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Experience of Blended Learning at King Khalid University in Saudi Arabia among Students, Lecturers and Academic Leaders: Implications for Educational Planning and Learning Process Strategy

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Dedication

In loving memory of my mother, who would have been so proud of my achievements. She passed away on 31 July 2018 while I was in the UK completing my PhD. I know how pleased she would have been to know I had reached this stage of submitting my thesis. I always feel as if a part of me is missing. I will never forget her sacrifice and consistent support.

I am forever indebted to my father and my brothers and sister for their understanding, endless patience and encouragement when it was most required.

My dedication extends to my daughter Aleen.

Finally, I wish to avail myself of this opportunity to express a sense of gratitude and love to my wife, for her practical, moral and spiritual support, her strength and help. She sacrificed a great deal and has worked so hard to provide the right environment for the success of my research.

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Abstract

This research explores the experiences of blended learning and its implication for higher education planning at King Khalid University (KKU) within the context of the Kingdom of Saudi Arabia (KSA). The study is based on the perspectives of key stakeholders in KSA comprising academic leaders, lecturers and students. KKU was chosen to conduct the case study, and is where the research investigated the views and perceptions of its students, lecturers and academic leaders in order to ascertain their experiences and perceptions of blended learning, and examine its impact. The study is motivated by the need to get insight into the status and implications of blended learning in KSA since it is at an early phase of implementation. The study seeks to provide a contextual assessment of blended learning by exploring the benefits and challenges present in the higher education ecosystem. A mixed method approach has been adopted in which quantitative and qualitative methods have been applied. Data collection includes a survey questionnaire involving 76 students, interviews with six of them, and five further interviews with lecturers and academic leaders. The findings of the study reveal the perceived level of proficiency with blended learning devices affects students' perceptions of blended learning; that it particularly enhances interactions and communication between lecturers and students since learning was not limited to the physical classroom settings only. Although it saved time for the students and their lecturers at KKU, blended learning was constrained by a weak infrastructure, such as a weak internet connection and lack of devices that limits its applicability. These challenges affected the interaction of the students learning through blended learning, and may be an impediment to its effectiveness in higher education learning. It is imperative that the aforementioned challenges that students and lecturers encounter in blended learning be resolved to motivate students who may be resigned to face-to-face classroom learning due to these challenges. A positive perception of blended learning is informed by its perceived usefulness to lecturers and students notwithstanding the challenges that make students prefer traditional modes of learning. However, given the benefits that the KKU learning community perceives in blended learning, it is imperative that the administrators move swiftly to improve the underlying infrastructure for blended learning to make it more appealing to students. This may motivate more students to embrace blended learning, as it provides benefits of both classroom and distance learning. There is also a need for improving awareness and training of lecturers and students in order to prepare them more adequately for effectively utilising the technology to maintain a blended learning environment.

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Abbreviations

AAFAQ	Future Plan for University Education in the KSA (in Arabic)
AFAQ	See AAFAQ; literally ‘horizons’.
AI	Artificial Intelligence
ALEF	AI and data analytics based online training platform
ANOVA	Analysis of Variance
AT	Activity Theory
BL	Blended Learning
CD-ROM	Compact Disc Read-Only Memory
CM	Computer-Mediated
DL	Distance Learning
eLC	eLearning Centre (at KKU)
F2F	Face-to-Face Learning
FULT	Foundations in University Learning and Teaching
HE	Higher Education
IAUKSH	Islamic Azad University of Kermanshah
ICT	Information and Communication Technology
ID	Instructional Design
ImamU	Al-Imam Muhammed ibn Saud Islamic University
IT	Information Technology
KAU	King Abdulaziz University
KFU	King Faisal University
KIU	Knowledge International University (virtual)
KKU	King Khalid University
KSA	Kingdom of Saudi Arabia
LMS	Learning Management System
LOR	Learning Object Repository
MoHE	Ministry of Higher Education (Saudi Arabia)
MOOC	Massive Open Online Course
NCeL	National Centre for e-Learning and Distance Learning
PCF	Perceived Cognitive Flexibility
ROD	Research Onion Diagram
SIS	Student Information System
SPSS	Statistical Package for the Social Sciences
UAE	United Arab Emirates
UK	United Kingdom
USA	United States of America

Chapter 1: Introduction

1.1 Background to the Study

As information and communications technologies (ICT) continue to permeate everyday life, it may be observed that there is widespread application of ICT and re-evaluation as well as redesign of traditional practices in different sectors including education. In this way, countries are seeking opportunities to become more competitive in contemporary society. A learning environment provides a platform that includes communication media where students interact with their fellow students. The availability of information technology has allowed higher education (HE) institutions to seek ways to adapt and apply online and distributed systems in learning. These learning systems are aimed at complementing the increasing number of online courses and ICT is a component of the pedagogical methodology, where it is deployed in the delivery of text and audio-visual course materials (Makrakis, 2014). The need for flexibility and interactivity in the learning environment provides the justification for incorporating dynamic ICT systems to create a powerful and dynamic platform for sharing information.

Educational institutions are increasingly deploying blended learning strategies to deliver course content to diverse and dispersed cohorts of students. Blended learning (BL) has been described as the integration of the conventional face-to-face (F2F) classroom learning with online learning (Alammary et al., 2014). BL encompasses the application of different strategies to aid learning, including that which is instructor-led and self-paced, as well as asynchronous and synchronous. Graham (2006) has described blended learning as the combination of instruction from two distinct and separate models of teaching and learning, namely, the traditional F2F learning paradigm and distributed learning systems. The justification for these strategies emanates from the need to provide flexible access to content and instruction without any spatial and temporal limitations.

Information technology has led to innovation in the education sector, as F2F learning is routinely combined with computer-mediated instruction in blended learning with the aim of improving the effectiveness of learning overall. Some advantages of blended learning that have been mentioned in different literature sources include being able to learn from the comfort of one's own home (Morgan, 2002; Young, 2002; Wu et al., 2010), promotion of independent working abilities as a consequence of this arrangement (Stacey & Gerbic, 2008), and the provision of a rich educational experience that integrates the strengths of the F2F model with the merits of a computer-mediated learning paradigm (Garrison &

Kanuka, 2004). One of the benefits of the F2F model is a high degree of human spontaneous interaction during in-class communication, while the computer-mediated learning paradigm offers flexibility that enables participation without spatial and/or temporal constraints. Different blended learning environments have a variety of mixed modalities of learning, with varying degrees of balance between the F2F and online learning activities. A successful blended learning environment is mediated by the pedagogical goal of the target subject, the nature of the targeted knowledge, as well as the proportion of F2F to online interactions (Garrison & Kanuka, 2004). As Shantakumari & Sajith (2015) stated, blended learning, particularly its e-learning component, focuses on student participation and interaction to improve learning outcomes for students.

In the context of higher learning, blended learning provides several benefits that surpass the use of a single delivery medium and is regarded as an evolutionary transformation that improves interactions with students in large classes and offers a flexible learning environment. It supports different learning styles with the most valuable aspect being interactive communicational technologies, such as those which are asynchronous in nature. A blended learning environment also supports the community-building process.

Although blended learning has been demonstrated to maximise the benefits of conventional teaching and online learning, there are challenges and risks that may impact the effectiveness of teaching and learning (Benson et al., 2011). Some of these challenges are inadequate support and constrained resources and time in course development. There are also risks linked to the availability of technology and the need to acquire up-to-date teaching and technology skills, leading to challenges in the development of new and improved learning modules (Rizvi et al., 2017). Other challenges include personal factors, such as familial and career pressures, as well as course design barriers, time management and workload. In order to identify and overcome such challenges, there is a need to explore the experiences of students, lecturers and academic leaders regarding the impact of blended learning taking into consideration the advantages and impeding challenges.

The Kingdom of Saudi Arabia (KSA), a country in which almost half of the population is under 20 years of age (Albalawi, 2007), adopted ICT later than most developed economies and it continues to confront challenges of providing sufficient infrastructure for its widespread population which is deeply traditionalist. Higher education in Saudi Arabia is expanding rapidly, but the kingdom faces several challenges, including inadequate resources, gender segregation, accommodating increasing student numbers, and a shortage of faculty members. In the context of the KSA, new universities are being

established across the country's regions to enhance access to free higher education. Blended learning appears to offer a rational choice for the delivery of higher education to smaller communities distributed in the vast country, which are often isolated from universities and urban centres. Blended learning has been suggested as being suitable to meet the challenges of increasing student numbers and the shortage of lecturers in Saudi universities (Alebaikan, 2012). For these reasons, BL has attracted government attention. One of the reasons for the interest in BL in the Saudi higher education sector in particular is the challenge of a shortage of female instructors in higher education. Under BL, male instructors can be used instead to apply blended learning methods for teaching female students. In such a context, communication and interaction with the students may be rare, creating challenges in providing good-quality higher education. However, the use of ICT in teaching and learning may help Saudi universities to attain international standards for graduates, as well as to increase their functional capacity. As noted in Garrison & Vaughan (2013), blended learning can help in overcoming some challenges facing the higher education sub-sector in Saudi Arabia. The online delivery of course material could enable staff to compare their course materials with those of world-class universities. Although BL is said to provide flexibility to institutions in meeting students' needs in a cost-effective manner, there is a lack of knowledge of the experiences of stakeholders of the effect of blended learning in the context of Saudi Arabia, specifically at KKU. This study seeks to explore the experiences of students, lecturers and academic leaders on the impact of blended learning and how these experiences impact educational planning.

