques and information (Mertler, 2009). The pre-test/post-test method is a common research design for studies and allows for scientific control over internal validity. As a result, this method has been identified as a “true experimental design.” The design of this experiment is multipurpose and could be used in an educational setting to examine the impact of new teaching methods of strategies on students and could also be used to examine medical treatments such as in the evaluation of psychological constructs (Huck & Mclean 1975). The first question in this study is “What effect does using of Blackboard (Jazan Jump) in combination with social media have on students’ achievement?”

There are three designs for the pre-test/post-test design as described by Dimitrov & Rumrill, 2003:

1) “Randomized Solomon four-group design”

The researcher needs to have two experimental groups and two controlled groups in this design. All four groups would answer the post-test questions, but only one group would need to complete the pre-test measures. The pre-test measures would allow for better control of the pre-testing effects.

2) “Nonrandomized controlled group pretest-posttest design.”

The present case study followed the “Randomized controlled-group pretest-posttest design.” According to this design, medical students were randomly assigned to groups and both the experimental and controlled groups were exposed to similar conditions. The selection of the members for each group was random and the participants shared the same medical course which was provided by the same medical college. All participants were from the same educational community and were in the same academic level. The instructions they received occurred in the same physical classroom. As a result, the students in the experimental group were exposed to the WhatsApp and Jazan Jump treatment while the controlled group was not exposed to these factors. This design is more reactive to the internal validity problems that could occur including maturation and history. The design is sensitive to the interaction of factors including pre-tests and treatment that reduce external validity. Creswell (2009) states
that maturation refers to the medical characteristics of the research subjects that may change during the experiment. The maturation process could negatively impact their post-test markers. The researcher created a period of four months between the pre-test and post-test to ensure that the participants did not change significantly and were of the same age and general condition when both tests occurred. When the participants experienced WhatsApp along with other external events and activities, these factors should be reflected in the post-test. The researcher worked to ensure that the events did not impact the internal validity of the case study by will the experimental and controlled group engage in the same events. To avoid interaction testing and treatment that occurs when the pre-test and post-test questions are different, the researcher used the same questions for both tests.

The researcher compared the pre- and post-test data with an analysis of variance (ANCOVA) in SPSS, a software package used for statistical analysis. The researcher created an SPSS data file that displayed the experimental variables. There were 100 participants who took the pre- and post-test. At the beginning of the semester, there were only 100 individuals who were ready to take the pre-test. As a result, the researcher focused on the same 100 members and had them take the post-test. The other 100 members participating in the study joined later. The researcher did not measure their achievement because they did not take the pre-test; their participation in the student survey was included. The total number of survey participants was 200 students while the total number of students who took the pre- and post-test was 100.

The 100 participants were provided with unique ID numbers and the groups were divided into two levels. One group did not receive any treatment. This group consisted of 50 subjects. The second group of 50 subjects received treatment which consisted of learning English medical terminology using WhatsApp and Jazan Jump.

The third variable in this study was the pre-test score variable that was used to measure the students’ knowledge before and after the treatment. The post-test variable was same as the pre-test to evaluate participants’ knowledge after the treatment. If the experiment was effective, the post-test score for the treatment group would be higher than the score for the controlled group. The software provided the researcher with the statistical methods needed to properly analyse the pre- and post-test scores. To calculate the test scores, the researcher compared the pre-test and post-test data with the independent t-test and the paired-samples t-test using SPSS, a software used in statistical analysis. The researcher describes these measurements in detail in the data analysis section (Dimitrov & Rumrill, 2003).
Step 3 Piloting Student Survey:

Yin (2009) mentions that conducting a pilot study to support the main research is an important starting point to gather data properly and will allow the researcher to diagnose problems that may occur during the main study. The pilot study provides adequate data for the investigator to make decisions about beginning the main study (As cited in Thabane et al., 2010). According to Van & Hundley (2001), the researcher should conduct a pilot study for the following reasons:

- Provides the researcher with the opportunity to overcome research difficulties by creating a situation for the researcher to fix, recreate, plan, and test tools to allow them to fit the case study.
- Improves and examines the effectiveness of the research tools.
- Judges the viability of the survey and questionnaire.
- Plans case study procedures.
- Evaluates research measures to ensure they are practical and accurate.
- Recognizes problems that could arise in the main research study.
- Gathers pilot data.
- Determines what resources are required and what aspects of the study may need to be redesigned.
- Discovers what experimental framework and methods are effective.
- Improves case study questions and plans.
- Trains the researcher for the main study.

To develop the student survey, the research followed the work of Peat et al., (2002). The pilot study followed the steps that could increase the internal validity of the survey.

The survey provided to the participants in the EFL program at Jazan University was distributed in September 2015. There were 20 medical students with an intermediate level of knowledge in English. These students were enrolled in the level 2 course with code 164-
The students were Saudi Arabian and Arabic was their native language. The average age of these individuals was 20. The researcher recognized that there could be ambiguities and other “hard” questions that students could ask about when answering the pilot survey. The researcher also found that providing the students with only 15 minutes to answer the survey was inadequate. As a result, the researcher recorded the amount of time that students took to answer, the pilot survey. The result was that most students took about 20 minutes to complete the survey. The researcher checked all the questions in order to ensure that the participants answered all questions and then revised the survey file by modifying problematic areas.

The pilot survey (See Appendix 7) showed that the researcher confused students with a discussion about the Blackboard system as if it was a social media network. The researcher fixed this issue and asked the students about the systems separately. The students may have used one system, but not the other and the revised survey question allowed the students to answer all items with minimal confusion. The translation of the survey from Arabic to the target language of the students was an important step that the researcher took to ensure that the survey was as clear and easy to understand for all involved. The researcher also translated the letter that provided information to participants and the consent form into Arabic for the students and provided the instructions for the survey in both Arabic and English to ensure that all items in the survey were properly understood. The researcher used Arabic during communication break downs to receive clear, quick answers from the subjects (See Appendix 7).

**Step 4 Design the Main Study Student Survey**

The main study student survey(See Appendix 8) followed the work of Dilman (2000) as cited in Fanning (2005). Dilman’s work involved ten steps. The first step involved giving the survey a purpose. The main goal of the survey was to examine the difference between current social media usage and the use of WhatsApp and Jazan Jump Blackboard in the experimental and controlled groups. The second goal of the survey was to include the main and secondary themes. The high-level topic of the survey was based on the Community of Inquiry Scale used by Shea & Bidjerano (2010) for their research examining teaching presence, social presence, and cognitive presence within computer-mediated environments. The secondary topics of the survey focused on students’ self-efficacy, attitudes, and anxiety along with their self-regulation as it related to technological beliefs. Throughout the survey, the researcher
wanted students to provide information about their attitudes, technological self-ability views, nervousness, and engagement in learning English medical terminology using social media and a learning management system. The survey content explored the behaviours and the process of medical student engagement using online presences that relate to teaching goals, guidelines, and participation in activities and direct instruction. The survey covered social presence that focused on online discourse that stimulated positive affect, communication, and organization. In addition, the survey works to determine the cognitive presence and to show to what degree students understood the medical course content and were able to find answers for their questions.

The fifth question in the survey answers the question of “How do students view the teaching presence, social presence, cognitive presence, self-efficacy beliefs, self-regulation beliefs, and anxiety beliefs toward WhatsApp and Jazan Jump?” and also addresses the question of “What is the relationship of self-regulation beliefs, technological self-efficacy, and anxiety for the students who learn using WhatsApp and Jazan Jump and their engagement presences?” The question also addresses the issue of “To what degree students’ attitudes who experience through learning through WhatsApp and Jazan Jump correlate with engagement presences?”

The format of the survey depends on grid questions that present a matrix of sub-questions presented on agreement scales. The survey is administered in a single classroom session and students took approximately 20 minutes to complete the survey. The survey consisted of 58 Likert-type items that were designed to assess the overall perceptions of the course using the three primary presences in 27 statements. These items used a five-point response scale (1=strongly agree to 5=strongly disagree) and prompted students to point out the degree to which they agreed with each statement. Four variables were revised in the survey including 13 statements related to self-efficacy beliefs, 8 statements which examined student anxiety, 5 statements about learning self-regulation, and 5 statements about student attitudes regarding social media and Jazan Jump. The survey layout was generally consistent throughout the document and students were given equal amounts of space to provide their answers to the survey questions. The survey questions avoided sensitive content which could result in shame, embarrassment, or guilt. The survey questions explored topics related to education, specifically the behaviour and attitudes that students exhibit in relation to language teaching or learning. The survey examined the way that Saudi Arabia is experiencing a virtual revolution that impacts the educational system greatly. Data regarding how the revolution is
impacting language learning are critical. The researcher tried to minimize participant anxiety or fear as they answered questions and tried to ensure that they felt relaxed by reassuring them that all survey answer would be kept confidential and private (See Appendix 8).

**Step 5 Piloting the Teacher Survey:**

Ten English teachers at Jazan University participated in the pilot study in September 2015. The researcher provided copies of the survey along with the study proposal to Professor Helen Kelly Holmes. These individuals were asked to provide comments regarding the suitability of the survey. The pilot teacher survey consisted of 23 items that worked to establish information about teachers’ technological self-efficacy (See Appendix 6). The number of items that explored this topic increased to 48 in the main study. The pilot group was asked to provide information about difficulties they faced regarding the instructions or overall understanding. The researcher took the copies of the survey to her supervisor who made more comments and modifications. The responses were considered and minor amendments were made to the final version of the survey, including some deletions and additions. The notes and recommendations were carefully studied and some were incorporated into the final version of the survey.

The teacher comments generally indicated that there was some confusion about statements regarding Blackboard. Some teachers thought that Blackboard was a form of social media. As a result, in the main study, the researcher asked separate questions about WhatsApp and Jazan Jump to reduce confusion. The analysis of teacher answers using SPSS showed that the second teacher survey section found that the majority of teachers had doubts about their ability to use and create social media groups to teach English. The teachers also reported negative attitudes regarding procedural knowledge of Blackboard. The researcher added 7 statements to the survey about training. The third section of the survey found that the majority of teachers only used social media for general purposes and that they were worried about their ability to use Blackboard and WhatsApp for specific teaching purposes. The researcher designed more statements in the main study to help teachers identify the reasons to use both systems in a formal educational setting.

**Step 6 Design the Main Study Teachers’ Survey:**

To develop the survey, the researcher adopted Likert-type scales that are most commonly used in medical education and medical education research. These scales are relatively simple
and formatted in a way to allow participants to share their opinions without much difficulty. In addition, this style of providing answers was quick and did not require participants to write their answers. The scale also allowed answers to be quantified and analysed without much difficulty (Sullivan, & Artino Jr, 2013).

The researcher designed the current teacher surveys using Dilman’s (2000) ten steps. The survey worked to determine the recent usage of WhatsApp and Jazan Jump Blackboard at Jazan University among teachers. The primary theme of the survey was designed according to Davies’ (2011) model called “Framework for Evaluating Educational Technology Integration.” This survey assessed the technological knowledge of teachers and worked to examine their constructivist beliefs and attitudes about social media and Jazan Jump Blackboard.

The secondary topics involved demographic information for the teachers, their experience using Jazan Jump and WhatsApp, and their preferred teaching method(s). The survey was designed to allow the teachers to provide information about their self-efficacy technological knowledge about social media and learning management systems. The researcher wanted to learn how the teachers viewed these factors. The survey also examined teachers’ literacy about WhatsApp and Jazan Jump. The statements explored the way that the teachers felt their experience related to the systems and their teaching methods. The surveys also highlighted the actual practices and purposes that the teachers had when using Jazan Jump or WhatsApp. The survey answered the fifth question of “Does the experience of English teachers at Jazan University in teaching English, using Jazan Jump Blackboard, WhatsApp, and teaching methods, provide positive signs regarding the ability of teachers to integrated technology into the classroom?” and the sixth question of “Do the teachers at Jazan University have negative or positive constructive beliefs and attitudes toward using technology in the classroom?” The survey worked to answer the seventh question of “Do the teachers of Jazan University have negative or positive technology declarative knowledge, digital practical knowledge, and genesis technological skills toward using WhatsApp and Jazan Jump in the classroom?”

The format of the survey was designed for use with the Likert scale. The researcher used different methods of data collection for teachers including collecting data from them using emails or through in-person discussions. The teacher surveys took approximately 20 minutes to complete. The survey consisted of 4 multiple choice questions and 44 Likert-type items for a total of 48 items (See Appendix 9). The survey was designed to examine teachers’ overall
perceptions toward the different levels of technological literacy in 31 statements. There were 7 statements that examined their constructivist beliefs and 7 statements that examined their attitudes. The items used a five-point response scale (1=strongly agree to 5=strongly disagree) and prompted teachers to indicate the degree to which they agreed with each statement. The survey layout was consistent. For example, there was a consistent amount of space for each answer on the survey. The survey questions did not discuss statements that could cause a loss of security or shame if released to others. The questions were also not worded in a way that may reduce dignity or result in shame, embarrassment, or guilt. The survey did not address cultural, racial, or other sensitive topics. The questions primarily focused on teacher behaviours and beliefs about the use of technology in the teaching of a new language. The investigator tried to reduce subject apprehension when answering questions by supporting participants as they worked to finish the survey. The investigator assured participants that they were no wrong answers and that all information would be kept confidential.

**Step 7 Design Interview for Teachers and Students:**

Interviews consisted of discussions between the researchers and participants and involved the investigator asking the subject to answer different questions (Schmuck, 1997 as cited in Mertler, C. A. 2009).

Boyce & Neale (2006) provided interview guidelines to allow for the collection of data from many respondents about perceptions of various programs. In this particular case, the perceptions were about WhatsApp and Jazan Jump Blackboard. They also listed five stages for conducting a good, in-depth interview which involved “plan, develop instruments, train data collectors, collect data, analyse data”.

Boyce & Neale (2006) argued that a researcher should identify participants who will be willing to be interviewed. The researcher should also determine the information that needs to be obtained and which people should be interviewed to obtain the information. The interviews must be conducted in accordance with local and international research ethics and be able to pass a review by the faculty of Arts, Humanities, and Social Sciences research ethics committee.
When the researcher started designing the interviews, she identified the participants who were EFL medical students in the Preparatory Year at Jazan University in 2016 and Medical English teachers. The researcher also wrote letters explaining the study aims, content, and description of the targeted subjects. All University of Limerick research ethics approval guidelines were followed in accordance with the information found at www.ul.ie/artsoc/ethics. After she completing the form, she emailed the electronic copy to fahssethics@ul.ie and the hard-signed copy with all research instruments that included student and teacher interview questions to the research ethics committee for review. Over the next month, she received an email from the ethics committee stating that “Norah Banafi’s Project been given ethical approval under reference: 2015-12-07-AHSS” (See Appendix (1). She also received permission from Jazan University to conduct her study and engage in interviews and other data collection as described in this chapter (See Appendix (3).

During the “Develop instruments” stage, the research was based on the designs of an interview protocol that included particular rules and directions. The following are instructions the researcher abided by during the interview (Boyce & Neale, 2006:5).

1. Introduce herself to the interviewees when setting up the interview and provide general information about the case study.
2. Confirm the confidentiality of all responses.
3. Tell the interviewee the means that would be used to record data. The researcher may have selected to electronically record the interviews.
4. Inform the participants of what will be done after the interview. In this study, the researcher transcribed data from the audiotape and summarized the main information for each interview prior to writing the findings.
5. Ask the participants open-ended questions. An open-ended question is one that prompts discussion and is often general or broad (Mertler, 2009). The current study involves asking these types of questions about social media, Blackboard, and learning/teaching English.
6. Use translation guides, when necessary. The researcher used both Arabic and English during the interview to make it as clear as possible.

During the “Train Data Collectors” stage, the researcher followed Boyce and Neale’s (2006) strategies to effectively perform data collection. The researcher provided introductions to the study objectives for the interviewees by handing out summaries to all subjects. See the
The researcher piloted the interview questions and refined the current study questions. Some major changes were made during the revision process including the questions asked about social media and the learning management system. These questions, in the pilot, failed to obtain detailed answers. The researcher made these questions more focused, but still open ended so that participants would be able to express detailed information (Creswell, 2007).

The researcher assumed that the participants used WhatsApp only for learning. The researcher discovered the some of them used it for other purposes. For this reason, the researcher asked the interviewees questions to determine if they had skills that allowed them to use WhatsApp to accomplish their English language goals.

The researcher avoided information-inferring questions by asking the participants “a question that ascertains the level of knowledge or ignorance about the issue first, then ask(ing) a substantive question about what they might know” (Davies & Beaumont, 2010:5). In the pilot study, the researcher worded questions ambiguously. For example, the researcher wrote “Describe the good way to learn and teach English through social media?” This question obtained misleading data because social media could include multiple platforms including Twitter, Facebook, and Instagram. Some of the individuals in the pilot study did not know about WhatsApp. The researcher specified WhatsApp to ensure that the questions related directly to the objects of the current study. The researcher asked relevant, simple questions. If ambiguous questions were identified, these questions were clarified or simplified (Mann, 2016). The interview was then conducted with selected students and any ethical issues were discussed with the supervisor.

For the “Collect Data” stage, the researcher followed the suggestions of Boyce & Neale (2006) which included:

- Clarification for participants about why he or she was selected for the interview

Prior to the interview, the researcher provided participants with background information and a consent letter. See the consent letter that provided to participants in the Appendix (10) & (11)

- After each interview, the researcher summarized key data for the interviewee.
In the “Analyze Data” stage, the researcher follows Boyce & Neale (2006) ideas which included listening to the recordings of the interviews to identify patterns of themes that were significant (See Appendix 12).

**Step 8 Standardized Research Tools**

The researcher checked the characteristics of the psychometric properties of the survey by studying the reliability and validity of the instrument used to measure these properties (Brink, Louw, & Grimmer-Somers, 2011). Psychometric properties of all research tools used were measured against the results of the pilot study to examine the survey process and to obtain feedback about the questions and the structure of the tools (Lewis, Williams, & Olds, 2011).

1. **The Validity of the Instrument:**

Yin (2009) wrote about four tests that are commonly employed in case studies. These tests were designed to examine the validity of the research tools. The tools include content validity, construct validity, internal validity, and reliability. These measures help to ensure that case studies are conducted properly. If a case study stands up to these tests, then the study has been designed and carried out properly. To increase the clarity of this study, the researcher addressed each of the measures. The analysis of the measures is provided below to provide greater insight into how each tactic was used in this study.

**A. Content Validity**

Content validity is defined as “the ability of the selected items to reflect the variables of a construct in the measure. This type of validity addresses the degree to which items of an instrument sufficiently represents the content domain. It also answers the question that to what extent the selected sample in an instrument or instrument items is a comprehensive sample of the content” (Zamanzadeh et al., 2015:65-66).

To achieve content validity, the researcher consulted with experts to check the survey items to ensure that there were no missing item and that each question related appropriately to the study subject (Malmgreen, Graham, Shortridge-Baggett, Courtney, & Walsh, 2009). Feedback from Professor Hellen Kelly Holmes and 20 medical studies was obtained, analysed, and incorporated. The feedback resulted in some minor changes such as the decision to translate the survey to make it clearer. In addition, a section that discussed student engagement was also added. The survey was designed to measure students’ self-efficacy beliefs, anxiety, and attitudes concerning WhatsApp and Jazan Jump Blackboard. In the pilot
study, these statements were general and did not do a good job measuring the systems separately. In the main study survey, the researcher ensured that there were statements that asked students for their opinions about each system.

The same process was performed with the teacher surveys and the same basic modifications that are described above were incorporated. The researcher added a section to the survey that explored teachers’ experience teaching English and using WhatsApp and Jazan Jump along with their preferred teaching methods. This addition was a result of the suggestion made by experts who studied the results of the pilot teachers’ survey and made recommendations to ask teachers about their technological experience and the teaching methods that they preferred. The experts believed that these factors should be taken into account by the survey.

The researcher made 7 additional statements for “Teachers’ Self-efficacy Procedural Technological Knowledge” to explore the training needs of teachers. This change was made as a result of an SPSS analysis that showed that 80% of teachers felt that more training was needed to allow them to feel comfortable using the systems or to be able to use the system effectively. This desire showed that teachers were missing some procedural knowledge and were unable to use Blackboard to its fullest extent. As a result, it would be better to explore other types of training for teachers to allow them to gain the knowledge and skills that they need to use Blackboard and WhatsApp in a professional, classroom-appropriate manner.

The researcher made 13 additional statements for use in the “Teachers’ Self-efficacy Genius Technological Knowledge” section to allow the research to explore the educational uses for Jazan Jump Blackboard and WhatsApp. This addition was made because the majority of teachers in the pilot study used social media and Blackboard for general reasons. These same individuals were anxious about their ability to use the systems effectively and appropriately to teach students. The teachers did not have any concrete reasons for not using the systems for educational tasks and 80% of the teachers reported that they could have used social media in the classroom if they decided to and that they would have specific reasons for making this type of decision. This modification will provide the investigator with a deep understanding of the professional skills possessed by teachers. The following table shows the study tools used before and after the pilot study.
Table 4.3 Display the Changes of the Survey Study Tools Before and After the Pilot Study

<table>
<thead>
<tr>
<th>Number of Statements of Teacher Survey</th>
<th>Before Teachers’ Pilot Study</th>
<th>After Teachers’ Pilot Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background Information</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Teachers’ Self-efficacy Technological Declarative Knowledge</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Teachers’ Self-efficacy Procedural Technological Knowledge</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Teachers’ Self-efficacy Genius Technological Knowledge</td>
<td>4</td>
<td>17</td>
</tr>
<tr>
<td>Teachers’ Constructivist Beliefs and Technology</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Attitudes</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>48</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of Statements of Student Survey</th>
<th>Before Students’ Pilot Study</th>
<th>After Students’ Pilot Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engagement</td>
<td>0</td>
<td>27</td>
</tr>
<tr>
<td>Self-efficacy Beliefs</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>Anxiety</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Learning Self-regulation</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Attitudes</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>29</td>
<td>58</td>
</tr>
</tbody>
</table>

B. Construct Validity:

Brown (2000) stated that construct validity is used to measure the validity of a test and is used in education, social sciences, and psychology. This tool is used to measure research variables. For example, if there is an experiment that is tasked with determining if an educational program is increasing student engagement, then a construct validity tool could be used to evaluate the research design. The validity of one research design can be compared to the research design of another group. If a group that received a particular treatment performs better than one that does not have the same treatment, then the result would show that there is evidence that the test has construct validity. If a researcher has a weak construct, the researcher can use another strategy called an intervention study. An intervention study allows the researcher to redesign the construct and test it again. After the study is redesigned and run, then construct validity can again be evaluated to determine if there was strong construct validity. This process can be repeated, as needed, until the study exhibits strong construct validity. The more techniques that a researcher uses to examine the validity of a test, the higher the construct validity of the overall study, assuming that the study passes all the tests.
The construct validity helps to show that methods are authentic and have reliable, trustworthy results. The construct validity of a test must be proven through a significant amount of evidence that can be provided through tests such as content analysis, correlation coefficients, factor analysis, and ANOVA statistical tests (Brown, 2000, Lewis, Williams, & Olds, 2011).

C. Internal Validity:

Internal validity refers to a case study’s ability to determine if a spontaneous relationship occurred between the independent and dependent variables. Creswelle (2009) states that the following threats can reduce the internal validity of a case study:

i. History can indicate that certain events may occur during the experiment and that the events could change the performance of participants. In the current study, the researcher worked to ensure that the events did not impact the case study by having participants in the experimental and controlled group practice identical external events. For example, when the teacher provides an external activity for the experimental group in WhatsApp, the teacher will also provide the same activity for the control group to work on during English Club (*See, item vi below)

ii. Maturation refers to the way that participants may change throughout the course of the experiment. These differences can negatively impact the case study results. The researcher in this study matched students according to their ages and tried to keep the changes they may experience during the study to a minimum.

iii. Instrumentation relates to the research tools that could change during the pre-test and post-test process. If these changes occur, the outcomes would be altered. To prevent this threat, the researcher used the same study instruments in both groups.

iv. Selection refers to the ceasing of participants who have identical or very similar characteristics. These selections can lead to similar or at least consistent outcomes. To avoid this issue, the researcher selected participants randomly to participation in the study.

v. The quality of the research will decrease if participants dropout from the course due to personal reasons. The researcher needs to have a significant number of participants to ensure that a good outcome is achieved.
vi. Resentful demoralization occurs when an experimental group obtains all the advantages from treatment. For this reason, the researcher treated all participants equally and provided both groups with good treatment and benefits. For example, the teacher gave the control group extra activities inside the classroom as a type of treatment. The course teacher also let the control group members join the English Club, an organization established by The English Language Center (ELC) of Jazan University. The initial club created the foundation for what would become 15 other English Clubs in various colleges. These clubs provide students with the opportunity to develop language proficiency in a casual setting outside of the classroom. (http://centers.jazanu.edu.sa).

vii. Compensatory rivalry means that participants in the controlled group feel neglected because they are not exposed to the study treatment. To make students feel equal in both groups, the researcher provides them with the same activities.

viii. Since testing involves evaluation activities, learners will be motivated to perform better during testing. This study involved a pre-test and a post-test and students may have had better results on the post-test because they already knew the questions. To avoid this from happening, the researcher set a significant amount of time between the two tests to minimize the possibility that the participants would remember what they saw on the tests.

D) Reliability

The study used the SPSS to analyse the data. The researcher used the Cronbach alpha calculation and obtained the following results as shown in tables 4.4 and 4.5 below.

Table 4.4 Reliability Statistics for Student Survey

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>Number of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.938</td>
<td>58</td>
</tr>
</tbody>
</table>
Table 4.5 Reliability Statistics for Teacher Survey

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>Number of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.880</td>
<td>48</td>
</tr>
</tbody>
</table>

Yaremko et al., (1982) wrote that internal consistency refers to the extent to which each item on a test or survey is associated with other items and with the overall score. The Cronbach alpha calculation is the most common and best approach to examine internal consistency. The Cronbach alpha calculation uses a scale that goes from 0.00 to 1.00. Generally, a score that is at or above 0.75 is recognized as an acceptable level of internal consistency (Galvan, 2006, as cited in Knortz, 2009). The Cronbach alpha calculation of all the student surveys submitted in this study was 0.93. The Cronbach alpha calculation of all the teacher surveys submitted would be 0.880. These scores show that there is a high rate of reliability of the instruments.

**Step 9 Field Procedures for the Study Tool**

The researcher applied various study tools after completing the study to ensure that the study was stable and to ensure that it would be able to pass all formal procedures and rules governing this type of research. The research took place from January 2016 to May 2016, the duration of the second semester of the academic year. After the study tools were finalized, the researcher took the following steps:

Step 1: Received an email from the ethics committing which stated that “Norah Banafi’ Project been given ethical approval under reference: 2015-12-07-AHSS”. (See Appendix (1))

Step 2: Obtained official letters from the Royal Embassy of Saudi Arabia Cultural Bureau in Dublin to facilitate the research. (See Appendix (2))

Step 3: Obtained official letters from the Dean of Jazan University to facilitate the research. (See Appendix (3))

Step 4: Distributed a pre-test exam at the beginning of the semester and a post-test exam at the end of the semester. (Appendix (4) and Appendix (5))

Step 5: Distributed the student and teacher surveys at the end of the semester. (See Appendix 8 and Appendix 9)
Step 6: Conducted interviews with students and teachers. (See Appendix10 &11)

Step 7: Transferred student and teacher survey responses to SPSS.

Step 8: Conducted SPSS analysis for the surveys and analysed interview responses.

Step 9 Conducted a content analysis for the interviews. (See Appendix 12)

Step 10 Statistical Methods

The researcher interpreted the findings and answered the study questions using the following statistical methods.

A. Descriptive Analysis:

1. **Percentage & Frequencies Analysis** is a descriptive statistical technique that represents the number of occurrences of each answer selected by the participants (Arkkelin, 2014). Frequencies analysis of the current study found that teachers had a low to moderate level of knowledge about these technologies and did not use it in class actions. Also, the results show that teachers have positive constructive beliefs and medium to high attitudes toward technology use in the classroom.

2. **The Mean** is “defined as the arithmetic average of a set of scores. To calculate the mean, one simply adds all scores in a set of data and then divides by the number of scores in the set” (Mertler, 2009:146). In the current study, the calculation of mean scores suggests that students who use WhatsApp and Blackboard had an increase in self-efficacy beliefs and self-learning regulation practices about the use of technology. The students had moderate levels of anxiety regarding their ability to use Jazan Jump and WhatsApp.