There are studies that have examined online learning in Saudi higher education which have identified three key challenges for blended learning (Alebaikan & Troudi, 2010; Sheerah & Goodwyn, 2016). One of the prominent challenges is that students are used to the traditional university culture focused on didactic lecture-based learning. This is opposed to the blended learning environment where students are supposed to have a higher level of responsiveness and self-discipline. In addition, there is lack of an optimum design of blended approaches since blended learning involves a variety of delivery media and technologies. This challenge is exacerbated by a lack of sufficient knowledge on the part of the academic leaders and faculty members on the best approaches of integrating online components effectively in the universities' curricula. This study may bridge the gap through investigating the experiences of the academic leaders, faculty members and students regarding the impact of blended learning in Saudi universities. A lack of adequate

integration may cause students difficulties in dealing with complex concepts without supplementing them with sufficient F2F teaching (Alebaikan & Troudi, 2010).

The purpose of this study is therefore to elicit the experiences of key stakeholders comprising students, lecturers and academic leaders, on the impact of blended learning. The goal of the study is to investigate blended learning, and from the experiences of the stakeholders, to then explore ways of eliminating or minimising the barriers to blended learning and maximising its benefits. This study explores the perspectives and experiences of students, faculty members, and academic leaders at King Khalid University in Saudi Arabia regarding the impact of blended learning as a supplement to the conventional F2F delivery of learning. Understanding the experiences of learners, faculty members and academic leaders on the impact of blended learning can help to eliminate or reduce the challenges faced by blended learning as a promising strategy for delivering teaching and learning in the Saudi higher education sector. If KKU can improve its blended learning approaches, this may lead to better utilisation of facilities, such as reducing lecture schedules and improving student retention and learning outcomes. By learning from the experiences of learners, faculty members and academic leaders, this study may point the way to developing better blended learning designs for teaching and learning that are better suited to the Saudi Arabian context.

1.2 Context of Higher Education in the KSA

This review focuses on specific areas within the Middle East, and its case studies serve to enlighten the discussion on how blended learning has been implemented across the country. A simple profile, shown below, could help to give context to the country under discussion. This section also highlights the need for conducting this study to further research on blended learning in KSA.

Since the tendency for the development of higher education in the 1970s when the Educational Policy Charter for Higher Education and Public Education came into force, there is plenty more potential for educational institutions to trial more flexible approaches in both the classroom and online platforms. Since 1970, technology has advanced rapidly, and as the policy came into action, this is reflected in the growing thoughts at the time that education is necessary for society and should reflect the culture. At a time when educational advances could be endlessly exciting for the institutions of the country as a whole, research on the 1970 education policy, which is still in existence today, suggests that not all the statements had been utilised. Whether opportunities were refused because

of economical, technical or cultural reasons, the charter failed to reflect the culture in the educational systems. The timeline occurred as follows:

- Goal 41 of the Educational Policy Charter for Higher Education and Public Education encourages the development of scientific thinking. However, the majority of education is still conducted based on teacher-led rote learning (Al-Mengash, 2006).
- In 1975, the Ministry of Higher Education in Saudi Arabia was founded to regulate Higher Education.
- In 2004, the number of universities in Saudi Arabia grew from eight (Ministry of Higher Education, 2008). Currently, there are 38 higher education institutions in the kingdom chartered, licensed or otherwise accredited by the Saudi Ministry of Education that offer up to four year undergraduate and post-graduate courses (UniRank, 2019).

Despite maintaining the tradition to segregate men and women in schooling, Saudi Arabia certainly cannot be described as non-westernised or underdeveloped in terms of its educational reach of subjects. English is used as the language of education in the fields of technology and science, with all other subjects taught in Arabic, and diplomas, Bachelor and Master degrees, as well as PhDs, are all available at Saudi universities across the country. In fact, in 2005 King Abdullah allocated a far larger budget to education and research than normal, and in 2009, made it one of the wealthiest universities in the world by bequeathing $10 billion to King Abdullah University of Science and Technology (Lindsey, 2011). By 2010, the budget for education and teacher training was a massive $36.7 billion out of a $141 total budget.

Despite this record-breaking phenomenon in terms of allocated funding for these years, a lack of funding is still a challenge for Saudi Arabian universities, including KKU. Its stalling may well be due to reasons of economical failure, where “difficulties [arise] in meeting rising demand to admit more students, difficulties in meeting outcome quality in relation to workforce needs, and difficulties in securing more resources” (Alkhazim, 2003: 483) inevitably make developing a new widespread teaching approach all the more difficult itself. Although an old finding, it might still have relevance.

Blended learning may well have always been part of the plan for the world-class educational future of Saudi Arabia. As the country began to look forward to possible educational development in 2005, it launched a higher education plan for the next 25

years known as the 'Future Plan for University Education in the Kingdom of Saudi Arabia' (AAFAQ) and 'Future of University Education' to occur between the years 2006-2030. The main objective of the AAFAQ project was to "promote the efficiency and effectiveness of higher education systems in Saudi Arabia", though it is stated, "the preparation of an ambitious, futuristic, practical, and long-term plan that identifies vision, value, standards for performance measurement, and resource requirements". Whether or not these resources stretch to technological advances in the context of this educational plan, it is unclear, but the plan does go on to detail additional aims. It promises to "encourage universities to allocate more resources for research and development", with a gear towards producing a detailed implementation plan for higher education. While this all sounds positive in terms of advancement in learning, it does not comment on the country's approach to a new, technologically-supported approach to teaching.

However, despite a promising possibility that the country could adopt a mixed-methods approach, in 2009 it seemed that Saudi Arabia did not gear its education policy towards any technological subjects, such as engineering or sciences, two areas that one would think technology would be most fruitful in teaching. "Graduates of engineering, medicine and sciences met only 12.5% of the Kingdom needs in the last five-year plan" (Gangal, 2009: para 9), which could help to persuade the country to strengthen the relationship between technology in places of learning and science students. This could then increase satisfaction into which to present a newer learning approach. This is not to mention the advances that could be made in the education sector if women, who are educated and employed separately from men, are opened up to the world of computerised training and a blended approach is offered to them for doing their jobs. The overwhelming percentage of 83.4% who are the female workforce employed in the government's education sector (Alsaleh, 2008) could go on to learn more dynamic skills from a more dynamic learning approach, and even help to advance from the minimal 12.5% of graduates who met the needs of the Kingdom between 2004 and 2009.

Moreover, the blended learning approach could aid in the generation of a 'knowledge-based economy'. The dynamic nature of the computerised and creative method of teaching could contribute to generating more knowledge, both traditional to technical. In 2010, the Ministry of Higher Education Portal in Saudi Arabia said "the premises of higher education development adopted by the Ministry are based on specified fundamentals, most important of [which] is supporting Saudi society to be transformed into a knowledge society. One of the most important means to achieve this transformation

is to develop and employ a view of a knowledge economy where knowledge is produced, disseminated and ultimately consumed at various community products and service works" (Ministry of Higher Education Portal, 2010: para 7). Towards achieving this end, universities have been collaborating to forge partnerships within the production and service sectors, both governmental and private, and local and international, in a way that is geared towards national development and the needs of the national labour market. This charter emphasises how greatly the Saudi Arabian Ministry of Higher Education values the production of and correct utilisation of knowledge, as well as appreciating the influence that organisations have over the community. Most importantly, the department acknowledges that an educational body is at the forefront of the cultural changes taking place, and can therefore play a valuable role in influencing the acceptance of a new educational approach in the wider society to help "generate knowledge".

1.2.1 Incorporation of technology in the education system of Saudi Arabia

Around one quarter of the Saudi population is known to be active in using social media (Zarovsky, 2013). It is suggested that 40% of tweets emanating from the Middle East come from Saudi Arabia (The State of Social Media in Saudi Arabia, vol. 3., 2015). It is submitted therefore, that Saudis are more connected to the outside world than ever before. Furthermore, 92.5% of Saudi youth (between 19-25 years old) use the internet (Simsim 2011). While the potential of educational technology to enhance learning opportunities, support learning practices, increase student engagement, and improve their thinking skills and achievements have been widely proven (Jonassen et al., 2008; Liu, 2012; Prensky, 2010; Liu, 2012; Unnisa, 2014), the effective use of technology in Saudi education has not been examined sufficiently, regardless of the widespread uses of technology in all activities of daily life of in Saudi society.

With constant announcements from Saudi government leaders for the country to take critical steps towards a more diversified and knowledge-based economy, bringing about improvements in the education system has become a necessity (Murphy, 2011). Numerous reform initiatives have been undertaken with minor progress (Al-Abdulkareem, 2009). According to the 'Global Competitiveness Report 2014– 2015', KSA is ranked at 57th place globally in terms of the quality of education (Schwab, 2014). Based on this report, "Saudi Arabia faces important challenges going forward. Indeed, health and education do not meet the same standards as in other countries at similar income levels (50th)" (Schwab, 2014: 36). This indication is disappointing for both the country's leaders and

the public. Technological advancement has completely influenced education elsewhere in the world (Jonassen, 2000; Wright et al., 2002; Prensky, 2010; Liu, 2012; Unnisa, 2014).

Dede (2014a), in the report of The Role of Digital Technologies in Deeper Learning, suggested that for achieving deeper learning, numerous essentials should be provided containing, but not limited to, richer content, powerful pedagogy (e.g., project-based and problem-based learning), valid assessment, and the effective use of technology (Dede, 2014a). He highlighted the importance of technology, stressed that "digital technology will be indispensable to the effort to scale up deeper learning in the nation's high schools" (Dede, 2014b: 1). More importantly, technology should be used to assist 21st century learning for today's students in order to prepare them for the new knowledge-based workforce and to become more responsible citizens.

In order to achieve these objectives, the technology used must be at a level higher than what is adopted as a means for mere productivity and administrative purposes to reach the constructivist learning and teaching level. For example, it should enable students to construct deep and connected knowledge and create meaningful learning in real situations. Incorporating technology in classrooms profoundly by engaging students in active constructive, intentional, authentic and cooperative learning helps students to derive more meanings (Jonassen et al., 2008). The use of technology and having teachers who possess technical skills may not guarantee deep knowledge construction with meaningful technology integration (Jonassen et al., 2008; Prensky, 2010). Effective technology incorporation is a 'pedagogical process' that requires professional teachers who understand its influence on students' outcomes and possess knowledge and skills for applying technology effectively. Conversely, "inappropriate training styles that lack pedagogical aspects are likely to be unsuccessful, so that high levels of ICT use by teachers are not achieved" (Al Mulhim, 2014: 488).

Effective technology incorporation in any learning environment requires numerous components that impact the level and value of the application of technology (Zhao et al., 2002). The significant aspects of technology are diverse and intertwined. Successful technology incorporation elements are divided into two main categories. The first category relates to external factors that include outsider impacts that faculty members have no control over what permits them to positively incorporate technology, for example, admission to technology and leadership and technical support during pre-service training (Goktas et al., 2009; Salentiny, 2012; Tondeur et al., 2012). The second category is of internal factors, which represents those that are related to faculty policy and strategy about

teaching and learning practices, such as attitudes toward technology and pedagogical practices (Ertmer, 2005; Ertmer et al., 2006). The present study focuses on influential external and internal factors including the perception and attitude toward technology, pedagogical philosophies, technical skills, professional improvement, technology availability, technical support and faculty workload.

The Ministry of Higher Education articulated a strategic plan to help to advance higher education learning to meet the challenges that Saudi higher education is experiencing (Ministry of Higher Education, 2009, 2010). This proposal, which is named as the AFAQ (Horizon) project was proposed in 2007. The main objective was to address the challenges that face the development of Saudi Higher Education and to propose a future plan for the next 25 years:

> *The main objective of the AAFAQ project is to promote the efficiency and effectiveness of the Higher Education system in Saudi Arabia, through the preparation of an ambitious, futuristic, practical, and long-term plan that identifies vision, value, standards for performance measurement, and resource requirements. It additionally aims to improve adequate utilization of human and financial resources; and encouraging universities to allocate more resources for R&D [Research & Development] and community service. The project is geared to produce a detailed implementation plan for Higher Education for the first 5 years and proposes a mechanism for institutions of Higher Education for continued strategic planning and implementation of strategic and operational plans.*

It can be clearly noted that among the main objectives were to attain quality in education, advance the learning environment in colleges, and prepare the community for the digital era, AFAQ thus recognised that the e-learning format is an essential element of the education system (Ministry of Higher Education, 2010). The National Centre for e-Learning and Distance Learning (NCeL) was established by the Ministry of Higher Education to provide the required strategies, policies, and support to Saudi university colleges in applying e-learning following a standardised approach in both virtual and blended learning environments (Ministry of Higher Education, 2009; Alebaikan & Troudi, 2010). Very little research reviewed in the literature approached the position of technology integration in the Saudi colleges of education (Almaraee, 2003; Alshahri, 2015; Omar, 2016). The Ministry of Higher Education established the Future Plan of Higher Education in Saudi Arabia (AFAQ) as a response to regulate the increasing uses of computers, the internet, and other related technologies in KSA, and thereby, to help higher education institutions to achieve their goals to improve students' achievement by

adapting new instructional strategies supported by optimal utilisation of ICT (Ministry of Higher Education, 2009, 2010).

1.3 Blended Learning in Saudi Universities

1.3.1 Expansion of Saudi Higher Education

Reports indicate that blended learning is gaining popularity in the Kingdom of Saudi Arabia, and Al Alhareth and McBride (2014) believe that the trend will continue despite the numerous challenges that threaten its success. Despite being one of the richest nations in the world, Saudi Arabia exhibits unique characteristics that influence the development of its education system, and more so, its higher education system. These unique features include a conservative population that strictly practises gender separation, including in the education sector (Alhareth, 2014). These factors affect the manner in which higher education is structured and the approaches of attaining world-class status in the education sector.

1.3.2 Challenges facing Saudi Higher Education

Blended learning is one of the approaches that is applied in Saudi universities to meet an ideal lecturer-student ratio. As noted by Güzer and Caner (2014), the nature of the applied strategy that needs to be implemented considers the provision of higher education in a society that differs in both scope and approach, as well as in terms of several other factors, such as culture and religion. According to Al Alhareth and McBride (2014), the demand for higher education among local KSA citizens has increased significantly over time as the gender gap continues to diminish by providing more equal access to education for females. According to this literature, reports released for the 2008/2009 educational year reveal that the demand increased by at least 400%. This situation has put increasing pressure on higher education institutions to implement blended learning in order to meet the demand for higher education in the Kingdom.

The pressure resulting from massive enrolment for higher education has presented a significant challenge in the system concerning the modes and space for learning. The Ministry of Higher Education responded by increasing the number of tertiary institutions such as universities and colleges. However, difficulties still persist since the response did not solve the issue of inadequate resources that bedevils the sector and which affects the effective delivery of exceptional tutoring. Female students outnumber males, and the number of female instructors is not commensurate with that of female students. For this reason, the Saudi Ministry of Higher Education (MoHE) has opted to implement the

blended learning approach to meet the need for instructors in Saudi universities. In its opinion, the application of ICT in higher education could help improve the quality of education delivered to the students while easing the workload for lecturers who have difficulty satisfying the demands of the ever-increasing student population in the institutions, a problem compounded by the culture of gender segregation in the Kingdom.

Blended learning was introduced by the Saudi Ministry of Higher Education in 2006 under the National Centre for E-learning and Distance Learning with the aim of creating a unique educational environment that could contribute in providing a wide-ranging system that would meet the needs of higher education in KSA. There is a growing trend of Saudi Arabian universities moving towards blended learning approaches, a move that is encouraged by the Ministry of Higher Education which seeks to reduce student and faculty class attendance hours by blending traditional learning and online learning (Holley & Oliver, 2010). Blended learning approaches are common in universities globally since they provide efficient solutions to the challenges they encounter (Graham, 2006). Blended learning is expected to be adopted by most Saudi universities due to lack of support for online learning as a sole approach, which has been demonstrated not to provide students with an adequate learning experience, for instance, in terms of social contact that can enhance focus and course engagement (Holley & Oliver, 2010).

1.3.3 Failure of distance learning as a solution

Distance learning, as opposed to blended learning, which is a development of distance learning, has been shown to be ineffective in the Saudi context since it disaffects learners. The absence of direct lecturer-student contact may be a major limitation of internet-based distance learning. Therefore, the implementation of blended learning in KSA offers to bridge this gap by overcoming the disadvantages of distance learning. This is because learning and teaching take place both inside the classroom environment where F2F contact between faculty members and students is emphasised, as well as over the internet and within virtual learning environments (Alkhalaf et al., 2012). However, it is important to emphasise that blended learning is still a novel concept in Saudi Arabia generally including KKU, and since it is in its early stages of widespread implementation, identifying the needs and perceptions of learners, lecturers and academic leaders is vital to ensure its success in delivering teaching and learning in Saudi universities. There is therefore, a need to identify the challenges and strengths of blended learning in Saudi Arabia through this study at KKU, since it is an emerging trend in Saudi universities.

There are studies that have examined online learning in the Saudi higher education sector, and which have identified three key challenges for blended learning (Alebaikan & Troudi, 2010; Sheerah & Goodwyn, 2016). One of the prominent challenges is that the students being used to the traditional university culture tend to focus on didactic lecture-based learning. This is opposed to the blended learning environment where students are supposed to have a higher level of responsiveness and self-discipline. In addition, there is lack of an optimum design of blended approaches, since blended learning involves a variety of delivery media and technologies. This challenge is exacerbated by lack of sufficient knowledge on the part of the academic leaders and faculty members on the best approaches of integrating online components effectively in the curricula of universities. This study may bridge the gap by providing experiences of the academic leaders, faculty members and students regarding the impact of blended learning in Saudi universities.

As noted in a study by Vaughan (2007), the Saudi university community, which includes lecturers and students, has a general perception that online activities that are envisaged in blended learning may take more effort and time to complete. Time management is therefore a significant issue with a blended curriculum, since online instructions and activities are supposed to supplement F2F learning. A study conducted by Asiri (2009) on the online component of blended learning identified positive attitudes towards online learning, since apart from providing flexibility, it also offers an attractive learning experience. Based on this study, it appears that a blended learning environment has the potential to contribute to successful learning experiences in KSA. This motivates this current study to establish precisely the experiences of the higher education community on the impact of blended learning.