3. **Standard Deviation** “is formally defined as the average distance of scores away from mean. The calculation of a standard deviation can be accomplished by hand, but the ease with which it can determined through the use of statistical software” (Mertler, 2009:148).

B. The quantitative statistics are as follows:

1. **Pearson Correlation** is a measurement method that could be run by the SPSS program to define the degree and direction of connection between the study variables. The scale values of the correlation coefficient range from -1.00 to +1.00 to indicate the
significance of the degree of connection. According to the current study, Pearson Correlation shows that the “Learner Presence” that includes student self-efficacy beliefs and self-learning regulations beliefs have been positively correlated with teaching presence and social presence and cognitive presence. The degree of anxiety correlation fluctuates with each engagement, presence in the educational context.

2. **Cronbach’s alpha** is the method of analysing statistical data to show the way that items are related. The scale results range from 0 to 1 and a score of 0.95 represents a greater degree of reliability between items (Connelly, 2011). Cronbach’s alpha results in the current study shows a high rate of reliability of the teacher and student surveys.

3. **The paired-samples t-test** is the suitable SPSS analytical test used to determine if there was a significant change in the score of the controlled and experimental groups after the experiment. To compare these two groups, the “Paired Sample T-test” was used. The possible value of the t-test was 0.05 or less which referred to a major difference between the means of the two targeted groups (Arkkelin, 2014). According to the current study, A paired-samples t-test provided a clear comparison of the engagement presences in both the controlled and experimental groups regarding WhatsApp and Jazan Jump. This comparison shows a fundamental and statistically significant differences, 0.05 or less, in the study sample answers of the student survey regarding WhatsApp and Jazan Jump engagement presences, students social media attitudes and the student achievement in pre- and post-tests.

4.4 **Summary**
To sum up this chapter provides information about the following five elements of case study: (1) a study’s questions; (2) a study’s hypothesis; (3) a study’s unit of analysis; (4) the logic linking the data to the questions; and (5) the criteria for interpreting the findings. This chapter explains the procedures of pre-test and post-test, surveys, and interviews for both teachers and students. In addition, it summarizes all statistical descriptive and quantitative methods that used to analyse the data. This chapter is considered as a plan that guides the researcher in the process of collecting, analyzing, and interpreting the data from interviews and surveys.
Chapter V: Achievement and Engagement Results

5.0 Introduction
As discussed in Chapter 1, the research was designed to investigate the effect of Jazan Jump Blackboard and WhatsApp on the development of English Medical Terminologies for EFL students. The data have been statistically processed and analysed to measure the impact of applying the concepts of social media and learning management system on students’ abilities to learn terminology in a Medical English class. This chapter will be broken into five sections. The first section, Section 5.1, contains information regarding the statistical analyses of the results obtained from the pre-test and post-test. The second section, Section 5.2, contains information about the discussion of student survey results and the statistical differences between the controlled and experimental groups in relation to “Paired Sample T-test” that provide answers for the first part of the second question “How do students view their teaching presence, social presence, cognitive presence, and the learner presence that includes self-efficacy beliefs, self-regulation beliefs, and emotional presence that includes anxiety beliefs toward WhatsApp and Jazan Jump in both controlled and experimental groups?” The section also includes a discussion of the second part of the second question related to factors that appear to demonstrate increased teaching, cognitive, and social presences and learner presence with emotional presence in both Jazan Jump and WhatsApp based on the answers collected during interviews and student surveys. Section 5.3 provides the results of the correlation tests using independent variables including social presence, cognitive presence, and teaching presence and dependent predictors such as self-efficacy beliefs, self-learning regulation, and anxiety that relate the research to other hypotheses. The fourth section, Section 5.4, provides details of the attitudes that students have toward social media and provides correlation tests showing the relationship between student attitudes and engagement presences. The fifth section, Section 5.5, provides a summary of the way that the results relate to student achievement and engagement in a BL environment.

5.1 Student Achievement in Blended Learning with Integrated Social Software and an LMS
To investigate the impact of BL student achievement when learning English medical terminology, the researcher collected quantitative data using a pre-test and a post-test. The pre-test contained four questions. The first one was made up of four multiple choice questions and a diagram where the selections would match various parts of the endocrine
system. The second set of questions had ten fill-in-the-blank items and four true/false statements. The third question asked for sentences to be completed properly using the words contained in a box and the fourth question was made up of two sections: a) matching medical terminologies with their meanings and b) reading a medical passage and answering questions. The post-test used the same format. The goal of the pre-test was to measure student knowledge and ensure that they had the same starting medical vocabulary knowledge. The experimental group studied medical terminology using face-to-face learning and social media along with Blackboard BL. A controlled group learned the same terms, but could only attend class and use Jazan Jump Blackboard. The researcher encouraged individuals in the experimental group to use medical terminology outside the classroom. The first week involved in-class sessions where a pre-test was administered to both groups. After eight weeks of instruction, a post-test was administered to see the differences in the achievement of the groups.

To calculate the test scores, the researcher compared the pre-test and post-test data with the independent t-test and the paired-samples t-test using SPSS, a software used in statistical analysis. The researcher specifically created an SPSS data file that showed data experiment variables. There were 100 participants in the pre-test and post-test group. At the beginning of the semester, there were only 100 individuals who were ready to take the pre-test. These same individuals received the post-test. The other 100 members joined the study, but the researcher did not measure their achievement because they did not take the pre-test. These individuals were included in the student survey. The total number of survey participants was 200 while the total number of pre-test and post-test participants was 100.

The researcher used ID numbers for all 100 participants and used a group variable. This created two levels of groups. One group of 50 subjects did not receive the treatment, while the other group had 50 subjects who received the treatment of learning English medical terminology using WhatsApp and Jazan Jump.

There was also a pre-test score variable which measured student knowledge prior to the treatment. A post-test variable was also provided to evaluate knowledge after the treatment. If the experiment was effective, the post-test score for the treatment group would be higher than the score for the controlled group. The software provided the researcher with suitable statistical methods to analyse pre-test and post-test data for answering the following:
The First Hypothesis: There is a significant difference in student achievement shown in pre-test and post-test results when comparing the experimental group using WhatsApp and Jazan Jump and the controlled group that is only using Jazan Jump.

The First Question is “What is the different between the achievement of students in the experimental group of WhatsApp and Jazan Jump compare to the students in the controlled group using only Jazan Jump as determined by medical terminology pre-test and post-test exams?”

5.1.1 Pre-test Achievement
A statistical analysis of the data obtained from the tests was conducted using SPSS. This test was conducted prior to enrolling students into two different treatments. The reason for conducting these tests was to determine the amount of knowledge that students had regarding English Medical Terminologies. The scores obtained by both groups are shown in Table 5.1.

Table 5.1 The Mean Score of Controlled and Experimental Groups in the Pre-test Group

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>Std D.</th>
<th>T-Test</th>
<th>DF</th>
<th>Sing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cont.</td>
<td>50</td>
<td>13.01</td>
<td>5.187</td>
<td>16.227</td>
<td>49</td>
<td>.000</td>
</tr>
<tr>
<td>Exp.</td>
<td>50</td>
<td>12.26</td>
<td>4.703</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table above shows that the mean score of the controlled group is 13.01 and the standard deviation for this group is 5.187. In comparison, the mean for the controlled group is 12.26 and the standard deviation is 4.703. This result indicates that there is no statistically significant difference between the two groups prior to the groups receiving the “treatments” defined as traditional classroom instruction and web-based instruction. The 0.75 difference in the mean shows that both groups shared the same background knowledge and had generally the same amount of medical terminology knowledge.

5.1.2 Post-test Achievement
The post-test was conducted after students had been exposed to different types of treatment and different instructional strategies that are discussed on the chapter of methodology. The results of the test are shown below in Table 5.2.
Table 5.2 T–Test for the Mean Score of Controlled and Experimental Groups in the Post-test

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>Std.D.</th>
<th>T-Test</th>
<th>DF</th>
<th>Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cont.</td>
<td>50</td>
<td>29.0700</td>
<td>8.49670</td>
<td>-44.386</td>
<td>49</td>
<td>.000</td>
</tr>
<tr>
<td>Exp.</td>
<td>50</td>
<td>47.4800</td>
<td>2.14038</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table above shows that the mean score for the controlled group is 29.0700 and the standard deviation is 8.49670. In the experimental group, the mean is 47.4800 and the standard deviation is 2.14038. The value of the T-test is -44.386 at the probability value of 0.000 significance with a level of p<0.05. This value indicates that there is a large difference between the two groups with the experimental group having the better results. The difference in mean between the controlled group and the experimental group is 18.41 which supports the claim that the use of web-based resources such as WhatsApp and Jazan Jump have a significant impact on the development of medical terminology knowledge in students. The result shows that medical teachers should be encouraged to integrate blended and face-to-face teaching with social media and LMS use as part of their instruction. The results of both tests are shown clearly in the following Figure 5.1.

Figure 5.1 The results of both pre-and Post-tests in Controlled and Experimental
In a similar study in Saudi Arabia, Amry (2014) also reported findings that are consistent with the current study results in which the researcher discovered that blending WhatsApp group interactions in special education impacts positively impacts on students’ achievement. The results of the experimentation state that there are great differences, at the 0.05 alpha level, in the achievements of the experimental group compared with the controlled group.

Another study has shown that there is a positive impact of using BL that involves face-to-face instruction, Twitter, and Ning, a type of LMS, in pre-health courses. This teaching method is superior to using face-to-face and Ning alone when teaching students (Junco, Heiberger, Loken, 2011). Dalsgaard (2006) argues that educational institutions need to progress their blending learning methods into “collective learning environments” that use social media and LMS to convey information. Blending learning and student achievement relate to the higher education process in Saudi Arabia. Educational institutions work to achieve a good BL curriculum to increase educational outcomes and learning experiences. Blended learning in many Saudi universities such as Um Al Qura is intended to increase student achievement and has been tied to positive learning results (Aloraini, 2012; AlQahtani & Higgins, 2013). Researchers suggest that BL plays an important role in improving student achievement by increasing student involvement with course content using technology (Thompson, 2003). Blended learning is considered a teaching method that is useful in foreign language classes where teachers use instructional vocabulary (Tosun, 2015). Blended learning combined with social media “can augment the learning opportunities within the humanities curriculum in medical schools, and help students acquire the tools and skill-sets for problem solving, networking, and collaboration. Command of digital technologies will be increasingly important to the practice of medicine in the twenty-first century” (George & Dellasega, 2011: 429). While many studies prefer to use an LMS when using BL, social media tools such as WhatsApp and Facebook help teachers support student learning. To increase student achievement, educators incorporate various features of an LMS and social media software in the teaching curriculum (Du, Fu, Zhao, Liu, Liu, 2013).

Sharing and taking advantage of participation in an educational environment should increase a participant’s curiosity, knowledge, skills, and achievement. The result will be increased learning that will have greater depth and variety through the use of innovation and technological advances. Learning is a mixture of constructive processes and an LMS could help teachers organize and manage their course materials more effectively while teachers can also create social processes and help students communicate with one another throughout the
learning process and create better, more effective learning environments that lead to greater academic achievements (Du et al., 2013).

5.2 Blended Learning Engagement
Kuh (2009:5) wrote that “The engagement premise is straightforward and easily understood: the more students study a subject, the more they know about it, and the more students practice and get feedback from faculty and staff members on their writing and collaborative problem solving, the deeper they come to understand what they are learning and the more adept they become at managing complexity, tolerating ambiguity, and working with people from different backgrounds or with different views.” Hu & McCormick (2012) used information gathered using The National Survey of Student Engagement (NSSE) to guide their research regarding student engagement in universities and in traditional college classes. The information from the survey did not apply to eLearning courses. The same data from the NSSE were applied to other studies that related to student engagement in online, blended, and face-to-face learning environments (Chen, Lambert, and Guidry, 2010). The results showed a positive correlation between the use of technology and the amount of student engagement in an online environment. This finding is consistent with other studies that investigated concerns about student engagement in online learning environments (Hu & Kuh, 2001; Kuh & Hu, 2001; Laird & Kuh, 2005).

Table 5.3 provides the number of individuals in the controlled group and experimental group which refers to the equality of the “Paired Sample T-test" calculation. The equality of several variables is 98 which correlates with a group of 100 members (Brown, 1983:94).

In the current research, the teacher in the medical 164-prep3 terminology course used a blended teaching method that involved face-to-face, Blackboard, and WhatsApp to engage students in learning English medical terms. The research explored teaching, cognitive, social, learner, and emotional presences. To simplify the process of identifying student presence in each group, the researcher used three steps. The first step involved conducting a “Paired Sample T-test” on student survey data to show the difference in the mean of the traditional and treatment groups and their presences. This first step answered the first part of the second question “How do students view their teaching presence, social presence, cognitive presence, and the learner presence that includes self-efficacy beliefs, self-regulation beliefs, and emotional presence that includes anxiety beliefs toward WhatsApp and Jazan Jump in both controlled and experimental groups?”
In Sections 5.2.1 through 5.2.6, the data is presented showing three bars in the figures each one referring to “Jazan Jump Controlled Group”, “WhatsApp Experimental Group”, and “Jazan Jump Blackboard” because the same survey questions were given to the controlled group and the experimental group and the survey included the questions regarding WhatsApp and Jazan Jump. Therefore, the researcher entered data to SPSS and analysed the answers about WhatsApp and Jazan Jump for both groups separately. To see the differences between the groups about the presences on WhatsApp and Jazan Jump, the researcher presented data that was not presented for the WhatsApp controlled group. The researcher analysed student engagement regarding WhatsApp and Jazan Jump Blackboard separately.

Section 5.2.7.1 through 5.2.7.6 provides information about the way that the researcher studied answers provided by three students and teachers during interviews. These interviews provided information about teaching, cognitive, and social presences to answer the second part of second question “What are the factors that increase each presence on both WhatsApp and Jazan Jump?” During this step, the researcher used content analysis defined as “a research methodology that uses a set of procedures to make valid inferences” (Weber, 1999:9). The content analysis was based on interview responses and the analysis of the interview was based on themes that clarified the content of student and teacher interviews to explore factors that play a role in increasing engagement on both WhatsApp and Jazan Jump Blackboard (See Appendix 12). The third step is outlined in Sections 5.2.8.7 through 5.2.8.9 and details how SPSS was used to analyse the frequency of student survey responses to answer the second part of the question which is “What are the factors that increase each presence on both WhatsApp and Jazan Jump?”

**The Second Hypothesis:** There will be a significant difference in the means of students in the experimental group who learn through BL strategy and social media compared to students who only have BL provided by Blackboard regarding their teaching presence, cognitive presence, social presence, learner presence. Also, there will be many factors that increase teaching presence, cognitive presence, social presence, learner presence that include the self-efficacy beliefs and self-regulation beliefs, as well as emotional presence that include anxiety beliefs.

**The Second questions are** “How do students view their teaching presence, social presence, cognitive presence, and the engagement learner presence that includes self-efficacy beliefs, self-regulation beliefs, and anxiety beliefs toward WhatsApp and Jazan Jump in both
controlled and experimental groups?” Another question is “What are the factors that increase each engagement presence on both WhatsApp and Jazan Jump?”

To discuss the student survey data, the researcher provided answers to the first half of the second question regarding the statistical differences in the average of individual answers provided by the participants, as seen in the following table:

Table 5.3 Paired Sample T-test Results

<table>
<thead>
<tr>
<th>Engagement Presence</th>
<th>Group</th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>T</th>
<th>SIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jazan Jump Teaching Presence</td>
<td>Controlled</td>
<td>3.65</td>
<td>98</td>
<td>0.758</td>
<td>-5.272</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Experiment</td>
<td>4.15</td>
<td>98</td>
<td>0.688</td>
<td>-22.176</td>
<td>0.000</td>
</tr>
<tr>
<td>WhatsApp Teaching Presence</td>
<td>Controlled</td>
<td>2.15</td>
<td>98</td>
<td>0.665</td>
<td>-15.035</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Experiment</td>
<td>4.27</td>
<td>98</td>
<td>0.742</td>
<td>-3.221</td>
<td>0.000</td>
</tr>
<tr>
<td>Jazan Jump Social Presence</td>
<td>Controlled</td>
<td>2.68</td>
<td>98</td>
<td>0.906</td>
<td>-6.411</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Experiment</td>
<td>4.16</td>
<td>98</td>
<td>0.813</td>
<td>-9.060</td>
<td>0.000</td>
</tr>
<tr>
<td>WhatsApp Social Presence</td>
<td>Controlled</td>
<td>3.04</td>
<td>98</td>
<td>0.759</td>
<td>-3.221</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Experiment</td>
<td>4.46</td>
<td>98</td>
<td>0.564</td>
<td>-9.060</td>
<td>0.000</td>
</tr>
<tr>
<td>WhatsApp Cognitive Presence</td>
<td>Controlled</td>
<td>3.07</td>
<td>98</td>
<td>0.898</td>
<td>-6.411</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Experiment</td>
<td>4.34</td>
<td>98</td>
<td>0.593</td>
<td>-9.060</td>
<td>0.000</td>
</tr>
<tr>
<td>Jazan Jump Self-efficacy (Learner Presence)</td>
<td>Controlled</td>
<td>3.05</td>
<td>98</td>
<td>0.953</td>
<td>-6.411</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Experiment</td>
<td>3.91</td>
<td>98</td>
<td>1.015</td>
<td>-9.060</td>
<td>0.000</td>
</tr>
<tr>
<td>WhatsApp Self-efficacy (Learner Presence)</td>
<td>Controlled</td>
<td>3.40</td>
<td>98</td>
<td>0.903</td>
<td>-2.634</td>
<td>0.010</td>
</tr>
<tr>
<td></td>
<td>Experiment</td>
<td>4.33</td>
<td>98</td>
<td>0.581</td>
<td>-5.891</td>
<td>0.000</td>
</tr>
<tr>
<td>Jazan Jump Anxiety (Emotional Presence)</td>
<td>Controlled</td>
<td>3.24</td>
<td>98</td>
<td>1.025</td>
<td>-2.634</td>
<td>0.010</td>
</tr>
<tr>
<td></td>
<td>Experiment</td>
<td>3.57</td>
<td>98</td>
<td>0.649</td>
<td>-5.891</td>
<td>0.000</td>
</tr>
<tr>
<td>WhatsApp Anxiety (Emotional Presence)</td>
<td>Controlled</td>
<td>3.02</td>
<td>98</td>
<td>1.035</td>
<td>-4.243</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Experiment</td>
<td>3.69</td>
<td>98</td>
<td>0.498</td>
<td>-4.243</td>
<td>0.000</td>
</tr>
<tr>
<td>Both Learning regulation (Learner Presence)</td>
<td>Controlled</td>
<td>3.58</td>
<td>98</td>
<td>1.193</td>
<td>-4.243</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Experiment</td>
<td>4.15</td>
<td>98</td>
<td>0.725</td>
<td>-4.243</td>
<td>0.000</td>
</tr>
</tbody>
</table>
The table above shows that there are fundamental and statistically significant differences, 0.05 or less, in the study sample answers regarding WhatsApp and Jazan Jump engagement presences. A paired-samples t-test provided a clear comparison of the engagement presences in both the controlled and experimental groups regarding WhatsApp and Jazan Jump.

5.2.1 Teaching Presence
In the current research, the teacher plays a central role in the medical 164-prep3 terminology course to encourage student engagement using Blackboard and WhatsApp when working to teach English terms. The teacher was the facilitator of the medical terminology learning through classroom instruction. The results of the teaching presence are shown in the figure below:

Figure 5.2 The results Teaching Engagement Presence in Controlled and Experimental

The results show that there was a significant difference in the scores for Jazan Jump teaching presence in the experimental group (M=4.15, SD=0.688) and in the controlled group (M=3.65, SD=0.758). The difference in both groups was measured through the use of a 0.05 alpha level that is lower than 0.05. Based on these results, the researcher rejects the hypothesis that there is no difference in the mean of the experimental group using mobile learning activities and the mean of the controlled group which learned only using classroom activities and Blackboard. The researcher accepts Hypothesis 2 at the 0.05 alpha level and suggests that there is a difference in the mean of the experimental group using WhatsApp, Jazan Jump, and face-to-face learning activities, and the controlled group using Jazan Jump only with face-to-
face learning activities concerning teaching engagement presence during the experimental period. The results suggest that, in the experimental group, teaching presence increased more than in the controlled group. This result means that the students in the experimental group were more engaged in coursework activities and were more aware of their role in the learning process. Vaughan, Cleveland-Innes & Garrison (2013:13) wrote that “Teaching presence is enhanced when participants become more meta-cognitively aware and are encouraged to assume increasing responsibility and controlled of their learning”. The results of the experiment support this view. In addition, teaching presence increased when the teacher realized the potential of digital applications using the Internet and BL techniques (Keen, 2007 as cited in Vaughan, et al., 2013). The current research shows that the increase in teaching presence in the experimental group could be supported using Keen’s findings. Since the teacher combined Jazan Jump and WhatsApp to make students communicate more, the teacher helped to create sustainable ways to engage students in the learning process. In addition, the teacher provided students with a synchronous face-to-face discourse that allowed them to receive actual classroom guidance that resulted in the increased teaching presence.

5.2.2 Cognitive Presence

The analyses of mean differences in the scores of cognitive presence showed that there was a greater increase in engagement scores in the experimental group for WhatsApp (4.34) than for Jazan Jump (4.27). The mean of the controlled group was 3.87. The difference in the groups was measured using a 0.05 alpha level that was lower than 0.05. Based on these results, the researcher can conclude that blending WhatsApp, Blackboard, and face-to-face learning in educationally relevant ways positively impacts cognitive student engagement. Results showed Jazan Jump’s cognitive presence was statistically significant in the experimental group and indicates that WhatsApp can be used as a supportive tool to increase the cognitive presence and engagement of students using tools such as Blackboard to enhance the group’s overall development.

To support the above results, scholars examined ways that Blackboard motivates students’ cognitive skills through problem-solving and thinking activities (Teng & Allen, 2005). Mobile applications have been associated with positive cognitive learning outcomes that include better comprehension of course materials and the active use of media has led to the greater development of students’ reflective skills. The researcher connected these facts to personal experience (Blaschke, Porto and Kurtz, 2010). Wu, Hwang, Su, & Huang (2012)
performed a comparison of two classes, one taught by an instructor who supported the learning and teaching process with a mobile application while the other was taught by the same teacher who used a traditional approach. The results of the comparison showed that cognitive skills increased and cognitive load was reduced for the students who used the mobile learning system. Multimedia learning creates active and balanced information processing using visual and verbal channels. The results of the experiment showed that there was a significant difference in the learning of medical terminology as shown in the figure below:

Figure 5.3 The results Cognitive Engagement Presence in Controlled and Experimental

<table>
<thead>
<tr>
<th>Cognitive Engagement Presence</th>
<th>Jazan Jump Controlled Group</th>
<th>Jazan Jump Experimental Group</th>
<th>WhatsApp Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.87</td>
<td>4.27</td>
<td>4.34</td>
</tr>
</tbody>
</table>

### 5.2.3 Social Presence

The result that related to social presence administered was shown by the mean of the experimental group using WhatsApp being 4.46 while the mean of the Jazan Jump group was 4.16. In contrast, the controlled group that was based on the use of Jazan Jump and face-to-face learning had a mean of 2.68. The difference between the two means of Jazan Jump social presence is clear (4.16>2.68). The researcher suggests that combining Jazan Jump and WhatsApp in blending teaching has a significant impact on increasing social presence processes among instructors and students. The social presence in the experimental group through Jazan Jump and WhatsApp simulates the overall learning experience, enhances student-instructor communications, and help learners to socialize more than those in the controlled group.
Research has indicated the “importance of using a form of blended learning that combines some face-to-face interaction or technologically mediated synchronous communication, with online interaction, is an important trend in teaching practice” (Stacey & Wiesenber, 2007:38). Using social media applications may also maximize social presence and community among students and teachers (Lomicka & Lord, 2007). Robinson et al., (2015) outlined the expected use of WhatsApp in increasing social presence in an online learning environment due to the application’s sharing features that allow the learning process to feature more collaborative learning. Allowing instructors to use social applications in BL along with a learning management system like Blackboard can lead to positive learning outcomes including increased student involvement and communication (Thacker, 2012). The above studies support the results that suggest that combining Jazan Jump with WhatsApp in BL provided stronger social integration. The results suggest that WhatsApp and Blackboard supported greater social interaction and actually increased the sense of communication between students while decreasing the sense of isolation as shown in Figure 5.4.

Figure 5.4 The results of Social Engagement Presence in Controlled and Experimental

![Social Presence Chart]

5.2.4 Self-Efficacy (Learner Presence)

Figure 5.5 The results of Self-Efficacy (Learner Presence) in Controlled and Experimental

![Self-efficacy Chart]
The examination of the above figure shows that those in the experimental group had more positive thoughts about their ability to engage with one another using Jazan Jump. The results indicate that the experimental group has a significant preference for Jazan Jump \( (M = 3.91, \ SD = 1.015) \) when compared to the controlled group \( (M = 3.05, \ SD = 1.015, \ t = -6.411, \ Sig = .000) \). The experimental group consisted of students who were studying medical terminology at Jazan University and these students reported higher self-efficacy beliefs when using WhatsApp for academic purposes \( (M = 4.33, \ SD = 0.581) \). The results specifically suggest that students who use WhatsApp and Blackboard had an increase in self-efficacy beliefs about the use of technology.

In the field of technology integration and teaching, studies have identified a relationship between self-efficacy beliefs and the adoption of technologies in the teaching and learning of English terminology. Zheng et al., (2009) found that technological self-efficacy in online communication is an important variable in the online learning experience. When students have positive beliefs (self-efficacy) about their ability to use a digital application, they are more likely to be successful online learners. It is important to ensure that students are comfortable with technology as this comfort will contribute to their success or lack of success. Based on the results of previous studies, the researcher concluded that establishing an engagement presence using WhatsApp and Jazan Jump can help to develop student self-efficacy more in the experimental group than in the controlled group. The reason for the difference in improvement is due to the involvement with technology-based tasks and activities.

### 5.2.5 Self-Learning Regulation (Learner Presence)

Figure 5.6 The Results of Self-Learning Regulation (Learner Presence) in Controlled and Experimental
According to the figure above, the experimental group had greater self-learning regulation (4.15) than the controlled group (3.58). The outcome of using WhatsApp and Jazan Jump Blackboard demonstrated that learners become more self-regulated and active in learning English when the instructor uses appropriate technology. Research into BL found that self-regulated learning becomes a critical factor for better academic performance and higher motivation for learning (Liu & Yu, 2012).

Jarvela et al., (2007) stated that the BL approach with social media tools can help students to self-regulate their learning by providing them with feedback from other students. This feedback will allow students to improve their understanding of course content and concepts. Research by Dabbagh & Kitsantas (2004) and Dabbagh and Kitsantas (2005) state that using technology in a learning environment like an LMS can enhance students’ self-learning observations and goal-setting skills. Students are able to gain an advantage from using the planning tools like calendars to compare goals to present performance and track group assignments. An LMS also allows students to enhance their studying skills through the use of search engines and note taking aids. Using technology in a BL environment therefore plays a crucial role in supporting students’ learning regulation skills.

5.2.6 Emotional Presence: Anxiety & Engagement

Figure 5.7 The Results of Anxiety in Controlled &Experimental Group

The investigation of anxiety beliefs found that the controlled student group and the experimental group had moderate levels of anxiety regarding their ability to use Jazan Jump and WhatsApp. The results indicate that there was non-extreme technology anxiety for Jazan
Jump in the controlled group (M = 3.24, SD = 1.025) and experimental groups (M = 3.57, SD = .649, t = -2.634, Sig = .010). In addition, the individuals in the experimental groups reported approximately the same level of nervousness when using WhatsApp for academic purposes (M = 3.69, SD = 498). The results suggest that using WhatsApp and Jazan Jump with both the treatment and controlled group has an impact on student anxiety, particularly those who have moderate levels of anxiety.

The results of this research parallel other studies (Aldalalah & Gasaymeh, 2014, and Diakou, 2015). Researchers have found that those students who have moderate levels of anxiety have the ability to use technology in BL. Those who have lower levels of available technology will typically have a lower desire to use BL. Aldalalah & Gasaymeh (2014: 233) stated that “This indicates that a certain degree of anxiety (not too high and not too low) helps students in their learning and their attitudes towards modern teaching methods based on communication and information technology.” The harmonious combination of technology in a BL environment can impact the student anxiety positively and increase interest and motivation to learn a target language (Diakou, 2015).