A study conducted by Alebaikan (2010) on the perceptions of female undergraduate students and faculty members at King Saud university identified that blended learning elicited positive experiences, as it was seen to be compatible with the unique Saudi culture, especially regarding women's education. The blended approach provides an opportunity for Saudi women to continue their higher education whilst maintaining the values of Saudi culture. However, as identified in the study, there is a dearth of knowledge on the experiences of the faculty members and academic leaders regarding blended learning and how it affects the preparation of online curricula, as well as its inadequacies with respect to pedagogy.

Understanding the experiences of students, lecturers and academic leaders on the impact of blended learning at KKU in Saudi Arabia could help in improving the perception of

ICT and increase the country's response to globalisation. Recent advances in technologies such as smartphones are popular with the Saudi youth, and Saudi students and faculty generally have positive attitudes towards the use of the internet in education, which has been linked with improved access to education, improvement in the efficiency of communication, and flexibility for both students and faculty members (Alkhalaf et al., 2012). However, various issues that can only be identified through the lived experiences of learners and faculty members as well as academic leaders continue to impede the delivery of blended learning in Saudi universities. These issues are mentioned significantly by lecturers, and they include issues related to connectivity, loss of privacy after hours and intellectual property rights (Alkhalaf et al., 2012). These constraints may affect the efficient delivery of blended learning in Saudi universities, and it is important to have an in-depth examination of the experiences of stakeholders in order to eliminate or reduce the challenges and maximise the benefits of a blended learning environment in Saudi higher education sectors (Alkhalaf et al., 2012).

Despite the theoretical advantages of incorporating blended learning into Higher Education, universities in Saudi Arabia including KKU still encounter challenges relating to technological advancements (Al-Hunaiyyan et al., 2008). This research contributes to the current literature as it examines the blended learning model and its actual application to reveal its beneficial or undesirable use from the perceptions of the main stakeholder groups involved in the implementation of blended learning. Existing practices have made substantial advances in developing the blended learning approach and in enhancing its application. Eventually, the study conceptualises participants' specific perceptions in a process of obtaining meaningful views from their lived experiences.

1.4 Technology in Saudi Arabia

Studies show that children growing in the present generation show significant levels of enthusiasm towards technology and its use (Wiseman et al., 2016). As a result, incorporating the use of technology into everyday learning could improve both the delivery and experience of learning, since the population is more receptive to new technologies. Researchers hypothesise that the same could happen for learners and teachers in the higher education context. For instance, the ALEF teaching module employed mostly in the Middle East has gained popularity in the region since its introduction in 2015 (Bieliková et al., 2014; Al Lily & Alhazmi, 2017). ALEF is an advanced online training platform that leverages AI (artificial intelligence) powered

content and content provided by data analytics that was initially established as a primary technology-enabled mode of educating in public schools.

Saudi Arabia has made significant progress towards reforming its educational sector in a bid to improve learning, evaluate standards and increase geographical coverage. To achieve this, the government has had to embrace technology by using it as a platform to resolve the challenges present in the realm of tutoring and learning. The reforms have involved the introduction of different approaches to learning for the benefit of both students and teachers. Higher education has been the single largest beneficiary of the Kingdom's investment in technology.

In the Middle East, e-learning is an industry in its own right and contributes significantly to the total revenue earned. Experts expect an annual expansion rate of at least 8% in the subsequent years (Euchi et al., 2018), and Saudi Arabia is one of the leading nations in the region that aims to revitalise its education sector through investing in pertinent technology to attain world-class status. One of the most popular cases that epitomises the use of technology in Saudi Arabia in recent times is Massive Open Online Courses (MOOCs), which entail the use of an open portal on the internet where hundreds of students can enrol to attend online classes and even take their exams (Adham & Lundqvist, 2015). Although not a defining feature of BL, it is possible that a BL arrangement makes use of a MOOC for its online component. The project has been lauded as one of the most impactful initiatives in the region, since it has helped change the lives of many women in the region who do not have access to regular classrooms due to the stringent rules that discriminate against them (Adham & Lundqvist, 2015). In Saudi Arabia, the movement of women is largely restricted to the home sphere, and they are not allowed to be present in public without a male companion (Brahimi & Sarirete, 2015). Such rules may limit their access to educational opportunities; hence the need for blended learning contextualised to the Saudi setting. MOOCs have enabled them to attend and even graduate from educational forums, webinars, and courses made available through portals (Rolfe, 2015). The initial four-month course conducted under the online projects saw at least 600 women participate in the learning process (Liyanagunawardena & Williams, 2014). To achieve this, the Saudi government teamed up with global sponsoring companies such as Dell, Zain, and Intel to ensure the success of the programme.

The use of technology within the higher education sector in KSA is now widespread. The first virtual higher education institution, Knowledge International University (KIU) was instituted in 2007. Several other institutions opened up in the region as a result. Princess

Nora Bint Abdul Rahman University (PNU) broadcasts lessons to hundreds of students in various locations in the nation under the institution's distance learning (DL) programme (Alhareth & McBride, 2014). Al-Imam Muhammed ibn Saud Islamic University (Imam U) broadcasts lectures through the web on a daily basis under its distance learning programme. However, the lectures are restricted to businesses and administrations, and are only transmitted in the Arabic language, not in English. For its part, King Faisal University (KFU) provides online distance learning services on a host of courses, and King Abdulaziz University (KAU) provides virtual classes for all learners as well. The institution employs the use of technology in the realms of blended learning. It also employs e-learning in the departments of humanities, arts, administration, and economics.

1.5 Social and Cultural Issues

Pavan (2016) warns of the looming clash between the local culture and the rapid changes witnessed following the spread of globalisation across the world, as seen through the development of the education system in the nation. While globalisation does not usually influence the education sector adversely, it certainly influences particular aspects of social life (Moloi et al., 2009). The Saudi Arabian society has a well-established heritage and its religious values dictate the way of life for everyone in the Kingdom. Both the Arabian culture and the country’s legal system are based on the doctrines of Islam, which are in many ways different from Western culture.

The Saudi government has committed itself to improving the lives of its citizenry in terms of social life and humanitarianism while maintaining respect for local cultural traditions and religion (Alqarni, 2015). As long as it aligns with these deep-rooted values, the government has no difficulty in implementing and seeing through its development projects. It has made significant efforts directed at effecting changes in most of the social institutions, such as its schools. Since the turn of the new millennium, the KSA has witnessed a considerable expansion of the education sector, from the elementary stage to the tertiary level (Alqarni, 2015). The latter has been the greatest beneficiary of these efforts, considering the drive for enabling technological advancement in the provision of education in the higher education sector.

However, there remain challenges that affect the development of social institutions, connected to the local culture. There are doubts regarding the success of blended learning in KSA due to the existing social, cultural, legal, and accepted values that influence the perception and consequently the response of the local populace (Alhareth & McBride,

2014). According to Porter et al. (2014), Saudi Arabian society is conservative in nature, which is unlike the liberal West. The changes resulting from the implementation of the new learning paradigm may therefore lead to unforeseen challenges, given the highly conservative nature of the Saudi population. The adoption of technology in the learning system may have negative effects on the local culture, which has borrowed significantly from both Islamic and Arab cultures, and fears about this may generate resistance. However, there is no clear framework that shows how the relevant authorities intend to overcome these obstacles that stand in the way of implementing the blended learning approach (Hamdan, 2014). This study therefore seeks to explore the experiences of the stakeholders in the higher education sector with the goal of capitalising on the merits of blended learning or reducing or completely eradicating its drawbacks.

According to Pavan (2016), the education sector is unable to enlist the services of sufficiently competent lecturers to teach in its higher education institutions, since the local culture and its associated stringent Islamic laws discourage qualified foreign tutors from seeking employment in the nation despite the attractive pay. As these studies have intimated, the implementation of BL and its outcomes are likely to be influenced by specific aspects of the Saudi context, particularly, the availability of technology, and sociocultural issues. Accordingly, these features of the research context are discussed in the sections that follow.

1.6 Summary and Link to the Research Purpose

As debates continue to rage concerning the comparison between F2F and e-learning approaches to pedagogy, a number of researchers have turned their attention to blended learning which combines F2F and computer use in the provision of education. According to its proponents, this combined approach could help cater to the various needs of learners all at the same time. For this reason, modern higher education institutions such as colleges and universities have perceived the potential value of blending F2F learning with online instruction when developing new educational processes. Universities around the world, including those within Saudi Arabia such as KKU, now see the value and importance of integrating elements of both F2F and e-learning in their learning modules. In that regard, Saudi Arabian institutions including KKU have embraced and incorporated the use of technology with the aim of improving their academic performance. Moreover, the government has undertaken a spirited effort focused on expanding education in a bid to meet the growing demand for quality education in Saudi Arabia.

In response to globalisation, the Saudi government has assumed the role of implementing reforms proposed to improve the quality of education in the region. A significant example is its promotion of the blended learning approach. However, it has been suggested that the distinctive culture and social structure of Saudi Arabian society strongly influences the outcome of virtually every activity or project in the nation. Past studies have focused on investigating the progress of the development in Saudi Arabia, and a significant portion of studies has focused on examining the education sector, including the challenges that women face when seeking education in Saudi Arabia. However, there is a shortage of professional investigation on the extent and impact of blended learning in the education sector and in particular in the realm of higher education. Random searches of online databases reveal only a handful of studies that have attempted to address the issue of blended learning in Saudi Arabia, and none specific to KKU. There is, therefore, a need for fresh exploration of how the new approaches are being implemented and experienced by three key stakeholders (students, academic leaders and lecturers) in order to identify ways in which the benefits of BL can be maximised.