5.2.7 Factors that Increase the Community of Inquiry Presences (Col)
This section provides a response to the second part of the second question which is “What are the factors that increase each presence on both WhatsApp and Jazan Jump?” The researcher used content analysis that is considered a research tool to find interview themes and answer research questions (See Appendix 12; Stemler, 2001). All sub-sections came out of the interview analysis. The researcher was able to determine the themes based on the content analysis of the interviews. The researcher then matched the themes with a literature review and presented discussion around the findings.

Sections 5.2.7.7 through 5.2.9.9 used SPSS frequency analysis of student survey responses to completely answer the second part of the second question. The researcher used the survey data instead of interview data because the interview questions related to learner and emotional presence. The researcher used survey data to find appropriate information for this section.

5.2.7.1 Factors that Increase WhatsApp Teaching Presence
WhatsApp contains characteristics that influence its use in the educational process. This application is popular and helps to utilize interactions between students and teachers in an educational context (Calvo, Arbiol & Iglesias, 2014). WhatsApp can perform a variety of
functions including sending messages, photos, audio and visual files, and website links. The application is a platform that can be used in the teaching environment (Bouhnik & Deshen, 2014) and is a common social media application that is used to improve accessibility, inspire collaboration, and increase engagement in the learning process (Rambe & Bere, 2013; Rambe & Chipunza, 2013).

Historically, Information and Communication Technology (ICT) has a significant impact on the Saudi Arabian educational system. The ICT has been present since the 1990s (Al-Aqeely, 2001 as cited in Alshumaim, & Alhassan, 2010) and the adoption of ICT in education has led to the increasing educational use of social media (Fattah, 2015). This social network has provided new educational opportunities that involve interactions and collaborations between teachers and learners. In Saudi Arabia, the adoption of mobile social applications has impacted all parts of life, including education. WhatsApp is a popular application used for communication and information sharing. The platform has great reach and can influence the younger generation and lead to a revolution in the educational field by making mobile learning apart of the Saudi education process (Al-Shehri, 2013). The effective implementation of social media such as WhatsApp provides a challenge for policy makers and educational designers. The current study identified many factors which work to increase teaching presence in WhatsApp. These findings are presented below in Figure 5.8.

Figure 5.8 Factors that increase teaching presence in WhatsApp

![Factors increase Teaching presence in WhatsApp](Diagram)

Knowledge of Social Media Opportunities and Classroom Integration
According to Zhao & Frank (2003), one of the main factors that constitutes effective implementation of technology in education is the skill and knowledge of the teacher who is integrating the technology. The authors state that teachers can use technology in the
classroom if they have a solid understanding of how the technology will impact instructional practices. These views were supported by a teacher who worked as an Assistant Professor in the Department of English Language Centre at Jazan University in the Kingdom of Saudi Arabia when the teacher stated the following quotation. As noted, teachers are non-native English speakers, therefore at times there are grammatical, lexical etc. issues in the extracts, however these have not been corrected in order to keep them authentic.

Teachers’ technological in using WhatsApp is very important. There are many options to use WhatsApp for teaching English. First option, the teacher can record any sentences and ask the students which one is correct. Second option, send the message and when the students replay, he or she can check their grammar. Third option, the teacher can send any photo and ask students to guess what the photo saying. The WhatsApp is a good application to engage students in the learning process. For example, the teacher can send a message and ask students to replay back to test their engagement by one click. Also, if the teacher does not want them to feel confused, he or she can send the message for each one separately.

The opinions of the teacher are supported by Barone & Wright (2008) who believed that the knowledge of teachers regarding technology in the classroom will motivate teachers to successfully use different teaching approaches using technology. Hennessy, Ruthven, & Brindley (2005:155) defined the concept of technology integration in the classroom as “how teachers use technology to carry out already familiar activities more quickly, reliably, broadly, productively, interactively, and how such use may be re-shaping these activities.” To know more about the current study teachers’ digital experience and their technological self-efficacy knowledge see Chapter VI: Teachers’ Digital Experience, Self-Efficacy Knowledge Attitudes.

Social Media as an Informal Learning Tool to Support Formal Education
The use of online networking tools as informal learning devices could support the academic learning setting. For example, teachers could follow up with and support students outside the classroom through WhatsApp, Twitter, and WordPress. Social media technologies allow learners to have interactions with other students and teachers while also interacting with content presented in multimedia environments (Chen & Bryer, 2012). Cross (2007) stated that 80% of learning is the result of informal learning in which students learn most of what they need from social networks that could be online groups, educational websites, or friends. For these reasons, Quinn (2009:4) stated that “It’s no longer reasonable to ignore the 80% of learning that happens informally” through social media tools. A professor at Jazan University has similar thoughts relating to the use of WhatsApp as an informal learning tool that
motivates students to seek continuous support from their teachers and classmates as they work to improve. The professor made the following statement about this topic:

*Nowadays, WhatsApp is very good software because it is very cheaper and most of people use it and easily you could get some of short files and information about anything which is related to our studies and it is a very important tool for teaching language that can engage students in learning. Teachers can build this facility for students, especially for those who want to learn English. It is a good tool that teachers can use it to help students on weekends by sending them files that relate to their classroom issues. However, it is not good to be used in the classroom, generally, it is good for teachers to use it on the weekends. For example, if students face any problems, they can send audio message for the teacher to solve it. The WhatsApp is like a supportive tool to support students. The teachers can adopt the policy of using WhatsApp to support students on their weekends and when they do not have any classes, especially before any kind of evaluation if they want to get any support, so the teacher could guide them about the structure of questions as well as about the syllabus or issues that related to the course.*

Jahnke’s definition (2013: 61) matches with the professor’s statement as the author writes that non-formal learning is an important strategy that “occurs outside educational institutions” in the form of online tools that can be a differentiator that supports students’ needs during the semester. To summarize this point, informal learning engages students in curriculum content without the time restrictions of formal classroom times. Social media is considered an extracurricular channel that provides the opportunity for students to continue the learning process outside of class (Bull et al., 2008).

**Knowledge of Course Objectives**

To increase teaching presence and engagement, “Technology use must be aligned with intended learning objectives” (Davies, 2011: 50). According to Mishra & Koehler (2006), successful implementation of digital tools in teaching and learning starts when the teachers have a high level of “technological pedagogical content knowledge.” To reach this level, teachers need to be a subject matter expert and a master of multiple teaching methods. This knowledge must be integrated into the course objectives in a way that accelerates the learning process. For example, teachers who have “technological pedagogical content knowledge” may choose to use certain social media applications such as WhatsApp when they determine that this technology has been shown to support and enhance curricular goals. Another professor at Jazan University, agrees as he states:

*Effective integration of WhatsApp to increase Teaching Presence is achieved when teachers are able to use this tool features in the way that make the students understand the class materials easily. For example, when I teach...*
English medical terminologies via WhatsApp, I use the tools that help me as a teacher to achieve my lesson plan goals. For example, I make photo series exercise, when I want to test their understanding of medical cases. I divided them into groups and I posted for each group six to seven photos that tell the symptoms of the sickness and the treatment and they write the narration for each photo as a caption. Also, I check their knowledge of medical terminologies definitions by creating puzzle games. Also, I use WhatsApp for certain teaching purpose.

Direct Instruction
The teacher can create teaching presence through direct instruction that may take the form of sharing his or her knowledge and experience with students (Anderson, Liam, Garrison, & Archer, 2001). The process of direct instruction requires teachers to have “academic and pedagogic leadership skills that provides disciplinary focus and structure or scaffolding, but also offers choice and opportunity for students to assume responsibility for their learning. This instruction is more than a ‘guide on the side’ but less than a ‘sage on the stage.’ It is an approach whereby learning is socially shared. This is the path to a meaningful, systematic, and worthwhile educational experience. Students remain engaged and focused while achieving desired learning outcomes” (Garrison & Vaughan, 2008:41-42). In the current study, the role of the teacher is to provide students with direct instruction. One of the students described the teacher as follows:

*My teacher is very smart; he can answer any question we ask him about medical terminologies. Also, I like how he makes the information very easy through telling stories. During online discussions, he provides us with clear clarifications and descriptions, and illustrations of health diseases. His knowledge makes me and my classmates ask him about health problems that we have, I remember when he talks about liver problems, I told him that my father suffered from liver failure and he made me and my friend read a book called “Food that Your Liver Loves”. I learned a lot from my friends and the discussions that we had after reading books and health magazines.*

Extrinsic Encouragement
Extrinsic encouragement means students engage in second language activities to receive good grades on school assignments as a reward (Saville-Troike, 2012). One student who believed that the teacher rewarded activities using WhatsApp made the following statement:

*My teacher inspires us to be active in discussion. One of his techniques is running the puzzle word contests. He creates for us at the end of each chapter a puzzle that includes all the medical terminologies and gives us one day to answer it and then he chose the three winners by random selection. I like when announce the winners’ names on WhatsApp and when he took the photo of himself giving the winners prizes in class and share it on WhatsApp group. It is really encouraging.*
Teachers should create a reward system that includes grades, prizes and other academic encouragement that can play a role in increasing student engagement in coursework and learning (Mahadi & Jafari, 2012). Walker (2011) designed two different reward systems. The first was called the “stamp reward system” and involved students receiving stamps for doing certain individual tasks such as giving a presentation or completing an assignment. When a student completed the task successfully, the student received a stamp. The second system was called the “point reward system” which evaluated an entire class performance using a specific scoring rubric. The teacher rewarded the class with the overall highest score with a pizza party at the end of the semester. Walker (2011) states that rewards are an effective strategy in the active learning process.

Facilitating Online Discourse
To increase teaching presence, educators should use social media to involve students in active learning through active discourse that provided them with access to communication tools, feedback, and collaboration (Cheson, 2013). Teachers have skills that allow learners to interact with them effectively and engage at a high level (Palloff and Prat, 2011). Skillful facilitation can help to motivate students. One student was quoted as follows regarding learning English medical terminology with the help of WhatsApp:

My teacher’s questions and comments keep the online discussions flowing on WhatsApp. He helps us to have the opportunity to interact with other and share information about ourselves and medical terminologies. I like his vocabulary exercises, when he writes one medical terminology and ask us to take turns to put this medical term in sentences. It is fun and this way of teaching increased my motivation to learn.

The student’s comment supports the work of Forgie et al. (2013:11-12) who stated:

Online exercises that force students communicate in brief, clear and concise format can help develop student focus on the essentials of patient care. These skills are valuable in clinical practice and apply directly to real-life contexts in health care where important information must be shared accurately, such as inpatient handovers and transfers.

5.2.7.2 Factors that Increase Jazan Jump’s Teaching Presence
Blackboard and Moodle are teaching and learning tools defined as “Internet-based software that manages student enrollment, tracks student performance, and creates and distributes course content” (Ullman & Rabinowitz, 2004 as cited in Simonson, 2007: vii). The academic world has indicated that the growth in technology and educational systems show that online learning has become a necessary part of any higher educational institution (Piña, 2008).
Researchers have also suggested that learning management systems are the most adaptable tool and have greater application than other software in a university setting (Harrington, Gordon, & Schibik, 2004 as cited in Resch, 2010).

In Saudi Arabia, the Ministry of Higher Education is working to use the most current ICT systems over the next 25 years in universities and colleges. The National Centre for e-Learning and Distance Learning (NCeDL), established in 2005, focused on creating a holistic instructive framework that worked off of the most recent technological applications. In theory, this framework would be an important change in the educational and learning process. The system would serve as a national reference for all other e-learning programs and could be supported by other universities in Saudi Arabia that are connected to NCeDL. The NCeDL is also supported by the open university of Malaysia and Multimedia Technology Enhancement Operations (METEOR; Almergren, Al-Yafei, and Hashem, 2007). The successful implementation of technologies such as Jason Jump Blackboard depends on many factors as shown in the following figure.

Figure 5.9 Factors that increase teaching presence in Jazan Jump
ICT Teacher Technology – Integrated Pedagogy Skills

ICT integration requires well-prepared instructors who are skilled and comfortable with using technology as part of their teaching. The technological skills of teachers allow them to apply their knowledge and experience using innovations in the educational field to stimulate learning processes (Hughes, 2005). Instruction via ICT involves “demanding teachers to learn how to use these technologies in their teaching. While new technologies increase teachers’ training needs, they also offer part of the solution. Information and communication technology (ICT) can provide more flexible and effective ways for professional development for teachers, improve pre- and in-service teacher training, and connect teachers to the global teacher community” (Jung, 2005: 94). In an interview, a teacher made the following statement:

Jazan Jump is a very tough Korean system that needs teachers to be trained and skilled to use it. However, Jazan Jump Blackboard has teaching tools such as media lectures, PowerPoint, quizzes. Any information the teacher wants to submit to students, the teacher can attach. Any files and materials can be attached. It is very beneficial if skilled teachers use it. The teacher should have a proper knowledge of the internet and the software. There is an option for chatting, the teacher can contact with any students and give his feedback about their performance in answering questions.

Jazan Jump Policy Marks

The technology implementation plans seem to lack an effective educational policy. Wozney et al., (2006) states that a guided policy to create an innovative culture that supports information and communications technology adoption in academic teaching can be productive. Balanskat et al., (2006) argues that universities need to focus more on rewarding policies that encourage teachers to integrate instructional technologies such as Jazan Jump Blackboard into teaching practices while also motivating students to use technology as part of the learning process. In an interview, a teacher made the following statement:

Generally, Jazan Jump is part of distance learning to guide those students who are in online education, but in Jazan University specially in preparatory year, they adopted Jazan Jump for regular students to guide them in part of their regular classes specially by uploading some short of media lectures, videos and quizzes. Jazan Jump is not a regular part of teaching and learning process. It is just an additional tool that supports students when they are at home. To make the teaching process more effective through Jazan Jump, the number of marks should increase. The students have only five marks for Jazan Jump, so they are not very much interested in using it. Also, Jazan Jump of course it can be made more effective for teaching and learning process if it utilized properly by students as well as by teachers and for this purpose each
In Saudi Arabia, instructors asked educational leaders in the country to create and implement a clear policy that allows for the installation and use of learning management systems in universities. The country’s leaders found that there would be many challenges associated with the successful implementation of ICT tools into courses (Al-Oteawi, 2002 as cited in Albugami & Ahmed, 2015).

**Support of a Constructivist Learning Environment**

The successful implementation of ICT depends on teachers having a constructivist perspective that guides the learning environment (Pedersen and Liu, 2003). Constructivist teaching practices and technical skills play a role in the integration of technology. Teachers must have positive attitudes and beliefs about these strategies to motivate them to integrate technology into the educational curriculum and allow them to convince students of the strategy’s usefulness (Vannatta & Beyerbach, 2000). Research suggests that technological abilities were often associated with attitudes toward technology and a constructivist will often use web-based applications (Schmidt at el, 2002). One of teachers stated that he uses technology in the classroom to increase student knowledge. He had a tendency to adopt a constructivist approach that used web-based tools as resources that build students’ critical thinking as well as their logical and intellectual knowledge (Kirschner and Erkens, 2006). He made the following statement about Jazan Jump and its features:

*Jazan Jump Blackboard has teaching features that help me to upload some of study tools that included in the textbook “Medical Terminologies” with Davi-Ellen Chabner on it. I adopted from the textbook a lot of web-based vocabulary exercises such as electronic flash cards, wheel of terminology game, web links, medical mix game and I upload them to the system. These online learning tools help students to practice the medical knowledge and succeed on the coursework and on exams.*

**Organization of Content**

Another aspect of successful ICT implementation is the inclusion of online content features. Designing a course using Blackboard allows teachers to think about the way that their course is organized, assessed, and how information will be communicated throughout the semester (Anderson, Rourke, Garrison, Archer, 2001). In this way, the teacher’s presence plays a critical role in making the content clear during the planning stage. Greenberg (2002:1) stated that an “LMS is a high-level, strategic solution for planning, delivering, and managing all learning events within an organization, indulging online, virtual classroom, and instructor led courses”. A student who used Jazan Jump Blackboard echoed this quote when by saying:
My teacher uses many tools in the Jazan Jump to make the course very organized. There is a place for tests, assignments, PowerPoint, activities, announcements and reading materials. I think Blackboard support the teaching in the term of organization.

5.2.7.3 Factors that Increase WhatsApp’s Cognitive Presence

Ting and Rasied (2015:1) stated that “Social media is said to have the potential to increase a student’s learning and cognitive ability.” Using social media as a teaching strategy to motivate students allows students to explore information and reflect on their learning experience by increasing their thinking and cognitive skills (Blaschke, 2014). As Richardson & Newby (2006) mentioned, the current study found that the increase in cognitive engagement as a result of using WhatsApp was a result of many factors related to student motivation and teaching strategies. The following model illustrates these factors clearly in Figure 5.10.

![Factors that increase cognitive presence in WhatsApp](image)

**Design Assessment Tasks for Student Achievement**

Providing students with tasks helps to increase their levels of cognitive engagement (Rotgans & Schmidt, 2011). According to Appleton et al., (2006) cognitive engagement can be measured by the way that students achieve on their coursework and activities. This view was supported by a teacher’s statement in an interview:

*WhatsApp can support students’ cognitive skills. It can judge anything either question, either structure, either language, whatever you want to evaluate students’ cognitive skill, just sent them a message and give them a task about the thing you want to test and ask them to replay back.*

The teacher’s opinion is supported by Taylor & Parsons (2011) who believed that “Student engagement has primarily and historically focused upon increasing achievement.” In
addition, they cite evidence from a research document entitled “Unleashing the Future: Educators ‘speak up’ about the Use of Emerging Technologies for Learning” which discusses the importance of using social media to raise students’ cognitive presence by providing students with timed tasks. The research of Willms, Friesen, and Milton (2009:35) found that “using assessment to improve learning and guide teaching” is an important factor in increasing cognitive presence.

**Positive Relationship with Teachers**
Building relationships with teachers is important as it supports the learning process in the online or traditional classroom setting (Zelihic, 2015). Research shows that strong student-teacher relationships play an important role in increasing the students’ social and intellectual skills (Anderson et al., 2011). Teachers who have positive relationships with their students create classroom environments that boost student learning process and reflect positively on their cognitive and learning skills (Rimm-Kaufman & Sandilos, 2011). A professor at Jazan University stated that WhatsApp is a good learning tool that brings students and teacher together. He believed that the support of teachers could lead to greater cognitive development for students. The following statement provides further information about his beliefs:

> WhatsApp can help students to increase their cognitive skills. Specially that all students cannot get teachers for a whole week, especially on the weekend. So, the students can use to have a good support from teachers. Teachers can develop this kind of relationships through WhatsApp that is cheaper to communicate with students and convenient as well because teachers can send to students' files related any issues in the course.

Meyer & Turner (2002) mentioned that students who have positive relationships with their teachers can be motivated to explore classroom course materials and take on academic challenges. They stated that “through studying student-teacher interactions, our conceptualization of what constitutes motivation to learn increasingly has involved emotions as essential to learning and teaching” (p. 107).

**Design Exploration Tasks**
Students prefer to search for information by themselves and some are unwilling to discover knowledge by working with peers. This type of learning allows individuals to build on existing knowledge and skills (Oblinger & Oblinger, 2005). Brown (2000:14) states that “Learning becomes situated in action; it becomes as much social as cognitive, it is more concrete rather than abstract, and it becomes intertwined with judgment and exploration.”
Brown’s quote shows that some students feel the need to work for their own knowledge. A teacher echoes this sentiment as he states:

As I am an English teacher and researcher, I have a good applied knowledge in teaching medical vocabulary. So, I adopt a lot of strategies from researches and use these techniques that challenge the understanding of my students in learning medical terminology. For example, in the classroom, I give them the exercise that is called “The Square of Medical Terminologies Exploration” and then I ask them to divide the square into four sections. Then, I give them the access to the internet to discover different medical terminologies and to fill in the four sections of square with their discoveries. In the upper left-hand section, students write the medical terminology and its’ meaning in the section below. In the right-hand section, they put the medical term in a sentence along with a visual drawing of the term below. Exploration tasks motivate students to find the results by themselves and share their exploration squares in WhatsApp group.

**Designing a Semantic Map Task**

Grigaitė & Ražienė (2005:192) stated that “semantic mapping is a cognitive strategy in which information is categorically structured in a graphic/visual form.” A mind map is a technique for students to represent their cognition and understanding. According to Brown (2003), the mind map provides teachers and the learner with a visual representation of prior knowledge and understanding. According to Snead, Donald, Young, and Barbara (2003), a mind map strategy helps students improve their understanding of a given subject more than traditional instruction. A student supported the researchers’ ideas by stating:

I like to semantic map task to develop my cognitive skills. I enjoy choosing a specific prefix and then write all medical terms that are related to the main (prefix) of my semantic map. Then, I group all medical terminologies by circling them and use images, more than one color, pictures, different size of lines that make my mind map is unforgettable and I feel proud of myself when I share it on WhatsApp group. It is encouraging to see my classmates mind maps in the group and help my cognition to improve.

Semantic mapping is an instructional method that requires learners to provide their own graphics. This method is very good at supporting the learning process and is an excellent strategy for kinesthetic and multisensory learners, but might not best support auditory learners well. Teachers are encouraged to involve students in semantic mapping activities in class discussion to engage them in multiple ways (Abdollahzadeh & Amiri, 2010).

**Student-Student Communication**

Wenger (1998:55) refers to “newcomer engagement” in the online community as “a process of taking part and to the relations with others that reflect this process.” The advantages of student-student online communication involve students working with one another using
cognitive processes that develop as a result of doing tasks and interacting with others (Hrastinski, 2009). Badge et al., (2012) stated that social media motivates student engagement and allows them to develop connections with one another as they build an online community of learners that will eventually increase the overall learning skills of all who put in the time to interact with the other students. In addition, Akyol, Garrison, & Ozden, mentioned that “Cognitive presence increased students' awareness of their thinking process and helped them to sense progression” (2009: 74) and sharing their knowledge with each other. A student who was interviewed provided the following statement about the cognitive presence and its impact on increased thinking skills:

My cognitive skills develop through talking with my peers on WhatsApp. We talk in group and in private about the medical terminology and other subjects. We share even movies about science that increase my knowledge and books. The chatting with my friends is as the date source that challenge my mind skills and developing my thinking.

Individual Student Effort
The use of technology contributes to the development of individual motivation to make personal effort toward learning (Evans, C., 2008). The use of technological tools in learning and teaching gives the students opportunities to be independent and take the ownership of their learning (Barker & Gossman, 2013). The benefits of a learner engaging in online interactions include increased cognitive skills (Blaschke and Brindely, 2011). For example, Scardamalia, & Bereiter (1996) mention that the use of CSILE software (Computer Supported International Learning Environment) allows students and teachers to communicate online to improve their cognitive skills. Students who use CSILE software achieved higher marks on standardized tests in reading, vocabulary, language, and cognitive thinking tasks than students who did not use it. The study concluded that technology encourages student reflection and motivate them to be open-minded and independent thinking (Scardamalia & Bereiter, 1996. In addition, Sadik (2008) believed that the digital storytelling activities could increase students’ curiosity to discover the course content and motivate them to transform their classroom knowledge into digital storytelling that result in a great development in their cognitive skills and engagement.

One of the interviewed students agreed with researchers regarding the role of social media in stimulating student effort and thinking by stating:

Yes, online activities develop the mind skills. I spent a lot of time on online to improve my medical knowledge. I like when my teacher, send us videos for free time on
WhatsApp and when he designed a digital story about “kidney failure” as a reading activity on www.storyjumper.com. I read it, I feel that I can understand easily medical terms when he writes it as a story with images. One interesting thing, I found myself reading, discovering the story jumper website on my free time just for getting more knowledge and read a lot of stories about medicine over there and design digital books for the medical course.

### 5.2.7.4 Factors that Increase Jazan Jump’s Cognitive Presence

Bradford et al., (2007:303) wrote that “The Blackboard Learning System is the heart of the Networked Learning Environment (NLE) and it enables instructors to create and manage the course matter, employ publisher content, communicate with students, and evaluate performance.” Researchers have suggested that enhancing cognitive skills through the use of a learning management system depends on many factors including input, process, and feedback. The first factor is “Input” which relates to internal and external learner motivations for those pursuing knowledge and the instructor’s role in using tools to make these resources and design tasks available to allow students to show their development and create an effective learning environment. The second factor is “Process” which involves the methods used by teachers along with the strategies, skills, and student effort that allows the teaching and learning process to operate efficiently. The third factor is “Feedback” which involves evaluation forms that can take the form of a pre-test and post-test, assignments, or projects (Songkram et al., 2015).

Based on the studies above and the responses of those who were interviewed, the increase in cognitive skills using Jazan Jump Blackboard depends on both the skill level and motivation of instructors and students. In addition, instructors must know how to properly use learning management system tools, electronic materials, and evaluation techniques as shown in the following figure.

#### Figure 5.11 Factors that increase cognitive presence in Jazan Jump

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<thead>
<tr>
<th>Factors that increase cognitive presence in Jazan Jump</th>
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<tbody>
<tr>
<td>Using Synchronous and Asynchronous for communication</td>
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<td>Using tools that support learning styles</td>
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Using Synchronous and Asynchronous for Communication

Blackboard “is a synchronous environment which supports text-based chat and allows live interaction among participants” (Bradford et al., 304). The chat room is a cognitive tool that allows students to share their own knowledge and thinking with instructors and peers. The chat room provides students with the opportunity to improve their cognitive skills and support the learning process (Scruggs, 2004). This view was supported by Dr. Sohel Rana’s statement as he said:

> There is option for chatting room, you can contact with any student and you can give your feedback on how they are answering, you can encourage them saying “hey Ali you did a good job” or “Hey, we do not have time” these kinds of messages also can be sent.

Based on the above quotation, students at Jazan University can take part in a chat room conversation using Blackboard and a teacher can see students’ messages in the chatroom and provide them with information to help them learn. Using chat rooms for learning is good, but asynchronous tools are better suited to engagement. Johnson & Aragon (2003) mentioned that teachers can use asynchronous tools like discussion forums to prepare discussion materials that will engage students in an online discussion that allows all users to read replies and respond according to their own schedules. Further information is provided on this topic in 2.3.2.4 Cognitive Presence Activities in Blackboard.

Evaluating Students' Knowledge of Media

Teachers can design many learning activities by adding videos and audio files to the Blackboard system. (Bradford et al., 2007). It is important for instructors to ask students to answer questions within the video after they have finished watching the video. This type of assessment ensures that students carefully watch the video in its entirety and have an interactive online learning experience (MacWilliam et al., 2013). West (2011: 8) stated that “Digital technologies create opportunities to measure student performance in a much more nuanced and multi-faceted manner than previously was the case. No longer are teachers limited to standardized annual examinations or periodic classroom tests. Instead, they have the chance to provide feedback at virtually every step of the learning process and use this regular evaluation to gauge progress toward educational objectives for individual pupils.” This view was supported also by another comment from a teacher who said:

> Yes, you can use it with any kind of students and for any idea. But, sometimes, there is a technical problem because how you use the system depend on you because if you give students a video to watch for 25 minutes, this is not a good idea because the
student may open the video and put it in his pocket so, “how does Jazan Jump can benefit the student? “He learns nothing. If you use any video or media lecture If you add anything, after ten minutes there is questions students have to answer, this kind of technique can increase cognitive skills

Sincerity of Students
Hanson (1955) stated that “The sincerely committed learners reveals a high quality of intellectual integrity. This is to say that the committed learner is genuinely oriented to the task” (144). To increase learners’ commitment, teachers need to provide students with problem-solving activities and group discussions that give the students opportunities to have the sense of control over their learning (Stephens, 2016). For this purpose, BL can provide instructors with technological means that can inspire students’ commitment and encourage them to be curious, and autonomous in their learning journey (McCombs, 2012; Vignare and Starenko, 2005).

According to those who were interviewed, teachers believe that sincerity is a basic positive characteristic of students and encourages students to be committed to course materials and perform assigned tasks. One teacher stated the following:

Jazan Jump gives a support to students to increase their commitment, especially those students who are sincere definitely they got lots of support from Jazan Jump activities. The students who are sincere and miss classes at least can get a kind concept about the lessons.