1.7 Justification of the Study

It has been argued that blended learning enhances teaching and learning activities by making learning more interactive, and it particularly enhances communication between students and their tutors since students take greater ownership of their learning. This in turn likely engages and motivates the students more in their learning activities. It has also been demonstrated that blended learning through the merger of F2F and virtual environments offers new opportunities for students to take control of their own learning activities. For example, Banerjee (2011) noted the positive attribute of opportunities given to students work independently in a blended learning arrangement. Many students thus prefer reducing F2F contact whilst increasing the extent of the online component of blended learning (Castle & McGuire, 2010; Farley et al., 2011; Fleck, 2012; Korr et al., 2012). However, it is also accepted that an online-only programme cannot replace traditional learning altogether (Thorne, 2003), so blended learning is worth exploring to effectively combine the benefits of both modes of learning.

Other studies have shown to the contrary that blended learning does not lead to positive outcomes in all settings (Wakefield et al., 2008; Garrison & Vaughan, 2011; Kenney & Newcombe, 2011; Napier et al., 2011; Bonk & Graham, 2012; Chen & Lu, 2013; Hwang et al., 2013). For example, in a study conducted by Wakefield et al. (2008) in the nursing

field, students' perceptions ranged from positive to the belief that blended learning was not appropriate as their preferred learning modality. This is because most students did not engage with the learning resources. These varied perspectives of blended learning emanate from the level of awareness of the e-learning aspects, and also from the inconsistencies in the access to computing facilities. Therefore, it is vital to identify the experiences of subjects of blended learning regarding its effects on their learning outcomes. In particular, the experiences of learners, lecturers and academic leaders may differ based on the context in which BL is implemented. This underpins the focus of the current study on BL located at KKU in the context of Saudi Arabia where it forms a significant component of the instructional delivery mechanism in higher education. Identifying the lived experiences of the three different groups could help in surmounting the challenges that arise in the implementation of blended learning in Saudi universities.

1.8 Research Questions and Investigated Groups

1.8.1 Main research question

The main overarching research question guiding this study, as reflected in its title, is:

> *How do students, lecturers and academic leaders view and experience Blended Learning in Saudi Higher Education based on a case study of King Khalid University, and what are the implications based on these experiences for educational planning and learning process strategy?*

This necessarily involves defining blended learning, investigating how it developed or emerged, and identifying its theoretical underpinnings and emerging implementation issues. However, the primary focus of the investigation is to discuss the experiences of blended learning (BL) among students, lecturers and academic leaders at King Khalid University (KKU) in Saudi Arabia. For this purpose, the researcher conducted a case study at KKU in Saudi Arabia, one of the top higher education institutions in the region, in order to explore the views and experiences of its lecturers, students and faculty leaders who take part in Blended Learning projects at the institution. The aim of doing this is to obtain and analyse their views concerning the introduction and implementation of this new learning system and its potential future role in the nation as a whole. In this way, it is intended to both inform future policy in the kingdom and also provide insights into the kind of issues that are shaping the outcomes of educational initiatives that may have wider relevance in educational planning.

Where the study refers to effectiveness of blended learning, this is taken in a general sense and a number of possible contexts are considered. For example, blended learning may be

found to be effective in terms of improving learning outcomes, addressing approaches to learning, increasing accessibility to education, addressing the shortage of female lecturers, addressing the education of women, improving national standards, reducing lecture schedules, enhancing communications, and improving retention. These are explored separately in places without focusing on any one particular outcome, as the focus is on the experience of blended learning.

1.8.2 Research sub-questions

In line with the above main research question, the following sub-questions have been developed to guide the investigation on important aspects of blended learning, and to obtain insight from the data gathered from each of the three groups of identified users:

a) What is blended Learning and how has it developed or emerged?

b) What are the theoretical underpinnings for 'Blended Learning'?

c) What are the emerging implementation issues with 'Blended Learning'?

1.8.2.1 Empirical sub-questions (ESQ)

1. What are the experiences and perceptions of students on the impacts of blended learning in Saudi universities in terms of:
    a) The factors that influence the perceptions of students of the blended learning environments in King Khalid University;
    b) How students rate their computer proficiency for using blended learning?
2. What do students at King Khalid University experience and expect from blended learning in terms of:
    a) Its benefits;
    b) Its limitations and challenges?
3. What do academic leaders and lecturers at King Khalid University experience and expect from blended learning in terms of:
    a) Perceptions on teaching and learning effectiveness;
    b) Advantages of BL;
    c) Barriers and challenges of BL;
    d) Social benefits of blended learning?
4. How do the expectations and experiences of blended learning compare between academic leaders, lecturers and students in terms of:

a) Their experience towards the effect of blended learning on learning;

b) Advantages of blended learning;

c) Obstacles/limitations of blended learning?

With regard to effectiveness, three categories may be distinguished. True effectiveness would be considered as a positive impact in terms of academic learning by the students, but this study is not designed to test for impact on learning outcomes, as that would require a much more thorough quantitative study of an experimental nature. What this study does do is look for indicators that are likely to lead to enhanced learning or improvement in the quality of learning, particularly improved interaction, communication and collaboration among the learners. These three indicators are therefore taken in this study as showing evidence of the effectiveness of blended learning. The third category is of secondary indicators that might not affect learning directly, but which could also be taken to mean that the blended learning arrangement is effective, such as whether it leads to making more efficient use of time and if it is cost-effective. These aforementioned main and secondary indicators are looked for as potential benefits of blended learning, and the issue of whether blended learning is effective or not is reconsidered in the discussion and conclusion chapters (see in particular sections 215, 236 and 246).

1.8.3 Groups of people investigated

The students at KKU will be studied first as they are the main participants in the learning process; the second group comprises lecturers since, whilst they are users of blended learning, many of them have varying lengths of experience in both teaching and using blended learning. Their views on the use of blended learning could therefore be particularly important in this study. Finally, the third group are the academic leaders who have responsibility to make sure both students and lecturers are able to use and benefit from blended learning environments which are now available in Saudi Higher Education.

The research questions deal with three broad areas that need to be and which are investigated in this study to help achieve them through conducting a case study approach at the selected higher education institution. Each of them is detailed below.

1.8.3.1 Experiences and perceptions of students

The first objective is: To establish the experiences and perceptions of students on the impact of blended learning at KKU. The main participant in the learning process is the student. The investigation therefore involved ascertaining students' experiences of the impact of blended learning.

Sajid et al. (2016) emphasise that the experts in the education sector strive to improve the learning outcomes of students by improving the delivery of instruction during learning and teaching. The main intention is to improve the quality of the learning experience for students through the provision of advanced teaching modules, materials and approaches. While blended learning is routinely being implemented in higher education institutions throughout Saudi Arabia including at KKU, there is a need to explore the experiences of different stakeholders, including the students, with the aim of eliminating or reducing its drawbacks and maximising its benefits to the wider learning community. The study aims to address the subject of the introduction of blended learning in higher education at KKU in Saudi Arabia based on experiences and perceptions, and to determine the effect of the implementation of the blended learning system on students' attitudes and experiences in the university. The outcomes could help predict the expected impact of blended learning environment in the wider Saudi Arabian society, since education provision cuts through all sectors of the nation.

1.8.3.2 Experiences and expectations of leaders, lecturers and students

The second objective is: To discuss the experiences and expectations that academic leaders, lecturers, and students at KKU have of blended learning.

The demand for higher education in the KSA is on the increase due to the government's commitment to providing education for all its citizens (Al Alhareth & McBride, 2014). The high demand exerts pressure on both teachers and academic leaders to ensure that all students have equal access to lessons, regardless of location, gender or age, with as much flexibility as possible. Introduction and application of the BL approach potentially enables all parties to play their roles sufficiently, unlimited by spatial and temporal factors. Since each participant serves a different purpose in the chain, they are bound to have different experiences and perceptions. The study thus strives to describe each stakeholder group's perceptions and expectations.

1.8.3.3 Comparisons of experiences and expectations

After examining the perceptions of each of these three stakeholder groups, it will be important to explore how the experiences and expectations of blended learning compare and contrast between academic leaders, lecturers, and students at KKU. Thus, the fourth research sub-question will be: How do the perceptions of BL by the stakeholder groups compare? In order to explore this, the following sub-questions have been developed to guide the empirical aspect of the study.

1.8.4 Contributions of the study

Once the research sub-questions have been answered, it may then be possible to make the following valuable contributions as longer-term goals toward improving the Saudi higher education system:

1. To examine and determine the **positive factors and challenges** in implementing blended learning at KKU from the viewpoints of three key stakeholders, namely education leaders, students and instructors;
2. To present findings that might help to advance **pedagogy** and the educational system at KKU;
3. To offer **reflections** on the application of blended learning to develop high quality of interactions, teaching, leadership and learning at Saudi universities;
4. To identify **critical factors** that affect participants' views of the blended learning environment in order to improve the educational process;
5. To determine the **concepts and perceptions** that shape the experiences of teaching and learning in a blended environment, and what it could offer for leaders, students and lecturers to help and support this innovative learning environment.

1.9 Significance of the Study

The blended learning experience in Saudi universities is the main area of this research with a focus on KKU for conducting the case study. In the background description of the study above, the blended learning approach was defined as an educational mode that entails the integration of components of both technology and traditional physically engaged learning systems (Powell et al., 2015). The blended approach promotes the concept of independence in the learning process in the sense that students and teachers are able to operate in a synchronised manner dictated by the needs of the parties involved. Under the blended learning approach, teachers and students either operate physically or remotely, as it suits them best. The nature of the operation depends on distance, time, and scope of learning among other factors.

As established earlier, there is no universally accepted definition of the blended learning approach. Apparently, every researcher provides a contextual definition that corresponds to his or her investigation. For this reason, there are numerous definitions of the BL concept. According to Arkorful and Abaidoo (2015), there are perhaps as many definitions as the number of studies that address the issue of blended learning. According to Graham

et al. (2005), blended learning is the amalgamation of various educational methods. Nearly two decades ago, Driscoll (2002) had defined BL as the combination of various elements, including web-based technology, pedagogy methods, and face-to-face interactional instruction. Overall, the definitions tend to communicate the same message, which is the application of a collection of approaches to satisfy the varying needs of both the students and their tutors.

The study seeks to identify the benefits of blended learning from the standpoint of lecturers, students and academic leaders with the aim of capitalising on these benefits, and reducing or completely eliminating the disadvantages associated with the implementation of blended learning in the context of Saudi universities. Understanding the lived experiences of the three groups will help in building knowledge of the successful implementation of a blended learning environment, including in a highly conservative country such as Saudi Arabia. Accordingly, the following points are seen as justifications for the importance of the study:

1. Blended learning is in its early phase in Saudi universities and other Saudi higher educational institutions. This study, therefore, investigates the issues that can affect the effectiveness of blended learning as a method of delivering educational courses at KKU in Saudi Arabia.
2. The study makes an assessment of the potential advantages, influences, difficulties and challenges of blended learning in the Saudi context.
3. As the transfer to blended learning methods is considered a fundamental move in the higher educational system in Saudi Arabia including KKU, this study has the potential to examine and acknowledge how Saudi leaders, students, and lecturers have responded to this move, and how it has influenced the way they view the quality of their learning and teaching experience.
4. The research outcomes and conclusions have prospective significance for policy-makers, curriculum designers and academic leaders in Saudi higher education institutes.

1.10 Scope of the Study

Firstly, the study evaluates the significance and contribution of blended learning as a system of learning that combines elements of F2F and computer or internet-based learning. Secondly, the study is confined to KKU which operates within the Saudi Arabian higher education system. Furthermore, the study explores the lived experiences of the

impacts of blended learning as a pedagogical approach in King Khalid University which has taken significant strides to introduce and implement the BL approach within its system. In addition, the study discusses the experiences of the students at KKU on the impact of the blended learning environment at their university. It also explores the various factors that influence the experiences of students in the current blended learning environments in King Khalid University. In addition, it establishes how students rate their computer proficiency after using blended learning.

The study also identifies the limitations and challenges that students experience in a blended learning environment. Furthermore, the thesis attempts to reveal the expectations and experiences of academic leaders, lecturers and students at the selected university regarding the blended learning environment. Ultimately, this should help explore the experiences of academic leaders, lecturers and students on the impacts of blended learning on teaching effectiveness, advantages, barriers, and social benefits of blended learning. Furthermore, the study compares the expectations and experiences of blended learning between academic leaders, lecturers and students in a bid to assess their experiences towards the effect of undergoing a blended learning programme on learning. It reports the merits and challenges of implementing a blended learning environment based on these findings.

1.11 Contribution to Knowledge

The criticisms of the current pedagogy, added to the perceived social, cultural and economic barriers in Eastern countries (Al-Hunaiyyan et al., 2008) point towards the need for further investigation into how such challenges to blended learning are experienced by stakeholders such as leaders, students, and lecturers, and how they can be challenged within the context of Higher Education in Saudi Arabia. This study builds on previous studies and research while seeking to contribute to overcoming the deficiencies in the current research on blended learning in the context of Saudi universities. It then provides insights into the multitude of challenges to blended learning as seen from the distinctive perspectives of stakeholders, leaders, teaching staff and students, within a Saudi Higher Education environment. Therefore, this study examines the perceptions of academic leaders, lecturers, and students of the effectiveness and implications of blended learning at KKU in Saudi Arabia. It seeks also to reflect on whether there are barriers and subsequent negative perceptions that consistently affect students, lecturers and academic leaders, and which influence their experiences of blended learning in Saudi universities.

1.12 Researcher Positionality

The researcher has a connection with blended learning since he is involved in e-learning and distance learning at King Khalid University and has had an opportunity to participate in the development of blended learning at King Khalid University campuses. Thus, the author was motivated to explore the lived experiences of key stakeholders, including the students, lecturers and academic leaders, of the impact of blended learning with the ultimate goal to improve it in the context of KKU specifically as well as Saudi Arabia in general. Such an association places the researcher as an insider. Nevertheless, in the research design, including the data collections and analysis, the researcher has striven to ensure that his own experiences and assumptions are kept out of the research as far as possible, so that the outcomes of the study are authentic and trustworthy and are not tainted by any researcher bias.

1.13 Structure of the Thesis

Chapter one:

This chapter provided the introduction and foundation for the study. It introduced the topic of investigation from a broad perspective and laid out the context that gave rise to the research problem. It thus provided the justification for conducting the study, and formed the objectives and research questions to guide the study. Lastly, the chapter presented the significance and scope of the study, as well as its expected contribution to knowledge, and made the positionality of the researcher clear.

Chapter two:

This chapter discusses some of the various definitions which have been put forward to clarify ‘Blended Learning’. It then examines the emergence of various blended learning models, and ends with a summary.

Chapter three:

This chapter explores the theoretical underpinnings for ‘Blended Learning’. It not only describes different learning theories and how they developed since the last century, but also examines their relevance to explaining and investigating BL. A summary of the chapter is provided at the end.

Chapter four:

This chapter examines the implementation of blended learning in terms of its positive and negative effects on the learning process by identifying several success factors of blended

learning initiatives that have been found to influence the success and the experiences of blended learning among students, lecturers, and academic leaders in various capacities. This includes experiences of blended learning, and professional development. Lastly, the chapter examines the challenges and deficiencies in the existing literature in implementing BL and identifies gaps in the research, which it is hoped this study will contribute to bridging.

Chapter five:

This chapter explains and justifies the mixed methods research design that was applied for addressing the research questions.

Chapter six:

The data from the quantitative phase of the study are provided and analysed.

Chapter seven:

The findings from the interviews are analysed qualitatively.

Chapter eight:

This chapter presents discussions and interpretations of the results from the quantitative and qualitative chapters and the themes that emerged from the data analysis, in comparison with the theoretical concepts and empirical findings presented in the previous literature.

Chapter nine:

This chapter presents a summary of the study's outcomes, the study limitations and the final remarks from the researcher concerning the thesis. It also offers recommendations based on the insights gained from the research study.

Chapter 2: What is Blended Learning and How Has it Developed?

2.1 Introduction

Content exploration is a fundamental component of scholarly research, which contributes significantly to the development of theory or the validation of the same. The term 'literature review' is a combination of the terms 'literature' and 'review', which implies the analysis of scholarly works published on a particular topic of interest. This review of previous literature on the subject of blended learning is based on reputable source materials obtained from various scholarly databases including books, journals, articles, and websites. O'Leary (2017) advises that the review process follow the guidelines provided by the research questions formulated at the beginning of the investigation (see 18). The researcher first scoured numerous online sources in a bid to establish the most relevant definition for blended learning.

The chapter discusses some of the various definitions which have been put forward to clarify 'Blended Learning'. It then examines the emergence of various blended learning models, and ends with a summary.

The study makes use of relevant definitions for the blended learning approach. The review endeavours to identify the relevant theories that attempt to explain the blended learning system, as well as newer emerging and evolving blended learning models. Also, significant to the research are the effects of BL on the learning process — different kinds of effects, such as attainment, access (flexibility), and communication. The scope of the literature review is supported by the analysis of various sources that address some key factors that influence the success of blended learning initiatives, such as the balance between online and F2F components and teachers' knowledge of technology, and teachers' professional development. An assessment is also made of students' experiences and stakeholder engagement, lecturers' expectations, and academic leaders' expectations. Lastly, the review discusses the challenges and deficiencies of existing research and the gaps in knowledge.

2.2 Definitions of Blended Learning

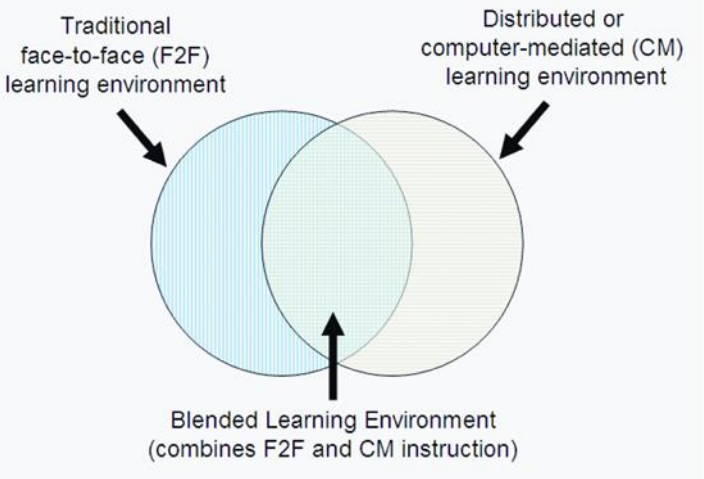
According to Graham (2006: 5), blended learning is combination of instructional [modes] from two historically separate models of teaching and learning, particularly traditional face-to-face learning systems and distributed learning systems. The term 'blended learning' refers to the pedagogical paradigm of a positive and active student focus on

curriculum delivery, rather than as a passive observer physically present at a lecture. Using the benefits of online and face-to-face learning, blended learning curriculum delivery combines these concepts to incorporate the qualified strengths of both frameworks (Graham 2013). Blended learning has thus been defined as "any time a student learns at least in part at a supervised brick-and-mortar location away from home and at least in part through online delivery with some element of student control over time, place, path, and/or pace" (Horn & Staker, 2011: 3).