Use of Tools that Support Learning Styles
Blackboard has different features that allow the user to create many tasks that support learning styles (El-Hmoudova, 2015). According to Bradford et al., (2007) teachers can enhance the observational, visual, and kinesthetic as well as the way that students learn using the Blackboard system. The system provides many tools that allow teachers to meet student needs. Technology tools also serve to assist teachers to create the content that support students’ learning styles through design various modes of instructional activities that include reading texts, watching media, and performing tasks (Pittman, Rutz, & Elkins, 2006). Solvie & Kloek, (2007: 10) stated that “Technology tools used to create a constructivist setting and shape, model, extend, scaffold, and clarify learning that included use of video and audio clips, a Simple Machines Forum discussion board, a wiki, PowerPoint (presentation software), SMART Board and SMARTNotebook software, Inspiration (concept mapping software), and a course Web page.”

The following quote shows some of the capabilities of the Blackboard system:
Jazan Jump Blackboard provides the teacher with tools that help him to design exercises that fitting different learning styles. As teachers, we see, some students like online games, other like audio and visual tasks, problem solving tasks, group or individual tasks. Once, the teacher can use Jazan Jump Blackboard tools such as (Web contents, e-books, discussion topics, quizzes, tests, web links), Students cognitive skills will improve. The teacher should be skilled in creating activities that match students learning styles through Jason Jump Black Board.

Using Tools that Provide Course Organization and Structure
Blackboard is an academic platform that delivers course materials, engages students, and evaluates student achievement. The system is an online asynchronous system which offers set-up tools that simplify the process of posting and organizing course resources (Benshoff & Gibbons, 2011). Blackboard has tools that help teachers design the course with a clear structure. For example, the navigation tools allow teachers to organize course content by creating different sections for course materials, materials, activities, assessments and readings. This type of organization is a good way to increase student engagement since the organization of the course will result in increased concentration and reduce student confusion. If students understand what is happening, they will be more engaged and have a greater cognitive presence (Rubin et al., 2010). In an interview, a student stated that the use of Jazan Jump Blackboard in the medical terminology course played a role in organizing mind. The student gave the following quote:

"I like Jazan Jump Blackboard because it is like a library that organize my mind. It includes all course materials. I can have access to each lecture’s PowerPoint, discussion topics, assignments, projects, and quizzes."

Providing Continual Access to Course Materials
Hindsfield et al., (2011) stated that “The access to all types of unit materials and unit information appeared to be the most valued features of Blackboard for the majority of students.” Providing learners with continual access to online activities is considered a basic part of facilitating information processing since it allows resources to be constantly available. These resources include notes, summaries, activities, web links, and online tutoring support which provides contributions from the cognitivist approach (Brouwer & McDonnell, 2009). Blackboard helps student focus on understanding classroom content instead of being busy taking notes. Lectures are placed on Blackboard which could lead to increased student absences from the lecture. There is no evidence that shows the availability of Blackboard lecture slides has a negative impact on student attendance. The feature of providing continual access to course materials can free up class times for discussion and other activities that enhance knowledge (Babb & Ross, 2009).
One student expressed the way that Jazan Jump Blackboard had a positive impact by stating:

*Jazan Jump Blackboard helps me to be relaxed and focused more in class, so I am not worried about missing the PowerPoint information or any materials. My teacher put all course content and activities online. I just come to class to focus and participate, there is no worries about writing very single word that my professor says in the lecture.*

5.2.7.5 Factors that Increase WhatsApp’s Social Presence

There is now a large body of literature on the factors that increase social presence on social media. Mobile instant messaging applications such as WhatsApp help to create greater social presence between students and teachers (Rambe, Bere, 2013). As Robinson et al., (2015) mentioned the current study found that WhatsApp has the features to support social presence by facilitating the three social categories that Garrison et al., (1999) described in his Community of Inquiry model. These three categories are interactive, affective, and cohesive expressions and activities. The following figure illustrates these factors:

Figure 5.12 Factors Increase Social presence in WhatsApp

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User Expressions and Emotional Features

A large body of research has found that emotional presence is an important element when increasing social participation (Rienties & Rivers, 2014). Developing a virtual community that provides students with the ability to express emotions is a key part of creating a good learning, engagement, and achievement process in online settings (Artino, 2012). Garrison’s (2011) Community of Inquiry framework discusses how emotional expression is a key feature of social presence in online education. A study has claimed that WhatsApp “supports
the ability to demonstrate affective responses that are enriched through the use of emoticons” (Robinson et al., 2015:285). One student expressed the way that WhatsApp has had a positive impact on social presence by stating:

WhatsApp status helps someone to express how they feeling. Emojis express how they feel when they are talking to someone. We can express our feelings with images rather words. Example, an emoji shows the person feels clueless or thinks weird of what the other person said. I share with my friends, my emotions through WhatsApp status, every day. I change my profile status. Also, I like to write different status quotes during the day to show how smart I am and how they special to me. WhatsApp help me to be connected with my friends. I set the pictures gathered me with my teacher and friends in classroom to express appreciation and love feelings.

Other student made the following comment:

When we chat on WhatsApp, we can feel the happiness or sadness of each other and this is considered as the emotional presence itself. If I put for example the emotion as “Happy Face” or “Sad face” or any other emotions that means we are immediately talking together and chatting. We noticed this type of presence on the "WhatsApp Medical Group". The teacher can make all his or her efforts to increase social presence through using the image faces, for example, he can make “eye contact” by putting an image of two eyes. Also, he can name students by their names and hear their voices in the group or individual that create vertical.

Promoting Cohesion through Small Group Discussion
Studies have emphasized the importance of group discussion design on creating social presence and interaction between students. These factors can lead to increased levels of cohesion in online settings (Qui et al., 2014). Garrison’s (2011) Community of Inquiry framework defined cohesion as a main element of social presence and as a group sense of closeness that includes greetings, communication, and a feeling of belonging. In a review of asynchronous communications, the findings indicate that some clinic doctors use WhatsApp to create a study group. When a member shares a message with the group, it can be read by others. In this way, a WhatsApp discussion can influence group cohesiveness through formal and informal conversations between students and professors either individually or as a larger group (Gould & Nilforooshan, 2016). One student expressed the way that WhatsApp has had a positive impact on social presence by stating:

We greet each other and welcoming my friends. Also, me and my friends express our opinions in a group and I feel I am valued by group members, and I feel I have a role in the group. We share our opinions and from there the discussion starts.

Informal Discussions
Online, students play an important role in establishing social interaction by sharing personal stories. Informal online discussions help to build a sense of community and can have a
positive influence on the academic development of individuals (Aragon, 2003). In a similar study, Sun (2014) worked to create the “Jituo online learning community” which was a forum that was created to improve students’ English writing and overall proficiency. The researcher found that the “Jituo online learning community” promoted students’ English skills and also was considered an online gathering place for community members in which individuals were able to provide mutual support and build relationships which allowed them to achieve academic goals. A student expressed how informal decisions on WhatsApp positively impacts social presence by stating:

*I liked that I can talk about my daily routines with my friends and I love when some of my friends share trips and festival news and it is fun when we went there together. We also chat with each other about other classes and we share other subject materials. Talking with my friends, give me a support to be good on my study.*

**Instructor and Student Immediacy**
Social presence and the way that it brings teachers and students’ closer together is associated with an increased sense of community. In the online environment, teachers need to encourage interactions between students to overcome a potential lack of social presence (Rovai, 2001). Instructors need to encourage students to use WhatsApp features when interacting with one another to develop a sense of immediacy. For example, WhatsApp provides students and teachers with the opportunity to send messages that increase social presence. By providing users with the ability to quote the messages of others, make comments, ask questions, and provide feedback, WhatsApp allows for an online community to form (Robinson, et al., 2015). One teacher mentioned that WhatsApp has had a positive impact on student-teacher communication by stating:

*Social media has a great role in connecting people socially and it brings people closer. I think if the teacher is not very close to students, when he or she start using WhatsApp, definitely, teachers will be closed to students.*

Another teacher stated the following:

*It makes us very close. As a teacher, I give support through giving feedback and answering questions. At the same time, students get along with each other through posting and comments referring to their friend’s messages.*

**Social Equality**
The fifth factor that impacts the increase in social presence is the equality of community. The online environment creates equal opportunities for students to participate because the learning process focuses on the students themselves and allows them to express themselves
more easily than in a traditional classroom setting (Arnold & Ducate, 2006:44). Instructors can easily create an online community that has social equality and provides everyone with equal opportunities for discussion (Rovai, 2001). In addition, using the English language unites students from different backgrounds and makes them feel equal as it is a universal language. Jackson (2008:3) stated that “Globalization could not happen without its own language, and that language is unquestionably English.”

One teacher mentioned that WhatsApp increased the sense of equality by making the following statement:

_WhatsApp is student-centered learning, so students feel responsible to share and care about each other. They feel free to producing knowledge and have the same chances to do whatever they want._

One student echoed this sentiment and stated,

_It makes them feel equal. In the group people with a higher level of degree and low are seeing the same in the group._

Dr. Sohel considered that using the language of globalization (English) in WhatsApp increase the sense of equality when he stated:

_You know that the entire world in the English is going everywhere. When you use English in online environment, students feel same. Do you think that English is the most standard language in the world? Number One: I like this._

### 5.2.7.6 Factors that Increase Jazan Jump’s Social Presence

Blackboard was designed for academic purposes including creating an e-learning application that allows instructors to create and manage course activities, publish content, communicate with students, and assess performance (Bradford, et al., 2007). There are many potential factors that can impact social presence in Blackboard such as the way that student-instructor contact is encouraged (Bradford et al., 2007); increased network capacity (Lwoga, 2012); active sharing and academic tools (Bradford et al., 2007); improved communication (Elwood et al., 2012 & McElrath and McDowell, 2008); the creation of group activities (Rove, 2004); and the ease use of the system (Dow, 2008). Based on the studies above and the responses of those who were interviewed, the increase in social skills using Jazan Jump Blackboard is dependent on certain factors as shown in the following model:
Providing Students with Course Information and Syllabus
There are many strategies that instructors can use to establish social presence including making “announcements with course flow instruction, helpful tutorials, etc. Include complete syllabus with timelines, due dates, course expectations, the learner’s role, the instructor’s role. Include contingency plans, library links, resources, and rubrics” (Elwood et al., 2012:339). A learning management system allows a teacher to upload the syllabus and course work as well as document instructions, assignments, and student feedback. The teacher is also able to create activities that allow students to explore the online learning environment (Bradford et al., 2007). To support this point, one of the teachers said:

For social presence, the students can see the course distribution syllabus on Jazan Jump and they have clear schedule, they can create also you know their own tables according to their course distribution on Jazan Jump. They can see the calendar and Jazan Jump also can let both students and instructors share their information ID and create sense of community that relate them to each other, but unfortunately the teachers are lag behind and most of them do not use this system effectively.

Use of the Learning Management System for Academic & Social Purposes
Blackboard is a web-based virtual learning environment for academic purposes that provides staff and students with the ability to provide swift feedback, communicate, track, and build skills including content and time management. In addition, the system allows users to socialize using announcements, discussions, lectures, chat rooms, and email (Bradford et al., 2007). According to Jazan Jump’s e-book user guide (2006:26), “the student can share
selections from the reading contents with others through SNS and email. Drag the area to share so the Annotation menu can pop up. Click the Share tab and select the service you wish to use. Account information is required to access Facebook and Twitter. Please register all the required information before accessing.” In discussing the development of social presence on Blackboard in interviews, one teacher mentioned the following:

*Jazan Jump like any other media such as Twitter, Instagram, WhatsApp, Facebook, and Skype, but it is more official and it is main virtual porter for both stuff members and their students to be connected together for educational purposes. Students can work together to complete their assignments, quizzes, tests and questions on Jazan Jump. As I said, It is official and it is mainly for academic purposes but they can be socialized through it because there are many tools that teachers can use such as ebooks that are connected with social media. Moreover, Jazan Jump is considered as an effective way to convey a direct message in seconds and all students can see it by using their users names and passwords.*

Another teacher stated that:

*Jazan Jump is different tool, it is comprehensive board concept because we can upload many things such as media lectures, audio lectures. It is for academic students’ purpose.*

**High Bandwidth Capacity**

Using the Blackboard system depends on the bandwidth of the system (Bradford et al., 2007). “Improve the availability of hardware (particularly computers) and software to ensure access to appropriate technology for all students and faculty and continue to provide for the development of their technical skills. Improve internet connectivity/bandwidth in higher institutions is necessary. It should be reliable and fast so that students and faculty can access anytime and anywhere” (Lwoga, E., 2012:103). According to Wu & Turner (2006), bandwidth impacts the mode of interactions (student-content interaction, student-student interaction, and instructor-student interaction) that must be considered when designing course activities to determine which interaction should be used and how the interaction can be carried out. The high bandwidth capacity of transmitting data is beneficial for students when they are doing collaborative activities.

To support this point, a one of the teachers mentioned the following in an interview:

*Jazan Jump is not useful for increase social presence because of internet problems.*

**Use of Community Tools of Jazan Jump**

Instructors can create social presence on Blackboard by working to motivate students. A way that this can be accomplished can be through questions that relate to the course content in a
designed question section and by providing technical assistance to students in discussion threats. In addition, teachers can create a reward system to encourage students to answer classmate questions. This system will provide an incentive for students to interact and help to build a community in a learning management system (Elwood et al., 2012 & McElrath and McDowell, 2008). According to Jazan Blackboard Learning Management System User Guide,2006:8), “The Community menu is composed of 4 sub menus to manage administrator, instructor and student communities. Instructors can view notices posted by the LMS administrator, as well as FAQs and Q&As posted in between the administrator and the students. The message tool is also available for communication purposes.”

To support this point, a student mentioned the following in an interview:

*Oh yeah, I think we have some kind of interaction with teachers and other students through chatting and a Q&A forum on Jazan Jump, and chatroom, oh, but I do not think it provides an effective interaction as on WhatsApp. I do not know, but this how I feel. I think, if there are points for activities, then all of students will participate in Jazan Jump.*

**Uses of Blackboard for Collaborative Group Activities**

Rove (2004) reported that the idea of designing group activities in an online environment uses the constructivist approach and group work helps to promote trust and positive relationships between the community. Liu et al., (2007) stated that planning activities for online groups can help to create a sense of belonging for the students. Creating games can help students develop positive social interactions within the online community. McElrath and McDowell (2008) suggested that online teachers work to have students engage in interactive, game-like activities, which result in students’ positive engagement. Similarly, one of the teachers made the following statement in an interview:

*Interaction is a kind of presence; the teacher can keep connected with students in seconds through Jazan Jump and students can see their marks and grades and different classrooms can collaborate together through Jazan Jump and show challenge in different activities such as medical terminology games a puzzle. They can find their researches, lectures media, videos. Also, the students can learn the responsibility when they use Jazan Jump.*

**System Ease of Use**

The ease of use of a system is a significant factor that supports student communication and plays a role in developing social presence (Mykota & Duncan, 2007). This factor provokes interaction between students and the system (Heerink, Krose, Evers & Wielinga, 2008).
Davis (1986) and Davis (1989) stated there is a direct relationship between the perceived ease and use of technology. When a technology is accessible and effortless to use, users are likely to accept it and use the tool more. Additionally, Davis (1986 and 1989) pointed out that perceived ease of use had an indirect impact on the performance of technological tools along with perceived enjoyment and usefulness. For example, if a system is difficult to use and complicated, users will be unlikely to use it and the overall system will most likely be considered something that is not useful or enjoyable. This concern is something that is associated with Jazan Jump Blackboard since the system difficulty can make it hard for students to communicate easily and teachers must work to make the system easier to use by providing tutorials and activities.

In an interview, one student made the following statement:

*I do not use Blackboard for social issues because it is wasting time and I feel bored and it is difficult to have the answer in short time when you communicate with other students. It is time consuming and not easy system.*

5.2.7.7 Factors that Increase Student’s Self-Efficacy on WhatsApp and Jazan Jump

Analysis of the student surveys allowed factors that influenced self-efficacy levels of Jazan Jump and WhatsApp to be analysed in relation to student engagement. Survey data were analysed using quantitative SPSS software coding and answer frequencies to provide the researcher with a sense of how often certain responses occurred and how these responses related to technological self-efficacy. Based on the frequencies, the primary factor that impacts self-efficacy is personal abilities.

Figure 5.14 The Main Factor that increase Students’ Self-Efficacy in Blackboard and WhatsApp

Factors that increase Student’s Self-Efficacy On WhatsApp and Jazan Jump

Technological Personal Self-Efficacy

*Personal Self-Efficacy Factors*

Factors presented in this section represent individual factors identified by participant answers to the survey. Technological acumen was a factor that influenced student self-efficacy and
how students felt about WhatsApp and Jazan Jump Blackboard overall and in the use of the chat room. These factors were influenced by the use of English when chatting with others and overall engagement.

From the perspective of the experimental group, 68% of students knew how to use Jazan Jump Blackboard compared with 55% of the controlled group. In regard to WhatsApp, 91% of students knew how to use the application.

Of the 200 completed surveys, 59% of the experimental respondents scored in the medium-to-high range, and 30% of the controlled respondents scored in the low range regarding chat room use. For WhatsApp, 92% of experimental respondents scored in the very high range when asked about the use of WhatsApp chat feature. Based on the survey, 68% of the respondents from the experimental group practiced English using Blackboard and 64% stated they were fully engaged in the system. There were only 28% of respondents in the controlled group who practiced English in the Blackboard chatroom and 44% reported being fully engaged in the system. For WhatsApp, 88% of the experimental group chatted in English using the application and 83% actively engaged in learning medical terminologies through WhatsApp.

The significant finding of this section is that students’ self-efficacy perception was significantly better than the perception of the controlled group after engaging in blended teaching strategies using Jazan Jump and WhatsApp. This result was demonstrated by the statistically significant differences in the reported self-efficacy scores of students regarding engagement, knowledge of technology, and ability to use the chatroom and converse in English after engaging in BL.

A possible interpretation of this result is that the blended teaching method using social media and an LMS promotes students’ self-efficacy beliefs and helps them to interact well with learning content as opposed to only depending on LMS activities. This result is reflected by the higher test scores in the post-test after blended teaching strategy. This analysis is consistent with previous self-efficacy research. As stated by (Madorin and Iwasiw’s 1999), the blended strategy with e-learning and face-to-face instruction in the classroom is beneficial for improving medication knowledge and the self-efficacy. Educational institutes may need to consider two elements to increase student’s technological self-efficacy: providing technological tools in the institute and involving students in constant technology training. Continuing digital development can encourage individuals to use technology to enhance
curriculum goals and meet student needs. Developing students’ technological self-efficacy can result in an increase in student use of tools that can lead to greater achievement (Mikusa, 2015).

5.2.7.8 Factors that Increase Student’s Self-Learning Regulation on WhatsApp and Jazan Jump

After analysing student surveys, three self-regulation behaviours were found to be critical to student success: Internet-self-efficacy, goal setting, and study strategies. The regulatory behaviours and research regarding these behaviours are discussed below.

Figure 5.15 Factors that increase Students’ Self-Learning Regulation in Blackboard and WhatsApp

Internet Self-Efficacy
More than 80% of the students in the experiment referred to their strong online dictionary and Internet skills while the controlled group only had a score of 70%. Both groups reported a 60% level regarding their abilities to use the Internet to solve problems. Based on these results, student experience using technology appears to be a significant element in academic success when using blended education (Schrum and Hong, 2002). As Joo, Bong, and Choi (2000) noted, the principle of successful online learning was based on positive self-efficacy beliefs regarding technology. These technologies can support student development and self-regulation behaviours regarding the features at the technologies provide (Dalsgaard, 2006). To increase the students’ self-learning regulation with technology use, it is critical to provide students with easy-to-use software programs and applications. There is also a need to provide training programs to enhance feelings of self-efficacy as this feeling can improve student experiences when using technology and strengthen their self-confidence in using the tools in
the future to achieve learning goals and have a more positive learning experience (Igbarai & Iivari, 1995).

**Goal Setting**
The experimental group reported that setting clear goals is an important element of their engagement in studying the English medical course and 76% agreed that they make goals and plans to study English. Only 6% of the respondents disagreed with goals. When compared to the experimental group, approximately 54% of those in the controlled group were familiar with goal-orientation skills. These skills refer to the self-regulation habits including goal setting and how these skills related to the BL environment. Schrum and Hong (2002) identified goal setting as a significant habit that contributes to the development of student performance and engagement in a BL course where learners set goals based on tasks that need to be completed. To develop this goal setting habit, teachers can invest time and resources into the improvement of students’ planning skills to allow them to achieve their aims (Chipunza & Masiza, 2004). During the process of goal-setting training, students should learn how to write specific, positive, and clear goals. They should also learn how to set an action plan for their goals that involve them writing materials, resources, and programs that they can use them to obtain their academic goals. Based on their action plans, students should write the date of the goal achievement and the reward that they will receive for obtaining their goal. Students should also visualise their goals in various forms such as a poster, video, or image and then share the course goal with their classmates and teachers to ensure that they are committed to the goal throughout the class and to increase their chance of success (Rader, & Davids, 2015). Screw (2007) suggested that self-regulatory learning attributes can be supported by web-based instruction in both the online and BL environments. The use of technology in education helps to promote self-regulating behaviour like goal setting because “technology leads learners to recognize the existence of a need to be satisfied and/or of a goal to be reached and which orientates him/her toward a ‘technology enhanced learning environment’ that is believed, according to the model that the student has in mind, to be useful to satisfy that need or to reach that goal” (Antonietti, 2005:61).

**Study Strategies**
The experimental group reported that English self-regulated studying strategies were a significant part of their overall engagement when learning in the English medical course. In fact, 81% agreed that they study strategies for learning English, while 2% disagreed. When compared to the experimental group, 59% of the controlled group used English self-regulated
studying strategies. This result means that students who have higher levels of self-regulated habits including learning strategies performed significantly better in a BL environment. For example, the use of self-regulating strategies such as asking questions is essential for academic engagement in BL. More than 70% of the experimental group used the strategy of asking questions as a way to memorize course content while this strategy was only used by 54% of the controlled group.

Ting & Chao (2013) pointed out that there is a positive relationship between students who have high self-regulating learning strategies and those who have high engagement in a BL environment. Also, Lavasani, Mirhosseini, Hejazi, & Davoodi (2011) mentioned that students’ learning of self-regulation strategies is very important to improve student understanding and allow them to associate their prior knowledge with current knowledge while developing their academic competence. Teachers can train students to use cognitive strategies to develop self-regulation. Students can obtain significant academic success when they use appropriate learning strategies, regulate themselves to obtain specific goals and achieve high levels of self-efficacy. Teachers should also engage students in metacognitive activities including reflective, and analytical tasks to become more self-regulative and experience greater success in gaining academic achievement, motivation, and life-long learning (Butler & Winne, 1995). Section 2.3.2.4 Cognitive Presence Activities in Blackboard provides more information about exposing students to different levels of cognition.

As mentioned in the literature review (Sankaran and Bui, 2001; Al-Ani, 2013), study strategies are a key element of engagement in an online learning environment. The authors found that learners who used strategies including taking notes or practice exercises performed better in online learning. In addition, questions were used as a strategy to “to stimulate the recall of prior knowledge, promote comprehension, and build critical-thinking skills” (Tofade, Elsner, & Haines, 2013:1, Kassab et al., 2015). The use of blended instruction has become popular as an increasing number of educators believe that diverse delivery methods can help to support learning involvement and increase student motivation (Lim & Morris, 2009). Blended learning encourages an environment that supports inquiries and helps to develop effective learning (Akyol, Garrison, & Ozden, 2009). Classroom inquiry motivates students to engage in more self-regulated learning and allows them to develop learning strategies that improve their educational experience (Bird, L. 2009).
When analysing the results of the student survey, the researcher was able to search for factors that impacted the anxiety of students when using Jazan Jump and WhatsApp. The survey data were analysed using SPSS software and the frequencies provided the researcher with information regarding how often a response occurred. This information was used to determine how the answers related to anxiety related to technology.

5.2.7.9 Factors that Increase Emotional Presence (Anxiety)

When analysing the results of the student survey, the researcher was able to search for factors that impacted the anxiety of students when using Jazan Jump and WhatsApp. The survey data were analysed using SPSS software and the frequencies provided the researcher with information regarding how often a response occurred. This information was used to determine how the answers related to anxiety related to technology. Based on the frequencies, the main factors which impacted student anxiety were feelings of relaxation, nervousness, and a need for more training along with other methods that could be used to decrease feelings of anxiety.

Figure 5.16 The Main Factor that increase Students’ Emotional Presence in Blackboard and WhatsApp

**Personal Anxiety Factors**

Factors presented in this section represent individual factors identified by participants' answers to the survey. Student anxiety was a factor that influenced the way that they used technology including if they felt relaxed or nervous about using WhatsApp or Jazan Jump Blackboard or the chat room. In the experimental group, 89% of respondents felt relaxed about learning English using Jazan Jump Blackboard compared to only 23% in the controlled group. When asked about WhatsApp, 88% of students felt relaxed when using the application to learn English.

In the experimental group, 71% of respondents scored in the high range while 65% of the controlled group scored in the medium to high range when asked if they felt nervous using
the chat room in Jazan Jump Blackboard. For WhatsApp, 66% of experimental respondents scored in the very high range when asked if they were unsure about their ability to practice their English in a WhatsApp online group.

In the experimental group, 49% of respondents felt that they needed more training with the Blackboard system while 65% of those in the controlled group wanted more training. When asked about WhatsApp, 25% of the experimental group reported that they needed more training.

This section found that students felt more relaxed after experiencing blended teaching strategies using Jazan Jump and WhatsApp as compared to the controlled group. This result was confirmed by the statistically significant differences in the scores of the students in the different groups. Both groups had the same medium level of anxiety about using the chat room. The researcher suggests that the lack of training is the reason for the nervousness that students have about the chat room.

A possible interpretation of the results is that blended teaching methods that employ social media and an LMS promote feelings of relaxation in students. This interpretation is consistent with previous research involving technology anxiety. The combination of human input and interaction and technology that occurs in BL helps to make the language learning process easier and more relaxing (Banditvilai, 2016).

The moderate level of anxiety can be considered positive evidence of the learning process that helps to promote student motivation to learn using technology (Aldalalah & Gasaymeh, 2014:233). Anxiety could be a sign that instruction lacks careful planning. According to Perveen (2016), synchronous voice or text chat rooms offer teachers and students with the ability to interact with one another; however, the synchronous sessions can make people feel anxious because they feel under pressure to respond immediately. Teachers can maximize asynchronous activities including having board discussions as assignments to avoid anxiety which can result from being in a time-limited, somewhat pressure filled synchronous session. A mix of synchronous and asynchronous activities can enhance the language learning process and allow teachers to incorporate all methods of language learning teaching techniques while trying to effectively reduce anxiety (Perveen, 2016).
In addition, anxiety could be seen as a sign that students require more training. Han (2008) mentioned that learners have a lack of digital knowledge and training which can make them feel anxious about using technology when learning a new language.

5.3 Other Outcomes and Engagement

Engagement in BL has a positive correlation with students’ self-efficacy beliefs (Shea & Bidjerano, 2010). Efforts involving students and technology have been found to correlate with self-learning regulation significantly (Lynch & Dembo, 2004). Moderate degrees of anxiety produce greater student engagement with the course content (Cleveland-Innes & Campbell, 2012). To examine the third hypothesis and research question, a Pearson correlation was used to analyse the data to determine the relationship between the dependent and independent variables (Nisbet, Tindall, & Arroyo, 2005).

**The Third Hypothesis**: The teaching, social, cognitive engagement presences of students who are learning English medical terminologies through both WhatsApp and Jazan Jump are highly correlated with learner engagement presence that composed of self-efficacy, learning self-regulation, and anxiety.

**The Third Question is** “What is the relationship between the learner-presence that included self-regulation beliefs, technological self-efficacy, and anxiety that medical students feel when learning using WhatsApp and Jason Jump and Col presences?”

5.3.1 Self-Efficacy (Learner Presence) & Engagement

Table 5.4 Experimental Group WhatsApp & Jazan Jump Self-efficacy Pearson Correlation

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>WhatsApp self-efficacy</th>
<th>Jazan Jump Self-efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Presence</td>
<td>0.607**</td>
<td>0.755**</td>
</tr>
<tr>
<td>Social Presence</td>
<td>0.638**</td>
<td>0.763**</td>
</tr>
<tr>
<td>Cognitive Presence</td>
<td>0.591**</td>
<td>0.616**</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level**

The Pearson correlation in the table above suggests that there is a correlation between teaching presence and the dependent variables, WhatsApp self-efficacy, and Jazan Jump self-efficacy. The scores were statistically significant with values of 0.607**, p < 0.05, and 0.755** p < 0.05. The social presence variable was also positively correlated with the dependent variables, WhatsApp self-efficacy and Jazan Jump self-efficacy, with values of
0.638**, p < 0.05 and 0.763**, and p < 0.05 (two tailed). There is also a correlation between the cognitive presence and the dependent variable, WhatsApp self-efficacy. The correlation was significant at .591**, P<0.05 and Jazan Jump self-efficacy was 0.616**, P<0.05. The scores show that the individuals who have a high level of teaching presence were generally satisfied with their self-efficacy abilities in relation to Jazan Jump and WhatsApp. The participants who had a high social presence also indicated high satisfaction with their skills in using Jazan Jump and WhatsApp. In addition, participants who perceived a high cognitive presence also indicated high satisfaction with WhatsApp and Jazan Jump.

5.3.2 Self-Learning Regulation (Learner Presence) & Engagement

Table 5.5 Experimental Group WhatsApp and Jazan Jump Learning Self-regulation Pearson correlation

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>WhatsApp Learning Self-Regulation</th>
<th>Jazan Jump Learning Self–Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Presence</td>
<td>.242*</td>
<td>.243 *</td>
</tr>
<tr>
<td>Social Presence</td>
<td>.309**</td>
<td>.224*</td>
</tr>
<tr>
<td>Cognitive Presence</td>
<td>.337**</td>
<td>.332 **</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level  
** Correlation is significant at the 0.01 level

The Pearson correlation in the table above suggests that there is a correlation between teaching presence and the dependent variables. Self-learning regulation was statistically significant at .242*, p <.05 and was statistically significant for Jazan Jump at .243*, p < .05. These scores mean that participants who perceived a high level of teaching presence in WhatsApp and Jazan Jump had high self-learning regulation beliefs. The social presence variable for both WhatsApp and Jazan Jump was also positively correlated with the dependent variable of self-learning regulation at .309**, p <.05, and .224*, p <.05 (two tailed). The correlation between the cognitive presence and the dependent variable, self-learning regulation, was significant at 337**, p<.05 along with Jazan Jump self-efficacy at .332**, p<.05. These values mean that the participants who had a high level of teaching presence also indicated that they had high levels of self-learning regulation. In addition, participants who perceived high social presence also indicated high self-learning regulation and those who perceived a high cognitive presence indicated high self-learning regulation.
The results of the current study were also consistent with previous research which found that student self-efficacy beliefs have been positively correlated with teaching presence and social presence and cognitive presence. The study suggests that learner presence that involves self-efficacy and student self-regulation can be incorporated into the CoI framework to better understand the online learning process (Shea & Bidjerano, 2010). These and other studies have suggested that technological self-efficacy has a significant correlation with developing student learning engagement and performance (Mikusa (2015), Broadbent (2016), Martin & Tutty (2008), Martin, Tutty & Su (2009).

There is a significant correlation between self-learning regulation and technological engagement which supported the findings of Chang (2007) and Lynch & Dembo (2004). These authors found that there is a significant and positive relationship that is either direct or indirect between self-learning regulation and engagement in blended education contexts.

### 5.3.3 Anxiety (Emotional Presence) & Engagement

Table 5.6 Experimental Group WhatsApp & Jazan Jump Anxiety Pearson Correlation

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>WhatsApp Anxiety</th>
<th>Jazan Jump Anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Presence</td>
<td>0.109</td>
<td>0.273**</td>
</tr>
<tr>
<td>Social Presence</td>
<td>0.680**</td>
<td>0.184</td>
</tr>
<tr>
<td>Cognitive Presence</td>
<td>0.560**</td>
<td>0.173</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level

The Pearson correlation in the table above suggests that there is no correlation between teaching presence and the dependent variable, WhatsApp anxiety. The correlation was not statistically significant at .109, p>.05. The correlation was significant for Jazan Jump at .273**, p <. 05. The social presence variable was also positively correlated with the dependent variable, WhatsApp-anxiety, at .680**, p <. 05; however, Jazan Jump anxiety was not statistically significant at .184, p >. 05. This score means that student anxiety increases when they socialize using WhatsApp. The anxiety increase is greater when WhatsApp is used than when Jazan Jump is used. The correlation between the cognitive presence and the dependent variable, WhatsApp anxiety, was .560 **, P<. 05, but there was no correlation between the dependent variable and Jazan Jump anxiety.
Some of the independent variables were related significantly to students’ Jazan Jump and WhatsApp anxiety. This significant correlation indicates that students experience anxiety, but these feelings do not necessarily pose potential problems for language engagement presence. Although some students may experience anxiety, this anxiety did not impact their willingness to use WhatsApp or Jazan Jump to practice or learn new medical terminologies. A moderate level of anxiety has resulted in positive learning presence and attitudes about modern techniques and innovations (Aldalalah & Gasaymeh, 2014:233).

Cleveland-Innes & Campbell (2012) recognized that feelings of fear and anxiety are typical in the learning process and can help to stimulate student engagement in an educational setting. The authors mentioned that studying the relationship between emotions like anxiety and the online engagement process using the lens of the CoI framework can help to develop appropriate ways to involve these factors and provide a dynamic, complex environment that incorporates web-based instruction and the proper emotions. The degree of anxiety correlation can fluctuate with each engagement presence in the educational context.

5.4 Social Media Attitudes
The researcher conducted analyses about the attitudes regarding WhatsApp. A “Paired Sample T-Test” was conducted to compare the means of the experimental and controlled groups (Creswell, 2009). As mentioned in Section 5.3.1 Self-Efficacy (Learner Presence) & Engagement when the value of the t-test was 0.05 or less, there were significant difference between the means of the experimental and the controlled groups (Gardner, 2008). This test provided the researcher with suitable statistical evidence to analyse student survey data to answer the following:

The Fourth Hypothesis: There will be a significant difference in students' attitudes in the experimental group who learn through BL strategy and social media compared to students who only have BL provided by Blackboard.

The Fourth question is as follows: How do students' view their attitudes regarding social media differ in both controlled and experimental groups?
Table 5.7 Experimental and Controlled Group Media Attitudes

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Mean</th>
<th>N</th>
<th>Std. D. N</th>
<th>T-Test</th>
<th>Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Media Attitudes</td>
<td>Controlled</td>
<td>3.24</td>
<td>100</td>
<td>1.101</td>
<td>-10.086</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>Experimental</td>
<td>4.36</td>
<td>100</td>
<td>0.474</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 5.17 The results of Social Media Attitudes in Controlled and Experimental

The test results suggest that there is a significant difference in the scores for the treatment group (M=4.36, SD=1.101) and the controlled group (M=3.24, SD=0.474); t (-10.086), p = 0.000. The results of student attitudes provided a mean score of 4.36 regarding social media learning. The attitude of students in the controlled group toward social media learning was 3.24. The difference between the two-means demonstrated that the experimental group had a lot of positive perceptions regarding social media use when learning English. The participants in the experimental group felt that the use of social media applications was easy, interesting, motivating, and a good use of time. These participants considered social networks to be highly effective and believed that there was value in practicing a language that they were learning even without the use of an online application like WhatsApp. Although the
controlled group did not use WhatsApp, they still had a moderate mean score which indicates that the group was ready and willing to use social media for educational purposes.

The examination of the student survey helped the researcher determine the attitudes that impact student engagement with social media. According to the SPSS frequencies analysis, 81% of the experimental respondents scored in the high range, and 40% of the controlled respondents scored in the low range regarding their practicing of English using social media. For the next attitude, 91% of experimental respondents scored in the very high range which means that they felt that learning English using social media was interesting. Only 45% of controlled participants felt this way. For the third attitude, 86% of the respondents in the experimental group enjoyed using social media in other English courses and 26% disagreed with this attitude. The fourth attitude related to the ease of use of social media. In this regard, 88% of the respondents and 41% of the respondents from the experimental and controlled group, respectively, felt that using WhatsApp was easy.

The significant result of the statistics stated above is that student attitudes were positive after learning medical terminologies using Jazan Jump Blackboard and WhatsApp when compared to the controlled group. This result is shown by the statistically significant differences that showed positive attitude scores for students when learning English in a blended educational environment. A probable explanation of this result is that the participants who learn medical terminology using social media and an LMS reported more positive attitudes about the classroom interactions. The result was based on four primary student perspectives including the way that technology (1) motivated students to practice English; (2) made learning English interesting; (3) did not waste the time; and (4) developed student motivation to use the social media such as WhatsApp for other courses.

The blend of face-to-face teaching with technology increases student attitudes positively about learning a second language and other science topics. Eren (2012) found that using social media is a supplementary way to improve student achievement and engagement when learning English. Li (2007) conducted a survey of 575 Canadian students to determine their attitudes about technology and learning. The results of Li’s work showed that 87.3% of students were interested in using technology and assumed it facilitated learning. Li illustrated that students acknowledged that innovation and technology made learning simpler and easier by providing access to suitable tools and web applications which had the learning materials. Students generally appreciated using technology to access materials that are not readily
available using textbooks and other traditional educational methods. In addition, being prepared for the future was something that students identified as a benefit. Many students felt that the world is changing and that using advanced technology would allow them to better adjust to the technological revolution. Finally, Li found that students valued technology as it increased student inspiration and motivation. Through the use of web-based tools, students had better attitudes about innovation.

5.4.1 Social Media Attitudes and CoI Presences
A Pearson correlation analysis was conducted to determine the relationship between student attitudes and engagement presence. This process helped to measure the “strength and direction of the linear relationship between two variables, describing the direction and degree to which one variable is linearly related to another” (Bolboaca Jântschi, 2006:5). This measurement allowed the researcher to answer the following question using statistical terminology:

Hypothesis Fifth: The experimental group will have social media attitudes that correlate positively with teaching presence, social presence, and cognitive presence.

The Fifth question is: To what degree do student attitudes about learning using WhatsApp and Jazan Jump correlate with engagement presences?

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>Social Media Attitudes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Presence</td>
<td>.446**</td>
</tr>
<tr>
<td>Social Presence</td>
<td>.432**</td>
</tr>
<tr>
<td>Cognitive Presence</td>
<td>.386**</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level
The Pearson correlation in the table above suggests that there is a correlation between teaching presence and the dependent variable, WhatsApp attitude, which was statistically significant with values of .446**, p <. 05. This result means that the participants with a high level of teaching presence in WhatsApp had positive attitudes. The social presence variable was .432**, p <.05 for WhatsApp which shows that there is a positive correlation between the use of this application and the dependent variable, attitude. There was a correlation between the cognitive presence and the dependent variable, attitude, at .386**, P<. 05. Furthermore, the participants who perceived a high social presence also indicated a positive attitude toward WhatsApp. In addition, the participants who had a higher cognitive presence also indicated higher attitudes in general. As a result, the relationship between the overall
attitudes of students and their engagement presence when using social media to support the learning of English medical terminology was positive at p < .05. This result shows that when participants have more positive attitudes, they are more likely to use social network applications to support their English language learning. Likewise, those who have more negative attitudes will be more likely to refuse to practice a second language with social media applications. This result supports the findings of Giannousi & Kioumourtzoglou (2016) who concluded that student technological satisfaction was the most significant predictor of teaching presence, cognitive presence, and social presence. These three presences correlated with overall positive approval of the technology.

5.5 Summary
The findings of the current study show that integrating face-to-face teaching with WhatsApp and Jazan Jump Blackboard can positively impact student achievement.

The study also appears to indicate that there is a significant relationship between increasing teaching presence and BL on student engagement and desirable learning outcomes. The use of Jazan Jump in combination with WhatsApp in the teaching process is likely to increase student engagement in the experimental group as compared to the controlled group. There are many factors which provide Jazan Jump and WhatsApp with an advantage when teaching medical terminologies. Some of these factors include the skill and knowledge of the teacher who is integrating the technology into the class. In addition, using technology to support students outside the classroom can have a significant impact on student engagement. Instructors must work to align online activities with goals and objectives to ensure that students continue to use the technology. The most significant contributor to student engagement is direct teacher instruction. The students who learn using Jazan Jump and WhatsApp benefit when the teacher energetically shares experiences and is actively engaged in the teaching process. Teachers can also increase student engagement by rewarding their success and progress in the online environment. Facilitating online discourse using engagement activities and active feedback allows students to participate. Higher education institutions should focus on creating policies to motivate students to use existing technology in the learning process. The faculty members for these institutions should adopt a constructive approach that integrates technology and encourages learning engagement with academic content and a reflection process. Engagement works to help teachers use
technology to organize course content. Students can benefit from the greater organization and access to course materials and become more engaged online.

In relation to cognitive presence, in the BL environment, the experimental group was able to sustain a high level of engagement more effectively than the controlled group. The increase in cognitive presence is an outcome of teachers’ ability to design assignments that help students obtain greater achievement, exploration, and interaction. Teachers can find ways to design a semantic task map and use chatroom tools to increase overall class communication as well as working to properly evaluate student knowledge, use tools that support a variety of learning styles, and provide continual access to course materials. In addition, students played a role in online engagement by building positive relationships with teachers and making the effort to communicate with others, being committed, and actively working to learn.

For social presence, the current study showed that social presence in the hybrid environment impacted student engagement positively as shown by the results of the experimental group. The study found that teacher and student actions could impact student engagement. For example, the students who use WhatsApp and Jazan Jump are able to express themselves, promote cohesion, discuss topics informally, build instructor and student relationships, and experience social equality, provided that the Internet service and bandwidth is strong enough. Instructor practices increase cognitive presence by providing students with course information and the syllabus. The learning management system can be used for both academic and social purposes and group activities can benefit from the use of Jazan Jump and Blackboard.

Due to the structure of the BL environment, experimental group learners are typically more self-regulated, capable, and experience moderate anxiety when using WhatsApp and Jazan Jump when compared to those in a traditional classroom environment. The study found that these self-regulation behaviours could impact students’ self-learning regulation in a BL environment. These students showcase skills such as Internet self-efficacy, goal setting, and study strategies. Based on the study findings, being knowledgeable about using WhatsApp and Jazan Jump Blackboard, being able to use the chatroom, and having the ability to use English well in chat conversations help to increase engagement. In addition, the results of the study show that student attitudes toward social media positively increase English medical terminology learning using social media and make the process of learning English more enjoyable. In addition, there is increased motivation to use social media for other courses if it
is effective in the medical terminology course. Student social media attitudes, self-learning regulation, and self-efficacy beliefs correlated positively with students’ engagement presence.

The results of this study could help researchers who are interested in evaluating student success in a BL environment. Exploring teaching, cognitive, and social presence is a way to determine if these factors are predictors of student engagement and achievement and could be valuable to researchers who are interested in studying blended environments to determine the best ways to teach the English language.
Chapter VI: Teachers’ Digital Experience, Self-Efficacy Knowledge and Attitudes

6.0 Introduction
This chapter explores the teaching methods and experiences of teachers who provide English instruction using Jazan Jump and WhatsApp along with the teachers’ technology attitudes, constructive beliefs, and digital self-efficacy knowledge.

The chapter consists of four sections. The first section, Section 6.1 Teachers’ Experience and Teaching Methods, contains information about teaching experience, teaching methods used, and the statistical analysis results of the SPSS analysis. Section 6.2 Teachers’ Constructive Beliefs & Attitudes comprises information about teacher beliefs including their attitudes about WhatsApp and Jazan Jump that relate to the study questions and hypotheses discussed in Chapter 1. Section 6.3 Teachers Technology Self-Efficacy Knowledge has details about the technological acumen of the Jazan University teachers. Section 6.4 Summary includes a summary of the results related to teacher attitudes, beliefs, and skills regarding technology.

6.1 Teachers’ Experience and Teaching Methods
To investigate, the experience of English teachers at Jazan University in teaching medical English using Jazan Jump Blackboard and WhatsApp and their preferred teaching methods modes. The researcher used descriptive statistics that are often used to measure the frequency of a central tendency of a teachers’ experience teaching English and using WhatsApp and Jazan Jump. The researcher conducted a frequency analysis using SPSS by entering the data into the system and then running the frequencies procedure to make the system generate an output file that would present the findings in a frequency table (Arkkelin, 2014). The software will provide the researcher with suitable statistical methods to analysis, teacher survey data for answering the following:

The Sixth Question: Does the experience of English teachers at Jazan University in teaching English using Jazan Jump Blackboard and WhatsApp and their preferred teaching methods provide positive signs for the ability of teachers to integrate technology into the classroom?

The Sixth Hypothesis is: English teachers at Jazan University have a lot of experience using WhatsApp and Jazan Jump along with experience using other teaching methods. This experience can predict a teacher’s positive tendency to incorporate technology in the classroom.
The results of the SPSS analysis are illustrated in the following tables 6.1, 6.2, 6.3, and 6.4.

Table 6.1 English Teaching Experience of Teacher Survey Participants

<table>
<thead>
<tr>
<th>English Teaching Experience</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5 years</td>
<td>13</td>
<td>13%</td>
</tr>
<tr>
<td>6-10 years</td>
<td>28</td>
<td>28%</td>
</tr>
<tr>
<td>11-15 years</td>
<td>26</td>
<td>26%</td>
</tr>
<tr>
<td>More than 15 years</td>
<td>33</td>
<td>33%</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>

The frequency analysis for experience teaching English found that 13% of teachers have been teaching English for 1 to 5 years while 28% of teachers have been teaching English for 6 to 10 years. Thirty-three percent of teachers stated that they had taught English for 15 years or longer. The positive variables were 26% and 33%. The percentages indicate that most of the teachers at Jazan University had taught English for a long time and were experienced professionals in this field. Hughes (2005) suggests that teachers who have fully developed knowledge in a particular specialization, in this case English, could develop advanced technology-supported instruction by bringing their own experience of the topic into class activities. This experience would be supplemented by the use of various technologies, assuming the teacher finds these technologies to be appropriate and believes they can be beneficial. In contrast, Shamoail (2005) states that many instructors, especially those who have significant experience and professional knowledge of their subject, believe that adopting technology is not necessary as long as the lesson goals can be reached through traditional methods. Other teachers believe that they are able to reach their lesson goals using traditional methods, but that their message can be more effective and long lasting if it is supplemented with technology. Zhao (2002) states that integrating technology into various subject areas such as the teaching of English requires teachers to have experience or gain experience employing technology in the classroom effectively. This analysis suggests that the English medical terminology teachers at Jazan University had good content knowledge of the terms that they were teaching and, Hughes (2005) considers this knowledge to be essential since instructors can use the knowledge to determine the relevant pedagogical actions in lectures. The use of technology could be a teaching choice that instructors could elect to use to make lessons more effective.
Table 6.2 Jazan Jump Experience of Teacher Survey Participants

<table>
<thead>
<tr>
<th>Experience of Using Jazan Jump</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don’t use it</td>
<td>11</td>
<td>11%</td>
</tr>
<tr>
<td>Less than one year</td>
<td>14</td>
<td>14%</td>
</tr>
<tr>
<td>1 year</td>
<td>9</td>
<td>9%</td>
</tr>
<tr>
<td>2 years</td>
<td>53</td>
<td>53%</td>
</tr>
<tr>
<td>3 years</td>
<td>13</td>
<td>13%</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 6.3 WhatsApp Experience of Teacher Survey Participants

<table>
<thead>
<tr>
<th>Experience of Using WhatsApp</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don’t use it</td>
<td>9</td>
<td>9%</td>
</tr>
<tr>
<td>Less than one year</td>
<td>14</td>
<td>14%</td>
</tr>
<tr>
<td>1 year</td>
<td>16</td>
<td>16%</td>
</tr>
<tr>
<td>2 years</td>
<td>35</td>
<td>35%</td>
</tr>
<tr>
<td>3 years</td>
<td>28</td>
<td>28%</td>
</tr>
<tr>
<td>More than 4 years</td>
<td>12</td>
<td>12%</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>

In Table 6.2, medical English teachers were asked about their years of experience using Jazan Jump. Of the teachers surveyed, 53% reported that they used Jazan Jump for 2 years and 13% used the system for 3 years. Some staff members had less experience with Jazan Jump. For example, 9% of participants used it for one year and 14% used it for less than one year. Eleven percent of participants did not use the system. The selection of 2 years of experience in using Jazan Jump was the longest period that the system was used was not surprising since the system was implemented in 2014 and the data collection occurred in 2016. In Table 6.3, when medical English teachers were asked about their years of experience using WhatsApp, the majority of participants selected 2-3 years of experience and 12% of the participants had more than 4 years of experience. Sixteen percent of the participants used WhatsApp for one year and only 9% did not use WhatsApp.

According to Tables 6.2 and 6.3 the current research determined that the knowledge and experience of EFL medical teachers in using Jazan Jump and WhatsApp has a recognizable impact on increasing their technological self-efficacy and presence due to the increased technical abilities in working with different aspects of the systems. The results were obtained from an SPSS analysis which found that most teachers had 2 to 3 years of experience using
WhatsApp and Jazan Jump. The primary finding from the analysis was that most teachers were skilled in using these technologies. The findings support King’s (2002) ideas that teacher experience and prior technical knowledge is a major predictor of the use of new digital applications in an educational setting. King also found that teachers who did not have a lot of digital experience created “disorienting dilemmas” and that these teachers should be encouraged to join technology-learning classes, which, in fact, can “cause adults to question their knowledge base and to change their actions” (p. 287). These results highlight the significance of technical knowledge for teachers at Jazan University and how this knowledge can impact professional growth and classroom instruction, particularly in the ability and willingness of teachers to apply innovative educational knowledge fundamentals to their lessons.

Table 6.4 Preferred Teaching Methods of Teacher Survey Participants

<table>
<thead>
<tr>
<th>Teaching Methods</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face to Face</td>
<td>67</td>
<td>67%</td>
</tr>
<tr>
<td>Online</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>Blended</td>
<td>30</td>
<td>30%</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100%</td>
</tr>
</tbody>
</table>

In Table 6.4, when medical English teachers were asked what style of teaching they preferred, face-to-face, online, or blended instruction, the most popular answer was face-to-face instruction at 67%. The second most popular answer was blended teaching at 30%. Only 3% selected online teaching. The selection of face-to-face instruction as the most popular teaching method was not surprising since this style is the primary method of instruction at the medical college of Jazan University and technology is only used as a supportive tool for education. A previous analysis indicated that teachers encouraged positive perceptions and a greater level of comfort regarding technology use in the classroom.

6.2 Teachers’ Constructive Beliefs & Attitudes
To investigate teacher beliefs and attitudes at Jazan University regarding Jazan Jump Blackboard and WhatsApp, the researcher used descriptive statistics to measure the frequency of a certain tendency about teacher beliefs. SPSS provided the researcher with suitable statistical methods to analyse information collected about the following topics:
The Seventh Hypothesis: English teachers at Jazan University have positive constructive beliefs and attitudes.

The Seventh Question is: Do the teachers at Jazan University have negative or positive, constructive beliefs and attitudes about using technology in the classroom?

Data collected about teacher attitudes and constructive beliefs were processed using SPSS. The descriptive statistics generated by SPSS were used to determine the frequency of the opinions and the percent of constructive beliefs and attitudes. These results are illustrated in charts in the following sections:

6.2.1 Teachers’ Constructive Beliefs
This section focused on the beliefs that teachers adopted when they had a constructivist approach. A teacher can play a significant role in developing students’ critical thinking by involving students in activities that provide them with the opportunity to ask questions, explore topics, and use different resources to discover solutions to problems. As students search about certain topics, they are able to make their own conclusions and re-examine their prior beliefs. Teachers who used this approach examined student knowledge using various assessment types including self-assessment, observation, peer discussion, and teacher feedback (Dalton, 1954).

To answer the seventh question, constructive beliefs were identified based on answers to the survey. Teacher beliefs were a factor that influenced technology use and the researcher believes that teacher actions in the classroom should follow the beliefs shown in the table below.

Table 6.5 The Results of the Teachers’ Constructive Beliefs

<table>
<thead>
<tr>
<th>Teachers’ Constructive Beliefs</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop Critical Thinking</td>
<td>95</td>
<td>95%</td>
</tr>
<tr>
<td>Ask Students’ to Search Online</td>
<td>88</td>
<td>88%</td>
</tr>
<tr>
<td>Encourage Students to Express Opinions</td>
<td>96</td>
<td>96%</td>
</tr>
<tr>
<td>Encourage Students’ to be Autonomous Learners</td>
<td>93</td>
<td>93%</td>
</tr>
<tr>
<td>Evaluate Students Based on Projects and Observation</td>
<td>90</td>
<td>90%</td>
</tr>
</tbody>
</table>
According to the survey results, 95% of teachers work to develop critical thinking in their students. In addition, 88% of teachers ask students to search online to find solutions for medical problems. Moreover, 96% of teachers believe that they have to encourage students to express their opinions and participate. Additionally, 93% of teachers encourage students to become autonomous learners and 90% of teachers evaluate students based on their projects, activities, and reports along with in-class observations and tests. The previous beliefs relate to a constructive approach that the researcher discussed in the literature review of the work of Gürbüztürk & Şad (2009).

The findings in this section are that teachers who have constructive beliefs were positive. A possible interpretation of the result is that teachers are motivated to use technology in the classroom. This finding is consistent with the previous constructive research. Vannatta & Beyerbach (2000) state that constructivist teaching practices and technical skills have a corresponding relationship that play a positive role in the integration of technology in the classroom. The authors assert that teachers must have positive attitudes and beliefs about constructivist teaching attitudes and that these attitudes will encourage teachers to integrate technology into the curriculum. To support the results, the analysis of the data in Section 6.3 Teachers Technology Self-Efficacy Knowledge showed that teachers had a moderate level of technological phronesis and moderate practical skills regarding Jazan Jump. These factors were low regarding WhatsApp. The participants in the current study were familiar with Jazan Jump and WhatsApp and had positive constructive beliefs about these applications. They needed more training to obtain higher technological self-efficacy.

6.2.2 Teacher Attitudes

To answer the seventh question “Do the teachers at Jazan University have negative or positive, constructive beliefs and attitudes about using technology in the classroom?”, WhatsApp and Jazan Jump attitudes are presented in this section based on participant answers to the survey. The attitudes of teachers regarding WhatsApp and Jazan Jump were seen as a factor that helped to influence the integration of technology into the classroom. These issues are presented in the following tables.
Table 6.6 The results of WhatsApp Teachers’ Attitudes

<table>
<thead>
<tr>
<th>WhatsApp Teachers’ Attitudes</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Like to Use WhatsApp in English Class.</td>
<td>57</td>
<td>57%</td>
</tr>
<tr>
<td>Enjoy Teaching English Via WhatsApp if they Use it</td>
<td>49</td>
<td>49%</td>
</tr>
<tr>
<td>It Easy to Use WhatsApp in Teaching English</td>
<td>51</td>
<td>51%</td>
</tr>
<tr>
<td>It Easy to Communicate with Students Through WhatsApp</td>
<td>61</td>
<td>61%</td>
</tr>
</tbody>
</table>

Table 6.7 The results of Jazan Jump Teachers’ Attitudes

<table>
<thead>
<tr>
<th>Jazan Jump Teachers’ Attitudes</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enjoy Teaching English through Jazan Jump.</td>
<td>54</td>
<td>54%</td>
</tr>
<tr>
<td>Encourage their Students to Discuss the class Topics through Chat rooms of Jazan Jump.</td>
<td>44</td>
<td>44%</td>
</tr>
<tr>
<td>It is Easy to Use Jazan Jump in Teaching English</td>
<td>57</td>
<td>57%</td>
</tr>
</tbody>
</table>

The analysis of the teacher surveys found that there were four general attitudes that were important for teachers to have about technology use. The attitudes were likeness used, enjoyment used, encouragement used, and easiness used. Of the 100 completed surveys, 57% of teachers reported that they would like to use WhatsApp in their English classes while 54% of the respondents scored in the medium to high range by stating that they would enjoy teaching English to students using Jazan Jump. Additionally, 49% of teachers felt that they would enjoy teaching English using WhatsApp if they chose to engage in this strategy and 44% of the respondents encouraged students to discuss class topics in the Jazan Jump chat rooms. Approximately half of teachers felt that it would be easy to use WhatsApp and Jazan Jump to teach English and 61% of teachers thought that WhatsApp would make communication with students easier.