Experts in the education sector proposed the introduction of the blended learning system as a viable option in 1998 (Dziuban et al., 2005). Unfortunately, the pedagogical approach has struggled to cement its influence in the sector following numerous instances of incompatibility with the extant learning cultures (Alammary et al., 2014), as well as the lack of sufficient support by researchers from many educational quarters. Further, the lack of substantial unanimity has had adverse effects on the development of a functional definition that embodies the true capacity of the approach as far as the provision of education and knowledge delivery goes (Alammary et al., 2014).

Commonly abbreviated as BL, the learning approach hints towards the mixing or the combination of selected learning methods aimed at improving the overall outcome of the learning process. Alammary et al. (2014) broadly analysed the concept of blended learning according to the definitions provided by various researchers over time. One of the initial definitions that most suits the concept stated that BL refers to the combination of myriad educational technologies such as online tutorials and videotapes with the physical classroom approach (Driscoll, 2002). Many researchers, including Picciano (2009), Clark (2003), and Bliuc et al. (2007) have criticised this definition however, suggesting that it does not provide sufficient meaning to the terminology, due to its apparent broadness. The latter source suggested instead that blended learning involves the systematic combination of the two main educational methods of physical interaction and technology-facilitated learning processes. The inspiration for this definition arose from the notion provided by an earlier study by Garrison & Kanuka (2004), which suggested that BL was the thoughtful mixing, or, better still, the integration of both online and F2F educational strategies. Most definitions designed for blended learning tend to derive from the concept of the combination of the two approaches, as depicted in Figure 1 below.

Figure 1: Formation of the blended learning concept/definitions



(Source: Graham, 2009)

Powell et al. (2015) identify blended learning as a hybrid educational approach. According to the authors, BL exemplifies the finest components of the two main types of educational approaches: the traditional F2F learning and the e-learning approach. They go on to explain that the BL approach provides the basis for the provision of custom-made and distinguished instruction to a wide range of learners with different backgrounds and capabilities. The design of the educational approach is intended to address the challenges that arise due to the conflicting nature, demeanour, and backgrounds of the learners, which may hinder them from accessing or covering the learning curriculum sufficiently as required. In this kind of arrangement, learners have an advantage of experiencing both aspects of service delivery and have the option to choose which model suits them best. For instance, students have the liberty to access their courses by means of the internet. They could also opt to attend lessons in a physical classroom at the various available higher educational institutions.

Kim (2007) describes BL as the most natural method of providing education, considering that it combines the two proven pedagogical approaches: internet-enabled learning and old-fashioned instructor-led schoolroom learning. The source digs deeper into the subject to offer a refined definition of blended learning. Incidentally, it seeks to broaden the perspective of the combination of the online and classroom tutelage. The author classifies the realm of learning into three broad dimensions: the physical classroom or online; self-paced or scheduled; and informal or formal. The physical classroom approach requires the simultaneous physical presence of both learners and their tutor. Under the online

approach, the students and the teachers do not have to be present in a physical setting. In itself, the online approach epitomises the e-learning process and occurs remotely, provided each participant has an internet connection and other relevant technological devices that facilitate communication between the students and their teacher.

As for the formal/informal dimension, on the one hand, formal learning concerns the provision or attainment of specific scholarly qualifications, as denoted by the relevant documentation, such as a certificate or degree. On the other hand, informal learning lacks such outcomes and rather restricts the learning process to the mere acquisition of knowledge on a particular theme of interest. On their part, the terms scheduled and self-paced denote the availability or lack of a timed plan for the learning process. Given the description of the various understandings of blended learning, Kim (2007) defines BL as the combination of any number of options outlined in the above discussion. According to the aforementioned researcher, a mixture of any two or more approaches results in a blend of learning strategies that suits the needs of the learner. Interestingly, this definition challenges the perception that the blend must include classroom-based and internet-based learning since it allows for combinations to be made differently.

Kim (2007) proceeds to address the issue in an effort to distinguish between the latter and the broader notion of blended learning. To provide a contextual definition of the blended learning programme, the researcher asserts the need for a detailed approach. The design of BL programmes usually follows the guideline set by the topic, course or curriculum background that they are intended to cover. Blended courses typically have elements of both e-learning and the traditional face-to-face learning methods, and blended curricula consist of both online courses and classroom courses. Overall, a BL programme is usually arranged to cover a portion of courses that constitute a complete curriculum within an institution. However, Kim's definition does not shed light on the fraction of the course or curriculum that should be virtual or physical, in order to fit the description of a blended learning programme, although the source proposes an allowance of 33% for either approach.

Staker and Horn (2012) provide a two-dimensional approach to the definition of blended learning — the online delivery approach and the supervised approach. With regard to the former approach, the researcher suggests students must have some element of control over the time, pace, and place of learning. The latter (supervised) approach provides for the availability of an autonomous figure or participant who oversees the learning process away from school or home. The authors also specify that the process falls under the

category of formal education where learners access a given content and receive a body of instruction relevant to the topic of study.

Indeed, studies highlight that blended learning delivery is increasing in higher education (Graham, 2006; Garrison & Vaughan, 2011; Picciano, 2009). A great number of studies have been devoted to gathering the researches on how blended learning can be better understood (Picciano & Dziuban 2007; Bonk & Graham 2012; Kitchenham 2011; Jean-François 2013; Garrison & Vaughan 2013; Picciano et al. 2014; Dziuban et al. 2016), and the Online Learning Consortium supported an annual conference exclusively committed to blended learning at all levels of education and training (2004–2015). Numerous phases have been put forward in designing a blended learning curriculum, and institutions implement specific form of learning for different reasons and use different curriculum designs. Draffan & Rainger (2006) suggest lectures, workshops, online collaborative activities and interactive multimedia be incorporated into the blended design mix. Blended learning may therefore have diverse definitions and be perceived differently by different individuals (Matheos et al., 2005), Allan (2007) however emphasised that there is a common agreement that the pedagogy is a combination of F2F and e-learning. For the context of this research, Graham's (2006) definition is acknowledged, as it is broad, and it overlooks the complexity of the concept of blended learning (Stacey & Gerbic, 2009). As sound progress from both F2F and online learning, Garrison & Vaughan (2011: 5) stress that blended learning is "a design approach whereby both face-to-face and online learning are made better by the presence of the other". This definition allows for the possibility of recalling the traditional values of higher education while meeting the demands and needs of the twenty-first century.

Many commentators indicated that blended learning is a central redesign of pedagogical practices. In blended learning design there is a paradigm reformulation in which the focus is more on learning than on teaching (López-Pérez et al., 2011). They stressed that pedagogy can be transformed towards more active learning with wider use of learner-centred approaches through blended learning curriculum delivery (Nunan et al., 2000; Garrison & Vaughan, 2011). There are other noted impacts as well. For instance, Vaughan (2007) indicated that facility usage can be increased if a greater number of students can be accommodated with less campus attendances, Garrison and Kanuka (2004) and Garrison and Vaughan (2011) highlighted challenges and complexities in organisation, and in advancement of blended courses. These may include, but are not limited to, amendments to university policies, infrastructure planning, allocation of resources,

scheduling, training and implementation, and technical support (Garrison & Kanuka, 2004).

Recently the Saudi higher education system showed a great tendency and motivation that formulated as a strategy plans to positively adopt blended learning delivery as a means of improving the quality and capability of its institutions (Alebaikan, 2010). Blended learning is still in its foundational phases in the country, and there is uncertainty regarding conceptualisation of the delivery systems such as blended learning and e-learning (Alebaikan, 2010). Furthermore, the majority of Saudi universities add blended learning applications merely to supplement their traditional delivery in the lecture halls without a comparable reduction of attendance requirements for students or their lecturers. Therefore, a strong policy for blended learning delivery is compulsory, and this study contributes to the debate on blended learning in Saudi higher education and the consideration of how BL can be used effectively.

According to many advocates of blended Learning, the optimum benefits from both sources are able to be obtained, as this ‘‘maximises the benefits of both environments, while maintaining the richer benefits of face-to-face collaboration’’ (Graham 2013). Furthermore, it is also argued that blended learning is defined not only by its combination of online and traditional components, but also its ability to facilitate a more customised learning experience to a range of learning styles and preferences, and to make it more applicable to the individual. Due to this added flexibility, blended learning is able to adapt to the challenges of tailoring learning and development to the needs of individual learners by integrating innovative and technological advances offered by online learning with the advantages of interaction and participation enabled by the F2F element of the programme (Dziuban & Moskal 2011). The scope for interaction is provided by the web-based tools in a blended learning environment (Geçer, 2013). The flexibility also extends to enabling students to fit the online and interactive elements of BL to suit their learning schedule (Horn & Staker, 2011), and for BL to be adapted to different educational and cultural contexts (Sharpe et al., 2006).