One of the most significant results was that teachers scored in the medium to high range regarding their attitudes toward technology use in the classroom. The current study results support these findings and other studies have shown that positive attitudes regarding technology is a significant factor in not only encouraging teachers to use new technology, but also in avoiding resistance in the future when trying to get teachers to adopt new digital approaches in teaching (Albirini, 2006; Al-Zaidiyeen, Mei & Fook, 2010).
6.3 Teachers Technology Self-Efficacy Knowledge

The Eighth Hypothesis: English teachers at Jazan University have varied levels of technology self-efficacy knowledge concerning WhatsApp and Jazan Jump.

The Eighth Question is: Do teachers at Jazan University have high, moderate or low level of technological self-efficacy knowledge that include declarative knowledge, digital practical knowledge and genius technological skills toward using WhatsApp and Jazan Jump in classroom?

To answer question eight, 100 participants were asked to answer 31 Likert-scale items measuring the level of self-efficacy knowledge teachers have about WhatsApp and Jazan Jump. The descriptive analysis includes frequency percentages that are presented in the following sections and Table 6.8 and  Table 6.9.

6.3.1 Teachers’ Declarative Technology Self-Efficacy Knowledge (Awareness)

Table 6.8 The results of teachers’ Declarative WhatsApp and Jazan Jump Knowledge

<table>
<thead>
<tr>
<th>Declarative Technology Self-efficacy Knowledge</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>They did not hear about the concept of using WhatsApp in class</td>
<td>43</td>
<td>43%</td>
</tr>
<tr>
<td>They could explain What WhatsApp application is</td>
<td>73</td>
<td>73%</td>
</tr>
<tr>
<td>They could explain What Jazan Jump application is</td>
<td>44</td>
<td>44%</td>
</tr>
</tbody>
</table>

Declarative Technology Self-efficacy Knowledge called “awareness” involved teachers being able to use certain digital applications without having a practical understanding of the application (Davies, 2011). The analysis of data showed that 43% of respondents reported not hearing about the possibility of using WhatsApp in the classroom while 73% of respondents felt that they could explain what WhatsApp was about. In addition, 44% of respondents felt that they could explain the function of Jazan Jump Blackboard without assistance. The first level of this is called “Declarative Technology Self-efficacy Knowledge” which describes how teachers had low to medium levels of self-efficacy regarding WhatsApp and Jazan Jump Blackboard. The teachers had a low to moderate level of knowledge about these technologies and did not actively use it in class. Based on the reports, 73% of teachers stated that they knew how to use WhatsApp while 43% of teachers did not know how to use the application.
as part of classroom instruction. This statistic shows that teachers have knowledge of the application, but not pedagogical knowledge. Henry (2007) conducted a study which supported the study findings here and stated that some teachers had moderate self-efficacy perceptions about using certain digital applications. Henry felt that some teachers might not have enough efficacy to effectively integrate digital tools into their English lessons. As a result, these teachers may not decide to integrate these digital tools into their curriculum and could miss out on some of the key benefits associated with technology and the role it plays in teaching students English. For these reasons, studying and understanding the role of technology in society and how it can help students learn the English language is critical.

**6.3.2 Teachers’ Practical Technology Self-Efficacy Level (Praxis)**

Table 6.9 The Results of Teachers’ Practical WhatsApp and Jazan Jump Knowledge

<table>
<thead>
<tr>
<th>Teachers’ Practical Technology Self-efficacy Knowledge</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher used Jazan Jump to teach English</td>
<td>50</td>
<td>50%</td>
</tr>
<tr>
<td>Teacher used Jazan Jump chat room and had students practice English on it</td>
<td>32</td>
<td>32%</td>
</tr>
<tr>
<td>Teacher used WhatsApp in Teaching English.</td>
<td>19</td>
<td>19%</td>
</tr>
<tr>
<td>Teacher had skills to create studying group on WhatsApp.</td>
<td>56</td>
<td>56%</td>
</tr>
<tr>
<td>Teacher did not have training in social media such as WhatsApp for teaching English</td>
<td>63</td>
<td>63%</td>
</tr>
<tr>
<td>Teacher had training using Jazan Jump</td>
<td>54</td>
<td>54%</td>
</tr>
<tr>
<td>Teacher needs training to use all Jazan Jump Blackboard functions</td>
<td>73</td>
<td>73%</td>
</tr>
<tr>
<td>Teacher needs training to know how to use WhatsApp in teaching English.</td>
<td>60</td>
<td>60%</td>
</tr>
<tr>
<td>Teacher prefers one-on-one training meetings</td>
<td>61</td>
<td>61%</td>
</tr>
<tr>
<td>Teacher prefers group workshop training</td>
<td>65</td>
<td>65%</td>
</tr>
<tr>
<td>Teacher prefers to watch step-by-step training videos</td>
<td>74</td>
<td>74%</td>
</tr>
</tbody>
</table>

As Davies (2011) wrote about the “Practical Knowledge Technology” level, teachers are highly skilled in using digital applications, but are not able to use it to accomplish educational goals. These teachers could benefit from guidelines and trainings that engage technological applications effectively in the classroom. According to the data analysis, approximately half
of all teachers use Jazan Jump to teach English and 32% of teachers use the Jazan Jump chat room and have students practice English using the online tool. Only 19% of the respondents use WhatsApp to teach English. This group of respondents reported that 56% of them have the skills needed to create study groups on WhatsApp, but choose not to use these skills. The teachers who were part of “Practical Technology Self-efficacy Knowledge” stated that the lack of training on the applications was a reason for not adopting WhatsApp in class. In addition, 63% of respondents did not have training with social media tools like WhatsApp to teach English, but 54% of the teachers stated that they had training with Jazan Jump. Seventy-three percent of participants stated that they had all the training they needed to use all Jazan Jump and Blackboard functions while 60% reported needing training to know how to use WhatsApp to effectively use the application to teach English. These results show that although training is provided, it may not match the learning styles and there may be a necessary need for additional training to better match the needs of teachers. Approximately 61% of participants reported that they wanted one-on-one training on these platforms while 65% preferred group workshop trainings. Approximately 74% of participants wanted to have step-by-step training videos to obtain additional training.

This section shows that teachers had low to moderate levels of practical knowledge in using Jazan Jump. Despite this fact, 50% of teachers used Jazan Jump to teach English, but did not possess a high level of practical knowledge that would allow them to use all of the tools provided by the system such as the chat rooms to teach English. Many teachers have a moderate ability level to use WhatsApp in daily life; however, they have low self-efficacy and practical knowledge to use this application in teaching English. Henry (2007) mentions that most teachers believe that they do not have the skills needed to use chat rooms, instant messaging, and other online forums to teach English effectively. Researchers suggest that teachers do not have to have a high level of knowledge to integrate technology into the teaching process (Kozma, 2003). The results of this section suggest that teachers need training to support their teaching styles. Muller et al., (2008: 1534) state that the “Administration may need to identify teachers who are successfully integrating technology and develop mentor programs or workshop training to expose teachers to successful integration in a practical way.”
6.3.3 Teachers’ Genius Technological Self-Efficacy Level (Phronesis)

Table 6.10 The results of Teachers’ Genius Jazan Jump Self-Efficacy Knowledge

<table>
<thead>
<tr>
<th>Teachers’ Genius Technological Self-efficacy Knowledge</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher used Jazan Jump Blackboard for specific reasons</td>
<td>51</td>
<td>51%</td>
</tr>
<tr>
<td>Teacher used Jazan Jump Blackboard to create online activities</td>
<td>59</td>
<td>59%</td>
</tr>
<tr>
<td>Teacher used Jazan Jump Blackboard for posting classroom information</td>
<td>54</td>
<td>54%</td>
</tr>
<tr>
<td>Teacher used Jazan Jump Blackboard for video clips</td>
<td>49</td>
<td>49%</td>
</tr>
<tr>
<td>Teacher used Jazan Jump Blackboard to share presentations</td>
<td>53</td>
<td>53%</td>
</tr>
<tr>
<td>Teacher used Jazan Jump Blackboard for instant messaging reminders</td>
<td>50</td>
<td>50%</td>
</tr>
<tr>
<td>Teacher used Jazan Jump Blackboard to track students’ academic progress</td>
<td>63</td>
<td>63%</td>
</tr>
<tr>
<td>Teacher used Jazan Jump Blackboard to allow students to see their grades</td>
<td>59</td>
<td>59%</td>
</tr>
<tr>
<td>Teacher used Jazan Jump Blackboard to allow students to engage in self-reflection</td>
<td>50</td>
<td>50%</td>
</tr>
</tbody>
</table>

Davies (2011) mentioned that “Technology Phronesis Knowledge” refers to genius level in which users use technology to engage in an activity with a specific reason and aim. The individuals who use technology at this level can employ the technology in an authentic environment and provide justification for why they made the decision that they did.

The data analysis showed that 51% of teachers used Jazan Jump Blackboard for a specific purpose and had various ways of teaching English. In addition, 59% of respondents used Jazan Jump Blackboard to create online activities for students. Fifty-four percent of respondents used Jazan Jump Blackboard to post classroom information including course chapters and electronic documents while 49% of respondents used the system to share video clips with the class and 53% of respondents used the system to share presentations. In addition, 50% of respondents used Jazan Jump to send instant messaging reminders to students about upcoming tests and due dates while 63% of respondents used the system to track student progress. Fifty-nine percent of teachers used the system to allow students to see...
their test and assignment grades to ensure that the students knew their progress. Half of all
teachers used Jazan Jump to allow students to post their reflections.

Table 6.11 The results of Teachers’ Genius WhatsApp Self-Efficacy Knowledge

<table>
<thead>
<tr>
<th>The results of Teachers’ Genius WhatsApp Self-Efficacy Knowledge</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher used WhatsApp to track the students’ progress in using English</td>
<td>24</td>
<td>24%</td>
</tr>
<tr>
<td>Teacher used WhatsApp to share video and photos related to the course</td>
<td>31</td>
<td>31%</td>
</tr>
<tr>
<td>Teacher used WhatsApp to chat with family and friends</td>
<td>77</td>
<td>77%</td>
</tr>
<tr>
<td>Teacher used WhatsApp to chat with students</td>
<td>26</td>
<td>26%</td>
</tr>
<tr>
<td>Teacher has skills to create online English activities for students</td>
<td>10</td>
<td>10%</td>
</tr>
<tr>
<td>Teacher has the skill to create study groups on WhatsApp to teach English</td>
<td>56</td>
<td>56%</td>
</tr>
<tr>
<td>Teacher used WhatsApp to send instant message reminders</td>
<td>39</td>
<td>39%</td>
</tr>
</tbody>
</table>

According to the survey results that related to “WhatsApp Phronesis Knowledge,” about 24% of respondents used WhatsApp to track student progress in using English terminology. The sharing and chatting tools in the program allowed 31% of teachers to post videos and photos related to the course. In addition, 77% of teachers used WhatsApp to chat with families and friends while 26% of teachers used the program to chat with students. Only 10% of teachers used the program to create online English activities to allow students to practice their English outside of class. On the “Practical Knowledge Technology” level, 56% of participants reported that they have the skills to create study groups on WhatsApp to allow students to learn English. These skills that are practiced on the application do not always translate to the classroom environment.

The significant finding is that teachers had a moderate level of technology genesis skill about Jazan Jump and low WhatsApp genesis knowledge (ie pedagogical knowledge). The current study sampled teachers who were familiar with Jazan Jump and WhatsApp. These teachers may not be able to use these technologies effectively in education even though they are familiar with the application in general. To improve the teachers’ technological skills form a moderate level to a higher level, Mishra & Koehler (2006) stated that teachers must be informed of technological pedagogical content knowledge (TPACK). From the teacher survey, the researcher found that most teachers at Jazan University are knowledgeable about
teaching English content and have both in-person and blended pedagogical knowledge (See Section 6.1 Teachers’ Experience and Teaching Methods). The participating teachers had content and pedagogical knowledge, two items which form two of the three pillars of TPACK. Teachers need to develop the third pillar of TPACK which is technical knowledge. Mishne (2012) wrote that there are two steps involved in motivating teachers to place a higher value on the integration of advanced technology in the teaching process. First, academic institutions should provide teachers with sample lessons that are supported by technical innovation to allow teachers to see how lessons can be improved through technology to increase student engagement when compared to traditional methods. Institutions should provide their libraries with grants to allow libraries to hire curriculum designers who can create lesson plans or lesson templates that are driven by web 2.0 learning technology. These lessons can increase teacher interest in technology since they would have access to digital resources and pre-planned lessons. Aifan (2015) provided research suggestions that matched the needs of teachers at Jazan University. Aifan’s suggestions could help to increase teacher knowledge regarding technology use in the classroom. The author mentions that institutions should create training workshops for teachers to show them how to use social media platforms like WhatsApp and Blackboard.

6.4 Summary
The participating teachers had good English content knowledge and 28% had been teaching English for 6 to 10 years while 33% reported teaching English for 15 years or longer. The teachers had knowledge of how to engage in face-to-face instruction and also had blended pedagogical knowledge. The longest period of time that these teachers had worked with WhatsApp and Jazan Jump was 2 to 3 years. This time indicates a low to moderate level of using technology and evidences a weakness in technical knowledge (See Section 6.1 Teachers’ Experience and Teaching Methods). Additionally, the study showed that some teachers are interested in using technology in the classroom, but tend to have a constructivist approach as explained in Section 6.2 Teachers’ Constructive Beliefs & Attitudes. Findings suggest that teachers had a positive attitude towards the use of technology in the classroom and were aware that it could play a critical role in the educational experience as described in Section 6.2.2 Teacher Attitudes. As mentioned in Section 6.3 Teachers Technology Self-Efficacy Knowledge, instructors tend to adopt a constructivist approach to using technology and recognize the potential usefulness of these technologies. Teachers have a low to moderate skill level with Jazan Jump and WhatsApp and the results of the study show that teachers
require additional training to obtain the necessary abilities to use the technology appropriately in a BL environment. The current study found that training workshops are required to use these technologies efficiently in a BL environment.
Chapter VII: Conclusions, Limitations and Pedagogical Implications

7.0 Introduction
This chapter presents the conclusions, begins with the main and primary objectives revisited and follows with a summary of the findings. It also looks at the following five areas: (a) engagement, (b) knowledge of practice, (c) policy, (d) recommendations, and (e) suggestions for future research. Finally, the limitations and restrictions are considered before a summary of the issues raised by the research is presented along with a justification of the results.

7.1 Research Objectives Revisited
The main goal, as presented in Chapter 1, is to examine the factors that are connected with students’ engagement and achievement and socialization in online learning. This study aims to measure the technological-self efficacy of teachers according to their technological awareness level, practical understanding level, and their actual usage level as well as constructivist beliefs. In supporting this goal, there are many primary objectives to support the main objective. The following are the other objectives of the research:

- see the differences between students’ achievement in pre-test and post-test results when comparing the experimental group using WhatsApp and Jazan Jump and the controlled group that is only using Jazan Jump.
- examine students’ teaching presence, social presence, and cognitive presence and learner presence toward WhatsApp and Jazan Jump in both the controlled and experimental groups
- explore factors that increase student engagement in WhatsApp and Jazan Jump
- discover the relationship between learner presence composed of self-regulation beliefs, technological self-efficacy, and anxiety of medical students who experience learning through WhatsApp and Jazan Jump and their other engagement presences
- investigate student attitudes toward social media in the controlled and experimental groups
- examine the correlation between engagement presences and the attitudes of students who learn medical terminology using WhatsApp and Jazan Jump
• examine the experience of English teachers of Jazan University regarding teaching English, using Jazan Jump Blackboard, and using WhatsApp.

• study the constructive beliefs and attitudes of teachers who use technology in their classrooms at Jazan University

• examine the declarative knowledge of teachers regarding technology along with their digital practical knowledge and genius knowledge regarding the use of WhatsApp and Jazan Jump in the classroom.

7.2 Summary of the Results
This section presents each research question and answer based on the results.

(Q1) What is the difference between the achievement of students in the experimental group of WhatsApp and Jazan Jump compared to the students in the controlled group using only Jazan Jump as determined by medical terminology pre-test and post-test exams?

There was a 0.75 difference in the mean between pre-test of the controlled group and experimental group. This slight difference that illustrated that both groups had identical background knowledge and shared a common amount of medical terminology knowledge. On the other hand, the post-test comparison showed a substantial difference in mean between the controlled group and the experimental group; with a difference of 18.41. This a significant difference and supports the claim that BL with two technologies like WhatsApp and Jazan Jump has a significant impact on the development of medical terminology knowledge in students. The results show that medical teachers should integrate blended and face-to-face teaching with social media and LMS use as part of their instruction. The current study suggests that BL may be more effective in increasing the achievement of medical students and that Jazan University could benefit from converting traditional methods to BL methods. Thompson (2003) suggests that a blended strategy improves student achievement in learning vocabulary because it actively involves students in foreign language course content (Tosun, 2015).

(Q2) How do students view their teaching presence, social presence, cognitive presence, and the learner presence that includes self-efficacy beliefs, self-regulation beliefs, and anxiety beliefs toward WhatsApp and Jazan Jump in both controlled and experimental groups? What are the factors that increase each presence on both WhatsApp and Jazan Jump?
The current study demonstrated that teaching presence in a BL environment can increase when teachers use many technologies to improve student engagement. Technology increases teaching presence and can improve student engagement. Teachers should make attempts to realize the potential of digital applications and use the Internet and other BL techniques while teaching.

Social media and Blackboard should be used as supportive tools that enhance student engagement in the learning process. When these types of tools are used, students should be provided with clear goals and objectives regarding the use of the tools. Students can be given direct instructions in an online environment like Blackboard or WhatsApp. The process will allow students to be more engaged in the learning process. A reward system can be created to ensure that students are invested in the BL environment. The effective use of strategies to facilitate online discussions is important and could involve teachers having students go to online systems to obtain feedback, access course materials, or complete homework assignments. The current study participants felt that Jazan University should have encouraging reward policies that help teachers enforce the adoption of technology. To increase teaching presence in the BL environment of Jazan University, teachers should consider using a constructivist approach and a will to use technology when teaching English. Teachers should be ready to use BL methods because the successful implementation of technology relies on a teacher’s constructivist perspectives. Constructivist teaching practices and technical skills played an important role in the integration of technology into teaching medical terminology in this study. Teachers must have positive attitudes and beliefs about BL strategies to effectively implement technology into the curriculum and convince students of the strategy’s usefulness.

Students have a high cognitive presence when teachers work to facilitate online communication and have benefitted from teacher decisions to use WhatsApp and Blackboard to support various learning styles. These systems also increase cognitive presence if teachers work to integrate the systems into the class through providing students with continual access to course materials and design proper assessment, exploration, and semantic map tasks. Students have high cognitive presence through the establishment and building of a positive relationship with the instructor. The increased communication between students and the instructor is beneficial to both parties by creating an environment that encourages committed learners.
Both instructors and students are critical to increases in social presence. A teacher can use technological tools in many ways to engage students in group discussion that promote cohesion. Instructors can use online interactions to increase social presence and provide students with course information. An LMS can be used for academic and social purposes and the community tools can promote collaborative group activities.

The experimental group learners had high self-learning regulation beliefs, and high self-efficacy perceptions. These results mean that the BL strategy involving e-learning and face-to-face instruction in the classroom was beneficial in improving medical knowledge and learner presence. This strategy also impacted students’ self-regulation strategies including studying, asking questions, peer learning, and thinking activities that led to higher achievement on exams. Students did have moderate anxiety when using WhatsApp and Jazan Jump, but the anxiety was not significantly higher than the anxiety that was experienced in a traditional classroom setting. This analysis is consistent with Bryner et al., (2008) who performed a study that showed that medical students may learn more effectively in a BL environment even though they have a certain level of anxiety that does not negatively impact performance. The results of the study encourage researchers to use the CoI model to develop student engagement and achievement in a BL environment.

(Q3) What is the relationship between learner presence that included self-regulation beliefs, technological self-efficacy, and anxiety that medical students feel when learning using WhatsApp and Jazan Jump and CoI presences?

The Pearson correlation analysis shows that the self-learning regulation correlates significantly with teaching, social, and cognitive presence on both WhatsApp and Jazan Jump. The correlation also showed that students’ WhatsApp and Jazan Jump self-efficacy correlate positively with teaching presence, social presence and cognitive presence. There is no correlation between teaching presence and WhatsApp anxiety, but there was a significant correlation between teaching presence and Jazan Jump anxiety. The social presence variable was positively correlated with WhatsApp anxiety, but Jazan Jump anxiety was not significantly correlated with social presence. This means that student anxiety increases when there is more socialization using WhatsApp. The anxiety is greater with WhatsApp use than with Jazan Jump use. The correlation between cognitive presence and WhatsApp anxiety was significant, and there was no correlation between cognitive presence and Jazan Jump anxiety. The existence of significant correlation indicates that students do experience anxiety, but
these feelings do not influence their readiness to use WhatsApp or Jazan Jump to practice learning new medical terminology. A moderate level of anxiety has resulted in a positive learning presence and attitude about modern techniques and innovations.

(Q4) How do students' attitudes regarding social media differ in both controlled and experimental groups?

The results of student attitudes provided a mean score of 4.36 regarding social media learning for the treatment group. The attitude of students in the controlled group toward social media learning had a mean score of 3.24. The difference between the two-means confirmed that the experimental group had more positive perceptions regarding social media use when learning English. The participants in the experimental group felt that the use of social media applications was easy, interesting, motivating, and a good use of their time. These participants considered social networks to be highly effective and believed that there was value in practicing a language that they were learning even without the use of an online application like WhatsApp. Although the controlled group did not use WhatsApp, they still had a moderate mean score which indicates that the group was ready and willing to use social media for educational purposes.

(Q5) To what degree do student attitudes about learning using WhatsApp and Jazan Jump correlate with engagement presences?

The Pearson correlation analysis showed a positive correlation among teaching presence, social presence, cognitive presence, and WhatsApp attitudes. This result showed that when participating students had more positive attitudes, they were more likely to use social network applications to support their English language learning. Similarly, those who had more negative attitudes will be more likely to refuse to practice a second language with social media applications.

(Q6) Does the experience of English teachers at Jazan University in teaching English using Jazan Jump Blackboard and WhatsApp and their preferred teaching methods provide positive signs for the ability of teachers to integrate technology into the classroom?

The frequency analysis for teachers’ experience teaching English found that most teachers at Jazan University were experienced professionals in the field and had substantial subject knowledge. The participating teachers had face-to-face instruction and blended pedagogical
knowledge. The longest time any of the teachers had used WhatsApp and Jazan Jump was 2 to 3 years which meant that the teachers had weak technical knowledge.

(Q7) **Do the teachers at Jazan University have negative or positive constructive beliefs and attitudes about using technology in the classroom?**

The frequency analysis of the teacher survey results found that teachers’ constructive beliefs were positive. A probable explanation of this result is that the teachers are motivated to use technology in the classroom. The result was based on five primary constructive perspectives including that teachers (1) work to develop critical thinking in their students; (2) ask students to search online to find solutions for medical problems; (3) encourage students to express their opinions and participate; (4) encourage students to become autonomous learners; and (5) evaluate students based on their projects, activities, and reports along with in-class observations and tests.

The frequency analysis of the teacher surveys also found that they had positive attitudes in the classroom. The five primary attitudes included the following: (1) 57% of teachers would like to use WhatsApp in their English classes; (2) 54% of teachers would enjoy teaching English to students using Jazan Jump; (3) 49% of teachers would enjoy teaching English using WhatsApp; (4) 44% of the teachers encouraged students to discuss class topics in the Jazan Jump chat rooms; (5) half of teachers felt that it would be easy to use WhatsApp and Jazan Jump to teach; and (6) 61% of teachers thought that WhatsApp would make communicating with students easier. One of the most significant results was that teachers scored in the medium to high range regarding attitudes about technology use in the classroom.

(Q8) **Do teachers at Jazan University have high, moderate or low level of technological self-efficacy knowledge that include declarative knowledge, digital practical knowledge, and genius technological skills toward using WhatsApp and Jazan Jump in classroom?**

Teachers had low to moderate levels of declarative technological wareness concerning Jazan Jump and WhatsApp. The teachers appear to have a working knowledge of WhatsApp but not pedagogical knowledge. For example, 43% of respondents reported not hearing about the possibility of using WhatsApp in the classroom while 73% of respondents felt that they could explain what WhatsApp was about. In addition, teachers had low to moderate levels of practical knowledge in using Jazan Jump. Regardless of this fact, 50% of teachers used Jazan
Jump to teach English, but did not possess a high level of practical knowledge that would allow them to use all of the tools provided by the system such as the chat rooms to teach English. Also, participating teachers had a moderate ability level to use WhatsApp in daily life; however, they had low self-efficacy and practical knowledge to use this application in teaching English. Moreover, teachers had a moderate level of technology genesis skills regarding Jazan Jump and low WhatsApp genesis knowledge. The results show that teachers need additional workshops to improve their digital skills to allow them to use technology well in a BL environment.

7.3 Project Limitations
Although this study reached its aims, there are limitations that should be mentioned. First, this was not a longitudinal study so the investigation of the impact of using BL strategy on student’s achievement and engagement regarding learning medical terminology could not be traced by the investigator over time. The research was limited to a certain time and group. The experiment was conducted on small population attending “Medical Terminology” course in the Preparatory Year at Jazan University. The findings are significant to specific medical class and its students. It would be beneficial if the researcher conducted the same study at two or more different periods of time to make it a longitudinal case (Yin, 2009).

Second, this study is not “Multiple-Case –Designs” that permits investigation about using of LMSs and social media on different Saudi universities. It is only a single case that explores the use of technology in Jazan University. This study could also analyse a new educational technology in other medical schools in Saudi Arabia. Yin (2009) states that “Each school might be the subject of an individual case study, but the study as whole covers several schools and in this way uses a multiple –case design”(Yin,2009:53)

Third, this case study is limited to examine “Community of Inquiry” theory and Davies’ (2011) “Educational Technology Integration” theoretical framework. The study could be expanded to extend the theories. Yin (2009) stated that “for case studies, theory development as part of the design phase is essential, whether the ensuing case study’s purpose is to develop or to test the theory”.

Fourth, this case study is limited to using Jazan Jump Blackboard for the controlled group and both Jazan Jump and WhatsApp for the experimental group. The use of these tools are additional strategies that are applied out of the classroom and seem to lack an effective
educational policy since the university allows the teachers to only give students five grades for their performance using Jazan Jump and no grades for their use of WhatsApp. Using these two tools could be considered by students as extra work without receiving a reward based on administrative policy. Student interest is based solely on their desire to use the technology. Use of Jazan Jump can be expanded if teachers made 20% of the grade dependent on the use of this system.

7.4 Implications for Student and Teacher Results
The study’s findings have implications for students, teachers and universities seeking to use technology in the teaching process. To understand the results, the researcher looked at the following four areas: (a) engagement, (b) knowledge of practice, (c) policy, and (d) suggestions for future research.

7.4.1 Implications for Engagement
The Community of Inquiry model (CoI) could be an effective framework to guide the integration of technology to increase student engagement with coursework. Increased student engagement allows students to be more active in class instead of passively receiving information. Teachers will design individual and group activities that encourage students to work with the content and with one another. Students can also engage in cognitive and social activities (Meyer, 2014). The results of this study showed that student participation occurred when there was high cognitive, social, and teaching engagement. WhatsApp and Blackboard can be used to create a BL environment and the CoI model allows teachers to make choices to increase student engagement in course material using technology. In higher education, teachers and students can use the CoI model to facilitate the learning process and create higher-order learning achievements (Garrison and Vaughan, 2008; Garth-James & Hollis, 2014). Applying the CoI framework to develop teaching strategies and increase student engagement and achievement does not only depend on the use of technology; instead, the application of this framework relies on the technological knowledge of students and teachers and their skills in using the technologies available at the learning institution. In addition, it depends on the self-regulatory behaviours of students and an attitude that shows a willingness to improve the learning experience (Meyer, 2014).

The CoI framework can be a foundational model to design and evaluate online blended courses. Recent studies have shown that using CoI to support technology use with an emphasis on a particular subject area can be very effective as a pedagogical solution that
supports the learning and teaching experience. Teachers can be trained to use CoI in course design and professional developers and practitioners can create online course plans in a BL environment that focuses on social, cognitive, and teaching presence (Makri et al., 2014; Weyant, 2013).

7.4.2. CoI as a Framework for Student Engagement in Blended Learning
Engagement strategies involve the application of any learning theory and work to produce a desired solution. Without engagement strategies, teachers and course designers would not know what they need to do to encourage student engagement in an online or BL environment (Meyer, 2014). If teachers want to implement techniques associated with the CoI framework in the classroom, they must first know how to design activities that increase essential types of interaction including teaching, cognitive, and social interaction (Garrison et al., 2000).

Teachers and professional developers can support and increase the cognitive presence of students in a BL community by creating activities that allow students to experience a deep level of learning (Akyol & Garrison, 2011). To obtain this level of learning, a teacher should involve students in activities that allow their thought process to go through the following four phases: (1) develop background and initiation information about the target issue using brainstorming activities; (2) explore issues by designing online and face-to-face meetings to share ideas or to involve students in physical experiences that can be shared on a virtual platform; (3) integrate the concepts using reflective tasks; and (4) create a resolution phase in which students learn how to apply resolution techniques that can be applied to real life situations. In the second phase, the exploration could involve solving certain problems or tasks and engaging in assignments that require thinking either as individuals or as a group. In the third phase, the integration phase, students can explore certain issues and their opinions using digital tools that allow them to reflect on their answers in class discussions or in an online forum (Vaughan & Garrison, 2005).

The literature review showed that Garrison (2011) stated that teaching presence is important to social presence and that teachers and course designers can increase the social presence of the learning environment by involving students in activities that are based on interpersonal, open, and cohesive communication. Aragon (2003) offered strategies that help to create increased social presence using community building. This concept can involve collaborative tasks including group work, group discussions, group assignments, and frequent feedback to establish relationships between the instructor and students and between the students.
themselves. The development of social presence in a BL environment depends on the awareness and knowledge of teachers and students which can create increased motivation and better learning outcomes (Whiteside, 2015). Institutions should provide student and teacher training workshops to provide them with strategies that effectively use technology to develop social, cognitive, and teaching presences.

7.4.3 Implications for Knowledge of Practice
The results of this study show that teachers who report having good experiences teaching English medical terminologies have high constructive pedagogical beliefs. These teachers tend to have low to moderate levels of declarative, practical, and genesis knowledge regarding Jazan Jump and WhatsApp. In “Evaluating Educational Technology Integration Framework,” educators and the researcher works to realize greater levels of technical literacy at Jazan University to help the teachers improve their skills and effectively integrate technology into the classroom (Davies, 2011). The participating teachers possess content knowledge and pedagogical knowledge, two of the three pillars of knowledge; however, the teachers need to develop and improve their technical knowledge. The work of Davies (2011) and Mishra & Koehler (2006) discusses the way that teachers need to improve their technological skills from a moderate level to a high genesis level. Teachers must be able to use technology effectively in the classroom and should understand the goals and objectives of each lesson activity. This understanding will allow them to make decisions regarding technological tools that will most effectively facilitate the accomplishment of a learning goal. Earle (2002) stated that “Integrating technology is not about technology – it is primarily about content and effective instructional practices. The technology involves the tools with which we deliver content and implement practices in better ways. Its focus must be on curriculum and learning. Integration is defined not by the amount or type of technology used, but by how and why it is used.” (Earle 2002: 7).

7.4.4 Implications for Policy
This study found that most of the teachers preferred face-to-face teaching. The reason for this preference is that this type of teaching is the primary teaching method as stated by University policy. According to The National Commission for Academic Accreditation & Assessment (NCAAA), the policy of Jazan University is that “the traditional classroom setting is the backbone of JU’s education. It needs well planned strategies by special committees to improve, expand, and upgrade the technology used to support student learning as mentioned in JU Strategic Goal 7: —Require the use of world class methods and technologies in
teaching and learning. Also, the nature of teaching, in general, lacks motivation and direction on the part of a majority of teachers. A number of programs do not have peer-evaluation of teaching, which is a very important component in enhancing the overall quality of teaching. Though the student attendance requirements in classes are made clear in student orientations and attendance is monitored, regulations aren’t enforced consistently” (Jazan University Self-Study Report, 2015:96-97).

The teacher responses during the interviews indicated that students do not value Jazan Jump greatly since university policy only allows the teacher to give them five marks for system use. The teachers felt that it would be better for administrators to create a policy that created a set assessment, evaluation, and reward system for teachers and students who support the integration of technology in the classroom. Mishne (2012:77) stated that “School culture and leadership as it relates to technology use are crucial to effective integration of technology school wide. It is important for administration to define expectations about technology use and build a school culture that measures, evaluate, and rewards teachers and students based on fulfilment of these expectations.”

7.5 Recommendations
Based on the results of this study, Jazan University should consider the following recommendations:

1. Create a policy that motivates teachers to use social media and Blackboard in the classroom. The policy could include a reward system for using technology.
2. Provide faculty with a curriculum plan and instructional activities based on CoI framework that allows for the implementation of social media and Blackboard in the learning environment
3. Measure teacher and student technological levels based on the “Educational Technology Integration Framework.” The skills can be developed to allow them to reach the genesis technological level.
4. Develop infrastructure projects that allow students and faculty to integrate social media and Blackboard into the training and learning environment by providing workshops and other educational classes
5. Create mandatory student and teacher surveys that gather information about attitudes regarding technology and digital self-efficacy
6. Create Wi-Fi connections throughout the University
7. Link all resources to the Jazan Jump library page to provide teachers with step-by-step videos showing them how to implement social media and Blackboard in the classroom.

8. Develop lessons that are supported by various learning technologies that can make teachers more interested in integrating technology since there would be a library of digital resources available.

9. Encourage staff to participate in teaching and learning conferences.

10. Create a department in the English centre that designs lessons that support the technologies used in English medical courses.

11. Provide the English centre with up-to-date equipment and other required items to design teaching and learning materials and other electronic programs to allow for the effective learning of English medical terminologies.

12. Provide faculty members with the opportunity to attend trainings or group workshops that help them integrate social media and Blackboard into the teaching environment.

13. Provide students with training programs and workshops to teach them how to use social media in the learning environment and to use these programs to increase their educational performance and achievement.

14. Obtain student input about their preferred social media platforms.

15. Provide classrooms with different factors that could support the integration of technology in the teaching and learning process. These factors could include the Internet, computers, and smart boards.

7.6 Possible Future Research

Based on the results of this study, the following suggestions could form the basis for future research:

1. This type of study could be replicated in other Saudi universities to investigate the impact of using the CoI model on student achievement and engagement in a BL environment.

2. This study could be replicated at other Saudi universities to measure the levels of technological knowledge of teachers and students using the “Educational Technology Integration Framework.”

3. A comparative study could be conducted to examine students and other educational decision makers to investigate the difference between attitudes regarding social media and the ways that social media can benefit a classroom.
4. Gender differences can be examined to determine if there are any advantages or disadvantages associated with the use of WhatsApp and Jazan Jump Blackboard when learning English.

5. A comparative research project can be conducted to determine if there are any differences between Saudi students’ attitudes, technological self-efficacy beliefs, self-regulation perceptions, and anxiety about WhatsApp use and Blackboard to support learning at Jazan University and the attitudes or beliefs of students at other Saudi universities.


7. Explore the similarities and differences between male and female teachers when using technology in the classroom at Jazan University.

8. Examine the outcomes of social media and technological integration in the classroom on student learning and academic achievement.

9. Explore the impact of teacher exposure to professional training programs on a learning management system and social media on teaching behaviour.

7.7 Closing
This study has illustrated the significance of a BL strategy in supporting the teaching and learning engagement process (Hu & Kuh, 2001; Kuh & Hu, 2001; Laird & Kuh, 2005). The authors stated that “blended learning offers an opportunity for creating a more comprehensive ESP program, during which students can increase their knowledge of the subject of their professional as well as develop many language skills. Moreover, by incorporating an e-learning component into a language course which is based on authentic materials and which targets the improvement of specialized listening, speaking, writing and reading, developers provide learners with ample opportunities for developing various literacies. This will very likely result in them becoming self-directed pursuers of knowledge and autonomous workers in an ESP environment” (Mokwa-Tarnowska 2015:87). The growth of the thesis writing had been gradual and based on persistence, collaboration, and positive thinking. The journey of four years combined with the patience that its fruit is sweet. The research provides the
teachers with the knowledge regarding BL strategies that can help teachers to take a practical approach in teaching.
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Appendices

Appendix (1)
UL PhD Research Approval Ethics Email

From: Orla.McDonnell

Sent: 04 January 2016 11:22

To: Norah.Banafi

Cc: FAHSSEthics; Helen. Kelly. Holmes

Subject: RE: 2015-12-07-AHSS: The Impact of using Social Media in Combination with Learning Management Systems on Medical Students’ Engagement with English Language Terminology: A Case Study at Kazan University, Saudi Arabia Teachers’ and Students' Self-Efficacy

Norah, this email is to confirm that your revised PhD research ethics application (reference: 2015-12-07-AHSS) has been provisionally approved subject to written confirmation that local ethical approval has been granted by Jazan University.

The new Chair of the FAHSS REC is Dr Jean Conacher: as soon as you receive confirmation

Local ethical approval, please forward that to her, as well to the administrator at FAHSSEthics@ul.ie.

Regards,

Dr. Orla McDonnell
Appendix (2)

Official letters from the Royal Embassy of Saudi Arabia Cultural Bureau in Dublin
Appendix (3)

Jazan University Permission Letter

To Whom It May Concern

This is to confirm that Norah Hussain Banafi has been given a permission from Jazan University to do her study that is entitled “The Impact of using Social Media in Combination with Learning Management Systems on Medical Students’ Engagement with English Language Terminology: A Case Study at Jazan University, Saudi Arabia of Teachers’ and Students’ Self-Efficacy and Attitudes”.

The purpose of her research is to examine the current usage of social media such as WhatsApp and Jazan Jump blackboard in Jazan University among medical students and teachers. Therefore, her data will be collected from January 2016 to May 2016.

Professor Mohammed Bin Ali Al-Rubai‘ Abdallah
Dean of Postgraduate and Scientific Studies
Email: upofpasr@jazanu.edu.sa
Tel: +966173210061
Appendix (4)
Pre-Test

Medical Pre-test

Name:............................................. ID:................................. Group ......................

Q.1. (A) **Label the diagram about Endocrine System.** (Name any Six glands)

![Endocrine System Diagram]

(B) **Choose the correct answer.**

1. Ophthalmology is the study of.........................
   a. kidney        b. women        c. eyes        d. ears

2. ............... is low level of blood sugar.

3. Surgical removal of the breast is..................
   a. hysterectomy    b. gastrectomy    c. coloscopy      d. mastectomy

4. ............... treats pregnant and delivery women.

Q.2.(A)Tick ( √ ) the correct answer and ( × ) the false one :-

1- **Osteotomy** means incision or cutting into the bone. (           )

2- Absence of menstrual periods is dysmenorrhea. (           )

3- The suffix ‘peri’ means surrounding (           )

4- Excessive of blood sugar is hyperglycemia. (           )

(B) **Name the doctor who treats the following problems:**

   a. Tumors..........................................................

   b. Female diseases...........................................

   c. Broken bones .............................................

   d. Stomach and intestinal disorders........................

(C) **Give the meaning of the following prefixes:**

   (a) Syn .......................  (b) Meta......................  (c) Quadri......................

   (d) Poly.......................  (e) Tachy......................  (f) Para......................
Q.4. Complete the sentences with the words in the box:

<table>
<thead>
<tr>
<th>dysphagia</th>
<th>dysuria</th>
<th>leiomyomas</th>
<th>hematuria</th>
<th>eprimedis</th>
<th>prothesis</th>
<th>excision</th>
</tr>
</thead>
</table>
1. Abnormal condition of blood in the urine..............................................................
2. .................................................. is the study of tumors.
3. The outer layer of skin is the....................................................................................
4. Difficulty in urination ..............................................................................................
5. An artificial part of the body is...................................................................................
6. Difficulty in swallowing is called as............................................................................

Q.2. Match the following affixes with their meanings:

<table>
<thead>
<tr>
<th>Suffixes</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Splenomegaly</td>
<td>(A) Headache.</td>
</tr>
<tr>
<td>(2) Cephalgia</td>
<td>(B) Cutting out or removal of the uterus.</td>
</tr>
<tr>
<td>(3) Hysterectomy</td>
<td>(C) Inflammation of the appendix</td>
</tr>
<tr>
<td>(4) Appendicitis</td>
<td>(D) Enlargement of the spleen.</td>
</tr>
<tr>
<td>(5) Alzheimer</td>
<td>(E) Disease of lymph glands or nodes.</td>
</tr>
<tr>
<td>(6) AIDS</td>
<td>(F) High blood pressure.</td>
</tr>
<tr>
<td>(7) Hopkin Disease</td>
<td>(G) Acquired Immundeficiency Syndrome</td>
</tr>
<tr>
<td>(8) Lymphadenopathy</td>
<td>(H) Loss of memory for the old people or 'dementia'.</td>
</tr>
<tr>
<td>(9) MRI</td>
<td>(I) Computed Tomography Imaging.</td>
</tr>
<tr>
<td>(10) CT scan</td>
<td>(J) Magnetic Resonance Imaging.</td>
</tr>
</tbody>
</table>

Mr. Ali suffers from **dyspepsia** and sharp abdominal pain. A recent episode of **hematemesis** has left him very weak and anemic. **Gastroscopy** and an upper GI series with **barium** revealed the presence of large **ulcer**. Mr. Ali will be admitted to hospital and scheduled for partial **gastrectomy**.

1. Which specialist can treat Mr. Ali?...........................................................................

2. Write the meaning of (only 3) the underline words.

a) ....................................................................................................................................

b) ....................................................................................................................................

c) ....................................................................................................................................
Appendix (5)
Post-test

Medical Post-test

Name:................................................ ID:........................................ Group .........................

Q.1. (A) **Label the diagram about Endocrine System.** (Name any Six glands)

B) **Choose the correct answer.**

1 **Ophthalmology** is the study of......................
   a. kidney  b. women  c. eyes  d. ears

2. ............. is low level of blood sugar.

3. Surgical removal of the breast is..................
   a. hysterectomy  b. gastrectomy  c. coloscopy  d. mastectomy

4. ................... treats pregnant and delivery women.

Q.2.(A)**Tick ( √ ) the correct answer and ( × ) the false one :-**

5- **Osteotomy** means incision or cutting into the bone. ( )
6- Absence of menstrual periods is dysmenorrhea. ( )
7- The suffix ‘peri’ means surrounding ( )
8- Excessive of blood sugar is hyperglycemia. ( )

(B) **Name the doctor who treats the following problems:-**

   e. Tumors.................................................................
   f. Female diseases....................................................
   g. Broken bones ......................................................
   h. Stomach and intestinal disorders..............................

(C) **Give the meaning of the following prefixes:-**

   (a) Syn .............................. (b) Meta............................ (c) Quadri............................
   (d) Poly............................ (e) Tachy............................ (f) Para..............................
Q.4. Complete the sentences with the words in the box:

dysphagia\dysuria\ leiomyomas \hematuria\eprimedis \ prothesis \ excesion

7. Abnormal condition of blood in the urine………………………………………..……
8. ...........................................is the study of tumors.
9. The outer layer of skin is the……………………………………………………………..……
10. Difficulty in urination …………………………………………………………………………..……
11. An artificial part of the body is……………………………………………………………..……
12. Difficulty in swallowing is called as……………………………………………………………..……

Q.2. Match the following affixes with their meanings:

<table>
<thead>
<tr>
<th>Suffixes</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Splenomegaly</td>
<td>(A) Headache.</td>
</tr>
<tr>
<td>(2) Cephalgia</td>
<td>(B ) Cutting out or removal of the uterus.</td>
</tr>
<tr>
<td>(3) Hysterectomy</td>
<td>(C) Inflammation of the appendix</td>
</tr>
<tr>
<td>(4) Appendicitis</td>
<td>(D) Enlargement of the spleen.</td>
</tr>
<tr>
<td>(5) Alzheimer’s</td>
<td>(E) Disease of lymph glands or nodes.</td>
</tr>
<tr>
<td>(6) AIDS</td>
<td>(F) High blood pressure.</td>
</tr>
<tr>
<td>(7) Hopkin Disease</td>
<td>(G) Acquired Immunodeficiency Syndrome</td>
</tr>
<tr>
<td>(8)Lymphadenopathy</td>
<td>(H) Loss of memory for the old people or 'dementia'.</td>
</tr>
<tr>
<td>(9) MRI</td>
<td>(I) Computed Tomography Imaging.</td>
</tr>
<tr>
<td>(10) CT scan</td>
<td>(J) Magnetic Resonance Imaging.</td>
</tr>
</tbody>
</table>

Mr. Ali suffers from *dyspepsia* and sharp abdominal pain. A recent episode of *hematemesis* has left him very weak and anemic. *Gastroscopy* and an upper GI series with *barium* revealed the presence of large *ulcer*. Mr. Ali will be admitted to hospital and scheduled for partial *gastrectomy*.

1. Which specialist can treat Mr. Ali?.....................................................................

2. Write the meaning of *(only 3)* the underline words.
   a) ............................................................................................................................
   b) ............................................................................................................................
   c) ............................................................................................................................
Appendix (6)

Pilot Teacher Survey

<table>
<thead>
<tr>
<th>Teachers’ self-efficacy technological declarative knowledge</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>SD</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I could explain the functions of Jazan Jump Blackboard with no help.</td>
<td>2</td>
<td>6</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I need more training to explain Jazan Jump Blackboard functions.</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I heard about Social media.</td>
<td>2</td>
<td>6</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>4. I could explain what social media applications are.</td>
<td>4</td>
<td>2</td>
<td></td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teachers’ Self-efficacy Procedural Technological knowledge</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I use Jazan Jump Blackboard to teach English.</td>
<td>4</td>
</tr>
<tr>
<td>2. I use chat room and have my students practice English on it.</td>
<td>2</td>
</tr>
<tr>
<td>3. I use social media in teaching English.</td>
<td>2</td>
</tr>
<tr>
<td>4. I create a group via social media applications to teach my students English.</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teachers’ Self-efficacy Genius Technological Knowledge</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I use black board for specific reasons and planned aims to achieve in teaching English.</td>
<td>4</td>
</tr>
<tr>
<td>2. I use social media for general goals in teaching English.</td>
<td>8</td>
</tr>
<tr>
<td>3. I can explain why I use social media in specific teaching situations</td>
<td>2</td>
</tr>
<tr>
<td>4. I can explain why I do not use social media in specific teaching situations.</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teachers’ Constructivist Beliefs and Technology</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. When I teach, I try to develop Students ‘Critical Thinking.</td>
<td>8</td>
</tr>
<tr>
<td>2. I like to ask students to search online in order to find simulations for some problems.</td>
<td>4</td>
</tr>
<tr>
<td>3. I believe that teachers have to encourage students to become aware of their capacity to construct the reality, make decisions, and express their ideas and feelings.</td>
<td>8</td>
</tr>
<tr>
<td>4. I encourage my students to become autonomous learners.</td>
<td>4</td>
</tr>
<tr>
<td>5. I evaluate my students based on project and activity reports as well as observation and tests.</td>
<td>4</td>
</tr>
<tr>
<td>6. I evaluate my students' performance only through tests.</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Attitudes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I would like to use the social Media in my English classes.</td>
<td>2</td>
</tr>
<tr>
<td>2. I think I will enjoy teaching English via social Media if I use it.</td>
<td>2</td>
</tr>
<tr>
<td>3. I encourage my students sharing and discussing the information of class through chatroom of Jazan Jump Blackboard.</td>
<td>2</td>
</tr>
<tr>
<td>4. It is easy for me to use social media in teaching English.</td>
<td>2</td>
</tr>
<tr>
<td>5. It's easier for me to communicate with my students through Social Media</td>
<td>8</td>
</tr>
</tbody>
</table>
Appendix (7)

Pilot Student Survey

<table>
<thead>
<tr>
<th>Statements</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-efficacy Beliefs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. I think that I know how to use Blackboard.</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I believe that I am good at using WhatsApp.</td>
<td>9</td>
<td>7</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>3. I like to practice learning, English on WhatsApp.</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4. I chat with my classmates on the Jazan Jump Blackboard.</td>
<td>1</td>
<td>9</td>
<td>6</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>5. I chat with my classmates on WhatsApp.</td>
<td>9</td>
<td>9</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6. I enjoy participating English on chat room on the Blackboard.</td>
<td>2</td>
<td>7</td>
<td>7</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>7. I wrote comments in English at “WhatsApp group” related to the class topics.</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>8. The university facilitates the use of the Internet for learning purposes.</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>9. I believe that I am fully-engagement on Blackboard and WhatsApp.</td>
<td>1</td>
<td>9</td>
<td>6</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>10. WhatsApp is a friendly-easy and good environment for learning to improve my reading skills.</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>11. I am able to read the E-chapters on Jazan Jump Blackboard.</td>
<td>3</td>
<td>5</td>
<td>8</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>12. I can complete reading the texts post on WhatsApp.</td>
<td>7</td>
<td>5</td>
<td>8</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. I feel afraid about using WhatsApp for learning English.</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>2. I am not sure about my ability to participate in the WhatsApp group.</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>3. I feel very nervous on Blackboard chatroom.</td>
<td>0</td>
<td>3</td>
<td>8</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I feel relaxed about learning English on WhatsApp and the Blackboard.</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5. I need more train on using WhatsApp and Blackboard.</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>6. I do not think that I will be able to improve English skill through WhatsApp.</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Learning Self-Regulation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. When I did not understand something in this class, I searched online to figure it out.</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2. If I have any difficult vocabulary, I use an online dictionary.</td>
<td>10</td>
<td>5</td>
<td>3</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>3. I ask myself questions to make sure I understand the material I study in this class.</td>
<td>2</td>
<td>6</td>
<td>9</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4. I have different strategies to study English.</td>
<td>4</td>
<td>8</td>
<td>7</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>5. Using Online is a strategy that helps me to improve my English.</td>
<td>4</td>
<td>8</td>
<td>7</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>6. I make for myself goals and studying plans to study this course.</td>
<td>13</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Attitudes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. It is easy for me to use social media in learning English.</td>
<td>8</td>
<td>7</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>2. I would like to use the social media in my other English classes</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>3. I always practice English whenever I have free time via social media.</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>4. I find learning English is very interesting via social media.</td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>5. Learning English through social media is a waste of time.</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>
Appendix (8)

Main Student Survey

FACULTY OF ARTS, HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE INFORMATION LETTER

Dear Participant,

You are invited to participate in a PhD survey of a research study at the University of Limerick. The purpose of this research study is to examine the current usage of social media such as WhatsApp and Jazan Jump Blackboard in Jazan University among students. The survey is administered in one classroom session and takes approximately [20 min]. The results of this research provide information about students' attitudes, self-efficacy beliefs, anxiety and engagement to learn English toward web-based application. The research can contribute to future development in Social Media integration into Management system programs. In this study, the researcher observes students’ performance on WhatsApp and Jazan Jump Black Board. So, the observer watches the actual uses of both applications and the problems that may face students when they use these technological tools. Also, the researcher watches students when they behave normally in an online environment. This survey consists of 56 questions. As you may be asked to answer questions on the survey, all information provided by you is kept confidential at all times. All responses to the questions and information provided by you will be anonymised. No personal details relating to you can be recorded anywhere. Please do not hesitate to contact me if you need further information.

This research study has received Ethics approval from the Arts, Humanities and Social Sciences Research Ethics Committee (2015-12-07-AHSS). If you have any concerns about this study and wish to contact an independent authority, you may contact:

Chairperson Arts, Humanities and Social Sciences Research Ethics Committee
AHSS Faculty Office
University of Limerick
Tel: +353 61 202286
Email: FAHSSEthics@ul.ie
Yours sincerely,
Norah Banafi
Postgraduate Researcher
School of Modern Languages and Applied Linguistics
University of Limerick, Ireland
Email: Norah.Banafi@ul.ie
Supervised by
Prof. Helen Kelly Holmes
Email: Helen.Kelly.Holmes@ul.ie
Tel: 35361234206
FACULTY OF ARTS, HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE CONSENT FORM

Consent Section:
I, the undersigned, declare that I am willing to take part in research for the project entitled “The Impact of using Social Media in Combination with Learning Management Systems on Medical Students’ Engagement with English Language Terminology: A Case Study at Jazan University, Saudi Arabia of Teachers’ and Students' Self-Efficacy and Attitudes”

- I declare that I have been fully briefed on the nature of this study and my role in it and have been given the opportunity to ask questions before agreeing to participate.
- The nature of my participation has been explained to me and I have full knowledge of how the information collected will be used.
- I fully understand that there is no obligation on me to participate in this study.
- I fully understand that I am free to withdraw my participation at any time without having to explain or give a reason.

______________________________________         __________________________
Signature of participant                                               Date
لا يمكنني قراءة النص العربي بشكل طبيعي. يرجى تقديم النص باللغة الإنجليزية.
Statements

<table>
<thead>
<tr>
<th>Statements</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Natural</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The teacher gives clear guidelines on how to take part in Blackboard on activities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. My teacher conveys the main class themes through WhatsApp clearly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. My teacher conveys necessary dates and times for learning activities on the WhatsApp clearly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. My teacher conveys the main class goals through Blackboard clearly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. My teacher conveys necessary dates and times for learning activities on the Blackboard clearly.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. My teacher gives clear guidelines on how to take part in WhatsApp on activities.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7. My teacher motivates us to discover new ideas through WhatsApp.

8. My teacher gives us opportunities to participate and keep engaged in learning activities on WhatsApp.

9. My teacher motivates us to discover new ideas through Blackboard.

10. My teacher gives us opportunities to participate and keep engaged in learning activities on the Blackboard.

11. My teacher has an increased focus on facilitating discussion, of course issues in a way that helped me to learn through WhatsApp.

12. My teacher provides us with meaningful feedback via Blackboard that can help us to understand our strengths and weaknesses.

13. Taking part in the Blackboard makes me feel closer to my classmates.

14. My teacher has an increased focus on facilitating discussion, of course issues in a way that helped me to learn through Blackboard.

15. I feel comfortable participating with my friends in course activities through WhatsApp.

16. The WhatsApp group communication is an excellent medium for social interaction.

17. The Blackboard communication is an excellent medium for social interaction.

18. Taking part in the WhatsApp group makes me feel closer to my classmates.

19. I feel my opinions are appreciated by my friends and teacher on WhatsApp group.

20. I feel comfortable participating with my friends in course activities through Blackboard.

21. WhatsApp activities help me to collaborate a with
22. I feel my opinions are appreciated by my friends and teacher on Blackboard.
23. I use many online websites and sources that provide answers to questions that are posed in this course.
24. I try to connect information together for answering the quizzes.
25. WhatsApp helps me understand the main concepts of the course.
26. The Blackboard helps me to understand the main concepts of the course.
27. I can apply the techniques and knowledge that I learn from using social and online media in this course to other courses.
28. I think that I know how to use Blackboard.
29. I believe that I am good at using WhatsApp.
30. I like to practice learning English on WhatsApp.
31. I chat with my classmates on the Jazan Jump Blackboard.
32. I chat with my classmates on WhatsApp.
33. I enjoy participating English on Blackboard chat room.
34. I write comments in English at “WhatsApp group” related to the class topics.
35. The university facilitates the use of the Internet for learning purposes.
36. I believe that I am fully-engaged on WhatsApp.
37. I believe that I am fully-engaged on Blackboard.
38. WhatsApp is a friendly, easy and a good environment for learning to improve English skills.

39. I am able to read the E-chapters on Jazan Jump Blackboard.
   - متيح لي قراءة الفصول الإلكترونية على بلاك بورد جازان اجل

40. I can complete reading the posts on WhatsApp.
   - متيح لي قراءة النشرات على واتس اب

**Anxiety**

41. I feel afraid about using WhatsApp for learning English.

42. I am not sure about my ability to participate in WhatsApp group.

43. I feel very nervous on Blackboard chatroom.

44. I feel relaxed about learning English via WhatsApp
   - مشغولا في تعلم اللغة الإنجليزية عبر واتس اب

45. I feel relaxed about learning English via Blackboard.
   - مشغولا في تعلم اللغة الإنجليزية عبر بلاك بورد

46. I need more training on using WhatsApp.

47. I need more training on using Blackboard.

48. I do not think that I will be able to improve my English skills through WhatsApp.

**Learning Self-regulation**

49. When I did not understand something in this class, I searched online to figure it out
   - عندما لم أفهم شيء في هذه الدرس، أصبحت يبحث على الإنترنت

50. If I have any difficult vocabulary, I use an online dictionary.

51. I ask myself questions to make sure that I understand the materials I study in this class.
   - أسألني بنفسني، هل أفهم ما أتعلم في هذا الدرس

52. I have different strategies to study English.

53. I make goals and studying plans for myself to study this course.

**Attitudes**

54. It is easy for me to use social media in learning English.
   - إنها بسيطة بالنسبة لي في استخدام الوسائل الاجتماعية أثناء تعلم اللغة الإنجليزية

55. I would like to use the social media in my other English classes.
<table>
<thead>
<tr>
<th></th>
<th>Arabic</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>56.</td>
<td>انا دائمًا ا onPressed English عندما لدي وقت نافع.</td>
<td>I always practice English whenever I have free time via social media.</td>
</tr>
<tr>
<td>57.</td>
<td>أنا أجد أن تعلم اللغة الإنجليزية مثيرًا عبر وسائل التواصل الاجتماعي.</td>
<td>I find learning English is very interesting via social media.</td>
</tr>
<tr>
<td>58.</td>
<td>تعلم اللغة الإنجليزية عبر وسائل التواصل الاجتماعي مكتوم.</td>
<td>Learning English through social media is a waste of time.</td>
</tr>
</tbody>
</table>
Dear Participant,

You are invited to participate in a PhD survey of a research study at the University of Limerick. The purpose of this research study is to examine the current usage of social media such as WhatsApp and Jazan Jump Blackboard in Jazan University among teachers.

This survey will take approximately [20min] and the results of this research will provide information about teachers' attitudes, self-efficacy beliefs toward web-based applications. The research can contribute to future development in social media integration into management system programs. This survey consists of two sections: background information, Likert scale questions

As you may be asked to answer questions on the survey, all information provided by you will be kept confidential at all times. All responses to the questions and information provided by you will be anonymised. No personal details relating to you will be recorded anywhere. Please do not hesitate to contact me if you need further information. This research study has received Ethics approval from the Arts, Humanities and Social Sciences Research Ethics Committee (2015-12-07-AHSS). If you have any concerns about this study and wish to contact an independent authority, you may contact:

Chairperson Arts, Humanities and Social Sciences Research Ethics Committee
AHSS Faculty Office
University of Limerick
Tel: +353 61 202286
Email: FAHSSEthics@ul.ie

Yours sincerely,
Norah Banafi
Postgraduate Researcher
School of Modern Languages, and Applied Linguistics
University of Limerick
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FACULTY OF ARTS, HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE CONSENT FORM

Consent Section:
I, the undersigned, declare that I am willing to take part in research for the project entitled “The Impact of using Social Media in Combination with Learning Management Systems on Medical Students’ Engagement with English Language Terminology: A Case Study at Jazan University, Saudi Arabia of Teachers’ and Students' Self-Efficacy and Attitudes”

- I declare that I have been fully briefed on the nature of this study and my role in it and have been given the opportunity to ask questions before agreeing to participate.
- The nature of my participation has been explained to me and I have full knowledge of how the information collected will be used.
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- I fully understand that I am free to withdraw my participation at any time without having to explain or give a reason.
- I am also entitled to full confidentiality in terms of my participation and personal details.

______________________________________         __________________________
Signature of participant                                               Date

Section 1: Background Information

1- I have been teaching English for
   A) 1 - 5 years [ ] B) 6 - 10 years [ ] C) 11- 15 years [ ] D) more than 15 [ ]

2- I have been using Jazan Jump for
   A) Less than one year [ ] B) 1 year [ ] C) 2 years [ ] D) 3 years E) I don’t use it [ ]

3- I have been using WhatsApp for
   A) 1 - 5 years [ ] B) 6 - 10 years [ ] C) 11- 15 years [ ] D) more than 15 [ ]

4- I preferred
   A) Face to face Teaching [ ] B) Online Teaching [ ] C) Blended Teaching [ ]
<table>
<thead>
<tr>
<th>Statements</th>
<th>SA</th>
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<tbody>
<tr>
<td><strong>Teachers’ self-efficacy technological declarative knowledge</strong></td>
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<tr>
<td>1. I could explain the functions of Jazan Jump Blackboard with no help.</td>
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<tr>
<td>2. I heard about using WhatsApp in classroom.</td>
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<tr>
<td>3. I could explain what WhatsApp application is.</td>
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<td><strong>Teachers’ Self-efficacy Procedural Technological knowledge</strong></td>
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<tr>
<td>1. I use Jazan Jump Blackboard to teach English.</td>
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<tr>
<td>2. I use Jazan Jump chat room and have my students practice English on it.</td>
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<td>3. I use WhatsApp in teaching English.</td>
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<tr>
<td>4. I can create studying group on WhatsApp to teach my students English.</td>
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<td>5. I have never had training in using social media such as WhatsApp for teaching. English.</td>
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<td>6. I have never had training in using Jazan Jump Blackboard.</td>
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<tr>
<td>5. I need more training to use all Jazan Jump Blackboard functions.</td>
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<tr>
<td>6. I need more training to know how to use WhatsApp in teaching English.</td>
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<td>7. I prefer one to one training meeting.</td>
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<td>8. I prefer group workshop training meeting.</td>
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<tr>
<td><strong>Teachers’ Self-efficacy Genius Technological Knowledge</strong></td>
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<tr>
<td>1. I use Jazan Jump Blackboard for specific</td>
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</table>
reasons and planned aims to achieve in teaching English.

2. I use Jazan Jump Blackboard for creating online activities.

3. I use Jazan Jump Blackboard for putting classroom information such as course chapter and electronic documents.

4. I use Jazan Jump Blackboard for sharing video clips.

5. I use Jazan Jump Blackboard for sharing presentations.

6. I use Jazan Jump for instant messaging to remind students about tests, and assignments dates.

7. I use Jazan Jump to track students’ academic progress.

8. I use Jazan Jump to have students see their course marks in tests and assignments, so they can keep eyes on their course marks as they progress.

9. I use Jazan Jump to have students reflect on themselves.

10. I use social media such as WhatsApp to track student progress in using English.

11. I use WhatsApp for sharing videos and photos related to the course.

12. I use WhatsApp for chatting with family and friends.

13. I use WhatsApp for chatting with my students.


15. I use WhatsApp for instant messaging to remind...
students about tests, and assignment dates.

16. I can explain why I use social media such as WhatsApp in specific teaching situations

17. I can explain why I do not use social media (e.g. WhatsApp) in specific teaching situations.

Teachers’ Constructivist Beliefs and Technology

1. When I teach, I try to develop Students ‘Critical Thinking.

2. I like to ask students to search online in order to find solutions for some problems.

3. I believe that teachers have to encourage students to make their own decisions and express their ideas and feelings.

4. I encourage my students to become autonomous learners.

5. I evaluate my students based on project and activity reports as well as observation and tests.

6. I evaluate my students' performance mainly through midterm exam and final exam.

Attitudes

1. I would like to use WhatsApp in my English classes.

2. I think I enjoy teaching English via Jazan Jump.

3. I think I will enjoy teaching English via WhatsApp if I use it.

4. I encourage my students sharing and discussing the information of class through chartroom of Jazan Jump Blackboard.
<p>| | |</p>
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<tbody>
<tr>
<td>5. It is easy for me to use WhatsApp in teaching English.</td>
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<tr>
<td>6. It is easy for me to use Jazan Jump in teaching English</td>
<td></td>
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<tr>
<td>7. It's easier for me to communicate with my students through social media such as WhatsApp.</td>
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<tr>
<td>17. I can explain why I do not use social media (e.g. WhatsApp) in specific teaching situations.</td>
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</table>
Appendix (10)

Main Student Interview Questions

FACULTY OF ARTS, HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE INFORMATION LETTER

Dear Participant,

You are invited to participate in a PhD Interview of a research study at the University of Limerick. The purpose of this research study is to examine the students' experiences of using WhatsApp and Jazan Jump Blackboard in learning English.

The researcher will conduct individual interviews for students by emails. She will interview students in medical college regarding their current use of WhatsApp and Jazan Jump in learning English. Answering questions will take approximately [20 min] and the results of this research will provide information about students' experiences toward using social media and web-based applications. The research can contribute to future development in Social Media integration into Management system programs. This interview consists of 17 questions.

As you may be asked to answer questions on the interview, all information provided by you will be kept confidential at all times. All responses to the questions and information provided by you will be anonymised. No personal details relating to you will be recorded anywhere. Please do not hesitate to contact me if you need further information. This research study has received Ethics approval from the Arts, Humanities and Social Sciences Research Ethics Committee (number). If you have any concerns about this study and wish to contact an independent authority, you may contact:

Chairperson, Arts, Humanities and Social Sciences Research Ethics Committee
AHSS Faculty Office
University of Limerick
Tel: +353 61 202286
Email: FAHSSEthics@ul.ie

Yours sincerely,
Norah Banafi
Postgraduate Researcher
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Supervised by:
Prof. Helen Kelly Holmes
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- The nature of my participation has been explained to me and I have full knowledge of how the information collected will be used.
- I am also aware that my participation in this study will be documented by email and I agree to this. However, should I feel uncomfortable at any time I can request doesn’t answer questions. I am entitled to copies of all answers made and am fully informed as to what will happen to these answers once the study is completed.
- I fully understand that there is no obligation on me to participate in this study.
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______________________________________         __________________________
Signature of participant                                               Date
لائیه‌های مناسب و لجیک‌های مالی، جریان‌های صادقیه و همچنین اخلاق علمی و تربیتی، مطالب عمده‌ی بهره‌برداری از فرهنگ‌های سنتی و معاصر می‌باشد.

1. بازی‌های جالب در این سیستم، تمرین های علمی، تربیتی و همچنین تربیت‌الاختصاصی بوده و دسترسی به آن‌ها در اختیار هر کسی است.

2. اطلاعات مربوط به نحوه پیگیری و تغییرات در این سیستم در پنل‌های وابسته به آن‌ها موجود است.

3. برای دریافت اطلاعات بیشتر، می‌توانید به پنل‌های وابسته به آن‌ها در این سیستم دسترسی بگیرید.

4. سیستم بازی‌های جالب در این سیستم، تمرین‌های علمی، تربیتی و همچنین تربیت‌الاختصاصی بوده و دسترسی به آن‌ها در اختیار هر کسی است.

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9. برای دریافت اطلاعات بیشتر، می‌توانید به پنل‌های وابسته به آن‌ها در این سیستم دسترسی بگیرید.

10. سیستم بازی‌های جالب در این سیستم، تمرین‌های علمی، تربیتی و همچنین تربیت‌الاختصاصی بوده و دسترسی به آن‌ها در اختیار هر کسی است.

11. اطلاعات مربوط به نحوه پیگیری و تغییرات در این سیستم در پنل‌های وابسته به آن‌ها موجود است.

12. برای دریافت اطلاعات بیشتر، می‌توانید به پنل‌های وابسته به آن‌ها در این سیستم دسترسی بگیرید.

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14. اطلاعات مربوط به نحوه پیگیری و تغییرات در این سیستم در پنل‌های وابسته به آن‌ها موجود است.

15. برای دریافت اطلاعات بیشتر، می‌توانید به پنل‌های وابسته به آن‌ها در این سیستم دسترسی بگیرید.

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18. برای دریافت اطلاعات بیشتر، می‌توانید به پنل‌های وابسته به آن‌ها در این سیستم دسترسی بگیرید.

19. سیستم بازی‌های جالب در این سیستم، تمرین‌های علمی، تربیتی و همچنین تربیت‌الاختصاصی بوده و دسترسی به آن‌ها در اختیار هر کسی است.

20. اطلاعات مربوط به نحوه پیگیری و تغییرات در این سیستم در پنل‌های وابسته به آن‌ها موجود است.

21. برای دریافت اطلاعات بیشتر، می‌توانید به پنل‌های وابسته به آن‌ها در این سیستم دسترسی بگیرید.
Interview for Students

1. What do you use WhatsApp for?
2. What do you use Jazan Jump for?
3. You have just completed the medical course by using WhatsApp and Jazan Jump Blackboard: How do you feel?
4. How does using WhatsApp in this course help in improving your English language? Give Examples
5. Why do you think using WhatsApp platform is good for learning English? If not, why don't you think it is useful?
6. What part did you enjoy most?
7. What was the learning practice, though WhatsApp like?
8. What was the hardest part in using English through WhatsApp?
9. How does using Jazan Jump Blackboard in this course help in improving your English language? Give Examples
10. Why do you think using Jazan Jump Blackboard is good for learning English? If not, why don't you think it is useful?

11. What part did you enjoy most in learning English through Jazan Jump Blackboard?

12. What was the hardest part in learning English through Jason Jump Blackboard?

13. What was the learning practice through Jazan Jump Blackboard like?

14. Which application do you prefer more in learning English through WhatsApp or Jazan Jump Blackboard or both and Why?

15. How does the teacher use of WhatsApp and Jason Jump develop teaching of English medical terminology?

16. How does WhatsApp and Jazan Jump develop your cognitive skills?

17. How does WhatsApp and Jazan Jump develop your Social skills?
Appendix (11)
Main Teachers Interview Questions

FACULTY OF ARTS, HUMANITIES AND SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE INFORMATION LETTER

Dear Participant,

You are invited to participate in a PhD interview of a research study at the University of Limerick. The purpose of this research study is to examine the current usage of WhatsApp and Jazan Jump Blackboard in Jazan University among teachers.

The researcher will conduct individual voice recording interviews for teachers by Skype, telephone or in person. She will interview teachers in medical college regarding their current use of WhatsApp and Jazan Jump in instruction. This interview will take approximately [15min] and the results of this research will provide information about teachers' experiences on using social media and web-based applications in teaching English. The research can contribute to future development in Social Media integration into Management system programs. This interview consists of 19 questions.

As you may be asked to answer questions on the interview, all information provided by you will be kept confidential at all times. All responses to the questions and information provided by you will be anonymised. No personal details relating to you will be recorded anywhere. Please do not hesitate to contact me if you need further information. This research study has received Ethics approval from the Arts, Humanities and Social Sciences Research Ethics Committee (2015-12-07-AHSS). If you have any concerns about this study and wish to contact an independent authority, you may contact:

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AHSS Faculty Office
University of Limerick
Tel: +353 61 202286
Email: FAHSSEthics@ul.ie

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- The nature of my participation has been explained to me and I have full knowledge of how the information collected will be used.
- I am also aware that my participation in this study will be recorded by audio recorder and I agree to this. However, should I feel uncomfortable at any time I can request that the recording equipment be switched off. I am entitled to copies of all recordings made and am fully informed as to what will happen to these recordings once the study is completed.
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______________________________________         __________________________
Signature of participant                                               Date
Interview for Teachers

1. Do you have a mobile phone with Internet access?
   - Yes ( )
   - No ( )

2. Do you think the Internet on mobile is important?
   - Yes ( )
   - No ( )

3. Would you tell me; how do you feel about using your mobile in communicating with your students?

4. What do you think about using WhatsApp for teaching English?

5. Is it important to you to feel socially connected with your students through WhatsApp?

6. What are your thoughts on ability of WhatsApp to support students’ engagement in learning English?

7. What are your thoughts on ability of WhatsApp to support students’ English cognitive skills?

8. What are advantages and disadvantages of using WhatsApp in teaching English?

9. What are difficulties you may face in using WhatsApp in teaching English?

10. How do you think the teacher can increase social presence in WhatsApp?

11. What has been your general experiences in using Jazan Jump in teaching English?

12. Would you tell me about how you utilize Jazan Jump functions in teaching?

13. How do you feel about using Jazan Jump for teaching effectively?

14. What are your thoughts on ability of Jazan Jump to support students’ engagement in learning English?

15. What are your thoughts on ability of Jazan Jump to support students’ English cognitive skills?

16. What do you think about the ability of Jazan jump to support students’ social skills?

17. What are advantages and disadvantages of using Jazan Jump in teaching?

18. What are difficulties you may face in using Jazan Jump in teaching?

19. What functions do you like Jazan Jump to be included to make teaching and learning easy?
Appendix (12)

The content analysis of interviews

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<tr>
<th>Themes</th>
<th>Quotes</th>
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<tr>
<td><strong>WhatsApp and Jazan Jump Teaching Presence</strong></td>
<td><strong>Teacher and student statements</strong></td>
</tr>
<tr>
<td>Improve Teacher Knowledge of Social Media Increase Opportunities for Classroom Integration</td>
<td>Teachers’ technological knowledge in using WhatsApp is very important. There are many options to use WhatsApp for teaching English. First option, the teacher can record any sentences and ask the students which one is correct. Second option, send the message and when the students reply, he or she can check their grammar. Third option, the teacher can send any photo and ask students to guess what the photo saying. The WhatsApp is a good application to engage students in the learning process. For example, the teacher can send a message and ask students to replay back to test their engagement by one click. Also, if the teacher does not want them to feel confused, he or she can send the message for each one separately.</td>
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<td>Use of Social Media as an Informal Learning Tool to Support Formal Education</td>
<td>WhatsApp is very good software because it is very cheaper and most people use to easily get short files and information that can help to engage students in learning. Teachers can build this facility for students, especially for those who want to learn English. It is a good tool that teachers can use it to help students on weekends by sending them files that relate to their classroom issues. The application is not to be used in the classroom, but can be used effectively during non-school hours such as weekends. For example, if students face any problems, they can send a message to the teacher. This ability makes WhatsApp a supportive tool and teachers can adopt a policy of using WhatsApp to support students on weekends and other days where there are no classes, especially before exams and other evaluations.</td>
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<td>Write the Course Objectives</td>
<td>Effective integration of WhatsApp to increase Teaching Presence is achieved when teachers are able to use the tool’s features in a way that allow students to</td>
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better understand the class materials. When English medical terminologies are being taught using WhatsApp, certain tools such as photo series can be used to test the understanding of students. The class is divided into groups and given photos and asked to write a caption. The accuracy of the caption will be checked.

<table>
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<tr>
<th>Give Students Direct Instruction</th>
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<tr>
<td><strong>My teacher is very smart; he can answer any question we ask him about medical terminologies. Also, I like how he makes the information very easy through telling stories. During online discussions, he provides us with clear clarifications and descriptions, and illustrations of health diseases. His knowledge makes me and my classmates ask him about health problems that we have. I remember when he talks about liver problems, I told him that my father suffered from liver failure and he makes me with my friends reading book called (Food that your liver loves). I learned a lot from my friends and the discussions that we make during reading books and health magazines.</strong></td>
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<tr>
<th>Create Extrinsic Encouragement Activities</th>
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<tr>
<td><strong>My teacher inspires us to be active in discussion. One of his techniques is running the puzzle word contests. He creates for us at the end of each chapter a puzzle that includes all the medical terminologies and give us one day to answer it and then he chose the three winners by random selection. I like when announce the winners’ names on WhatsApp and when he took the photo of himself giving the winners prizes in class and share it on WhatsApp group. It is really encouraging.</strong></td>
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<tr>
<th>Facilitating Online Discourse</th>
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<tr>
<td><strong>My teacher adds questions and comments keep the online discussions flowing on WhatsApp. He helps us to have the opportunity to interact with other and share information about ourselves and medical terminologies. I like his vocabulary exercises, when he writes one medical terminology and ask us to take turns to put this medical term in sentences. It is fun and this way of teaching increased my motivation to learn.</strong></td>
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<td>Topic</td>
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<tr>
<td>Online exercises that force students communicate in brief, clear and concise format can help develop student focus on the essentials of patient care. These skills are valuable in clinical practice, and apply directly to real-life contexts in health care where important information must be shared accurately, such as inpatient handovers and transfers.</td>
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<td>Develop ICT Teachers’ Technology Integrated Pedagogy Skills</td>
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<td>Increase Jazan Jump Policy Marks</td>
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<td>Support of a Constructivist Learning Environment</td>
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<tr>
<td>Use Blackboard Organization of Content tools</td>
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<td>WhatsApp and Jazan Jump Cognitive Presence</td>
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<td>Design assessment tasks to measure student achievement</td>
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<td>Form positive relationships with teachers</td>
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<tr>
<td>Design exploration tasks</td>
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**Square of Medical Terminologies Exploration** and then I ask them to divide the square into four sections. Then, I give them the access to the internet to discover different medical terminologies and to fill-in the four sections of square with their discoveries. In the upper left-hand section, students write the medical terminology and its’ meaning in the section below. In the right-hand section, they put the medical term in a sentence along with a visual drawing of the term below. Exploration tasks motivate students to find the results by themselves and share their exploration squares in WhatsApp group.

**Design semantic map tasks**

I like to use semantic map tasks to develop my cognitive skills. I enjoy choosing a specific prefix and then write all medical terms that are related to the main (prefix) of my semantic map. Then, I group all medical terminologies by circling them and use images, more than one color, pictures, different size of lines that make my mind map is unforgettable and I feel proud of myself when I share it on WhatsApp group. It is encouraging to see my classmates mind maps in the group and help my cognition to improve.

**Create Student-student communication**

My cognitive skills develop through talking with my peers on WhatsApp. We talk in group and in private about the medical terminology and other subjects. We share even movies about science that increase my knowledge and books. The chatting with my friends is as the date source that challenge my mind skills and developing my thinking.

**Encourage students to make Individual effort**

Yes, online activities develop the mind skills. I spent a lot of time on online to improve my medical knowledge. I like when my teacher, send us videos for free time on WhatsApp and when he designed a digital story about “kidney failure” as a reading activity on www.storyjumper.com. I read it, I feel that I can understand easily medical terms when he writes it as a story with images. One interesting thing, I found myself reading, discovering the story jumper website on my free time just.
<table>
<thead>
<tr>
<th>Use Blackboard chatrooms for communication</th>
<th>There is option for chatting room, you can contact with any student and you can give your feedback on how they are answering, you can encourage them ‘hey Ail you did a good job’ ‘Hey, we do not have time’ these kinds of messages also can be sent.</th>
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<tr>
<td>Evaluate student knowledge</td>
<td>Yes, you can use it with any kind of students and for any idea. But, sometimes, there is a technical problem because how you use the system depend on you because if you give students a video to watch for 25 minutes, this is not a good idea because the student may open the video and put it in his pocket so, “how does Jazan Jump can benefit the student? “He learns nothing. If you use any video or media lecture If you add anything, after ten minutes there is questions students have to answer, this kind of technique can increase cognitive skills.</td>
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<tr>
<td>Build Student sincerity</td>
<td>Jazan Jump gives a support to students to increase their commitment, especially those students who are sincere definitely they got lots of support from Jazan Jump activities. The students who are sincere and miss classes at least can get a kind concept about the lessons</td>
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<tr>
<td>Use Blackboard tools that support learning styles</td>
<td>Jazan Jump Blackboard provides the teacher with tools that help him to design exercises that fitting different learning styles. As teachers, we see, some students like online games, other like audio and visual tasks, problem solving tasks, group or individual tasks. Once, the teacher can use Jazan Jump Blackboard tools such as (Web contents, e-books, discussion topics, quizzes, tests, web links), Students cognitive skills will improve. The teacher should be skilled in creating activities that match students learning styles through Jason Jump Black Board</td>
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<tr>
<td>Use Blackboard tools that provide course organization and structure</td>
<td>I like Jazan Jump Blackboard because it is like a library that organize my mind. It includes all course materials. I can have access to each lecture’s PowerPoint, discussion topics, assignments, projects,</td>
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<tr>
<td>Provide Students with continual access to course materials</td>
<td>Jazan Jump Blackboard helps me to be relaxed and focused more in class, so I am not worried about missing the PowerPoint information or any materials. My teacher put all course content and activities online. I just come to class to focus and participate, there is no worries about writing very single word that my professor says in the lecture.</td>
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<tr>
<td>WhatsApp and Jazan Jump Social Presence</td>
<td>Quotes</td>
</tr>
<tr>
<td>Use Expressions and Emotional Features</td>
<td>WhatsApp status helps someone to express how they feeling. Emoji express how they feel when they are talking to someone. We can express our feelings with images rather words. Example, emoji shows the person feels clueless or thinks weird of what the other person said. I share with my friends, my emotions through WhatsApp status, every day. I change my profile status. Also, I like to write different status quotes during the day to show how smart I am and how they special to me WhatsApp help me to be connected with my friends. I set the pictures gathered me with my teacher and friends in classroom to express appreciation and love feelings. When we chat on WhatsApp, we can feel the happiness or sadness of each other and this is considered as the emotional presence itself. If I put for example the emotion as “Happy Face” or “Sad face” or any other emotions that means we are immediately talking together and chatting. We noticed this type of presence on the “WhatsApp Medical Group”. The teacher can make all his or her efforts to increase social presence through using the image faces, for example, he can make “eye contact” by putting an image of two eyes. Also, he can name students by their names and hear their voices in the group or individual that create vertical.</td>
</tr>
<tr>
<td>Promote Cohesion through Small Group Discussion</td>
<td>We greet each other and welcoming my friends. Also me and my friends express our opinions in a group and I feel, I am valued by group members, and I feel I</td>
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<tr>
<td>Encourage Informal Discussions</td>
<td>I liked that talk about my daily routines with my friends and I love when some of my friends share trips and festival news and it is fun when we went there together. We also chat with each other about other classes and we share other subject materials. Talking with my friends, give me a support to be good on my study.</td>
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<tr>
<td>Design the atmosphere of Instructor and Student Immediacy</td>
<td>Social media has a great role in connecting people socially and it brings people closer. I think if the teacher is not very close to students, when he or she start using WhatsApp, definitely, teachers will be closed to students. It makes us very close. As a teacher, I give support through giving feedback and answering questions. At the same time, students get along with each other through posting and comments referring to their friend’s messages.</td>
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<tr>
<td>Promote Social Equality</td>
<td>WhatsApp is student-centered learning, so students feel responsible to share and care about each other. They feel free to producing knowledge and have the same chances to do whatever they want. It makes them feel equal. In the group people with a higher level of degree and low are seeing the same in group. You know that the entire world in the English is going everywhere. When you used English in online environment, students feel same. Dr. Sohel asks: ‘Do you think that English is the most standard language in the world? Number One: I like this.</td>
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<tr>
<td>Provide the Students’ with Course Information and Syllabus</td>
<td>For social presence, the students can see the course distribution syllabus on Jazan Jump and they have clear schedule, they can create also you know their own tables according to their course distribution on Jazan Jump. They can see the cleanser and Jazan Jump also can let both students and instructors share their information ID and create sense of community that relate them to each other, but unfortunately the</td>
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<tr>
<td>Use the Learning Management System for Academic &amp;Social Purposes</td>
<td>Jazan Jump like any other media such as Twitter, Instagram, WhatsApp, Facebook, and Skype, but it is more official and it is main virtual porter for both staff members and their students to be connected together for educational purposes. Students can work together to complete their assignments, quizzes, tests and questions on Jazan Jump. As I said, it is official and it is mainly for academic purposes but they can be socialized through it because there are many tools that teachers can use such as ebooks that are connected with social media. Moreover, Jazan Jump considered as an effective way to convey a direct message in seconds and all students can see it by using their users names and passwords.</td>
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<tr>
<td>Provide High Bandwidth in Capacity in Learning Environment</td>
<td>Jazan Jump is not useful for increase social presence because of internet problems.</td>
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<tr>
<td>Used Blackboard for Collaborative Group Activities</td>
<td>For interaction is a kind of presence, the teacher can keep connected with students in seconds through Jazan Jump and students can see their marks and grades and different classrooms can collaborate together through Jazan Jump and show challenge in different activities such as medical terminology games a puzzle. They can find their researches, lectures media, videos. Also, the students can learn the responsibility when they use Jazan Jump</td>
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<tr>
<td>Use the Community Tools of Jazan Jump</td>
<td>Oh yeah, I think we have some kind of interaction with teachers and other students through chatting and a Q&amp;A forum on Jazan Jump, and chatroom ohh, but I do not think it provides an effective interaction as on WhatsApp. I do not know, but this how I feel. I think, there are points for activities, then all of students will participate</td>
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<tr>
<td>Make the use of the System Easy</td>
<td>I do not use Blackboard to social issues because it is wasting time and I feel bored and it is difficult to have the answer in short time when you communicate with other students. It is time consuming and not easy system</td>
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