Moreover, this same emphasis on combining the benefits from both learning channels is also emphasised by Graham (2013) who states that blended learning is not simply a compromised form of traditional learning that substitutes some elements with an online platform to meet structural and economic challenges, but instead a deliberate attempt at combining the benefits of online learning with traditional methods constructively so as to enhance and improve the learning experience. This is what may be described as an

effective arrangement of BL than merely combining two modes of instruction and learning.

Furthermore, given the emphasis on how these two learning environments are mutually beneficial rather than a simple economic substitute of traditional methods, certain narrow definitions of blended learning have subsequently been contested by more recent studies as being insufficient. Similarly, the primary criticism of earlier definitions is that it encompasses an 'add-on' relationship rather than a collaborative and integrated approach that models how both environments work optimally together in both the pedagogy and course design (Vaughan 2007). Moreover, Vaughan (2007) further emphasises that the definition of true blended learning involves not only the simple conversion and transfer of traditional content into a secondary online format, but rather a specific course design where content from each platform holds a unique function that is complimentary of the material provided by the other, thereby creating a useful link.

Furthermore, an additional criterion found in the current literature when defining blended learning is that the student is supervised at a physical workshop or lecture-theatre for some parts of the programme, but where the student is also able to control this interactive element around his or own schedule (Horn & Staker, 2011). This definition emphasises the facilitated flexibility from which stakeholders benefit, and is recognised by the preceding literature discussed above. Overall, it can be suggested that the definition of blended learning encompasses a cooperative relationship between both online technologies and traditional teaching methods with the combined aim of enhancing the learning experience. Also, it appears that the online component of this format not only serves to emulate similar practical benefits found in online learning so as to address the increasing pressures on financial and geographical access to Higher Education, but it is deliberately integrated with traditional methods to enable the student to benefit from this approach to learning, which would otherwise not be possible if either traditional or online learning methods are used alone (Wu et al., 2010).

The use of the term 'Blended Learning' has been introduced and considered in the educational domain for a number of years. There are many diverse ways to define the construct as shown above, but some have also defined it as 'the thoughtful fusion of face-to-face and online learning experiences' (Garrison & Vaughan, 2011:5), while others have recognised it as 'The integrated combination of traditional learning with web-based on-line approaches' (Oliver & Trigwell, 2005:17) where 'traditional learning' is the F2F classroom and online learning refers to that part of the course which is delivered usually

through a VLE (Sharma, 2010). Friesen (2012) thus described blended learning as a model in which curricula and teaching are delivered online, but which is complemented by face-to-face meetings as required. This definition emphasises the online component of blended learning regardless of the degree to which both modes of learning are combined. It is this combination of online technologies with the traditional method of teaching that is the major strength of blended learning, as it combines the benefits offered by both methods individually (Wu et al., 2010).

It should be made clear that blended learning is not just about teachers using the Internet in their lessons or asking students to 'Google' something for homework. The main point includes the structured strategy of courses that combine F2F practice with online activities to provide a pedagogically valuable experience. Blended learning has also been defined as "a flexible approach to course design that supports the blending of different times and places for learning, offering some conveniences of fully on-line courses without the complete loss of face-to-face contact" (O'Connor et al., 2011: 63). As the blended learning "trend" tends to develop, it is essential to recognise its components as an instructional approach. While components such as technology are defined and applied, and proved to be beneficial within the classroom, lecturers, students and leaders may lack the skills to use this approach in both an implied and efficient way.

The struggle to provide an explanation for the concept of a blended learning approach stems from the need to validate its relevance in the higher education sector (Driscoll, 2002), an observation which remains valid today. Contemporary higher educational institutions seek to revitalise the sector with a keen eye on the possible enhancement of service delivery to the learners (Picciano, 2009). Ultimately, the approach should improve work conditions or teaching procedures for lecturers who are equally significant participants in the teaching process (Clark, 2003). Moreover, an appropriate depiction of the concept could equip academic leaders with relevant insights that could help them institute proper management guidelines and devise a programme aimed at sustaining higher education and improving the quality of service delivery significantly (Bliuc et al., 2007). The definitions of blended learning considered thus far provide a basis for not only understanding the relevance and suitability of the BL approach, but also its implementation in the various contexts of education.

In the present study, the research adopts the definition of blended learning provided by the e-Learning Deanship at King Khalid University, as follows: One of the levels of using e-Learning in the university in which some face-to-face sessions in classrooms are

replaced by e-activities on the course site using the e-Learning systems, tools and environment (Rules for elearning at King Khalid University, 2015, p.5). This definition is consistent with that suggested at the 2005 Sloan-C Workshop on Blended Learning, as it fits the circumstances of this study where reducing seat-time is a solution to the rapid educational growth and volume of Saudi undergraduate students. In the Sloan-C Workshop, the participants adopted the definition of blended learning where it was understood that it involves replacing a portion of face-to-face time by online activity in a planned, pedagogically valuable manner (Lasteret al., 2005; Picciano, 2006).

2.3 Emergence and Evolution of Blended Learning Models

This section discusses various stages of the development and emergence of blended learning models over the years. It provides a concise depiction of the emergence and evolution of the models, then proceeds to discuss each stage independently. Some notable stages include the first Distance Learning (DL) course (1830-1850), Mainframe Computer-Based Training (1960-1970), 1970-1980: TV-based technology used to support live training, CD-ROM-based training and the emergence of the LMS (1980s and 1990s), the first generation of Web-Based Instruction (1998), the Definition Period (2003-2006), and the Popularity Period (2007 to the present). The various emergent blended learning models are then analysed including Rotation, Flex, Self-blended/A La Carte, and Enriched Virtual.

2.3.1 Emergence and evolution

Dziuban et al. (2005) discussed the subject of blended learning from the perspective of the generations, which include the millennials, matures, generation X, and baby-boomers. In their understanding, the introduction of BL coincides with the millennial generation, or better still, the new learner. The latter phrase corresponds to any or all new learners seeking education in contemporary times. The conditions in the present environment and change in urban culture influence significant changes in the education system. The researchers accentuate the need for the development of a learning strategy that suits the way of life in the current society. In that regard, they propose the blended course strategy, as a hybrid approach which points towards the merging of the F2F and web-enabled learning systems. The proposal takes into consideration the widespread use of technology in everyday situations. The approach is hoped to help in providing sufficient studying time and an avenue away from busy modern life.

The description of the theories explaining the learning process in the previous section provides clues to the development and evolution of the blended learning approach. For instance, one can draw an inference from the description that the BL did not attract the focus of most researchers until the dawn of cognitivism and constructivism, which have elements that support the application of the BL approach in education. Consequently, the evolution of the blended learning system unfolds in the perspective of world development, as well as advancements in scholarly research that not only aim to improve the quality of education, but also to influence how the participants (learners and instructors) perceive it across the globe. The evolution of the BL system unfolded in seven stages, as described below.

2.3.1.1 1830-1850: First distance learning (DL) course

The history of the realm of pedagogy as documented by most scholars dates back to the early 19th century when scholars began to pay serious attention to the development of the sector (Moore, 2013). Notably, at this point, the efforts registered in that regard inclined towards the publishing of pieces of literature that addressed the issue that affected the provision of education from a general perspective. However, there was a lack of significant technological advancements or individual creativity that would improve pedagogy in a substantial manner. Long and tedious classroom sessions characterised the education sector and nobody knew better. The first documented break from the monotony came in the 1840s when Sir Isaac Pittman initiated the first distance learning (DL) course (Bower & Hardy, 2004). Records show there occurred similar attempts of this nature but only Pittman's approach resembles the present-day Distance Learning process (Moore & Kearsley, 2011). Pittman's approach stands out above the rest due to its capacity to allow for substantial feedback and quality assessment. Upon receiving the postcard and addressing the assignment, the student would return it to Pittman for his evaluation and awarding of points or grades. The importance of feedback and assessment in the learning process was thus emphasised in Pittman’s approach to DL.

2.3.1.2 1960-1970: Mainframe computer-based training

Beetham & Sharpe (2013) argue that the computer has a long history that could take one back as far as the 17th century. The researchers indicate that the machine underwent a transformation in various stages but it was not until the second half of the 20th century that it found its way into the education sector. With the help of experts in pedagogy and significant research in the field, higher education had just begun receiving substantial

attention from all quarters, including educational institutions, governments and other relevant organisations (Siemens et al., 2015).

Moore & Kearsley (2011) postulate that the entrance of the mini-computer into the market during this period led to the birth of mainframe computer training. At this point, only those organisations that could afford to invest in such machinery offered training services to selected employees (Moore & Kearsley 2011). Moore (2013) remarks that the occurrence marked a significant step away from F2F training or instructional delivery through printed paper, as was traditionally the norm. The author adds that while it saved time, it also reduced the funds allocated to the production of published material and hiring of training facilitators. Furthermore, the researcher pointed out that the employees simply needed to gain access to the computers and access the training material. Plato was one of the notable computer systems used to facilitate organisational training in the 1960s.

2.3.1.3 1970-1980: TV-based technology to support live training

In this era, blended learning advanced from mini-computer mainframe training to the popular video networks. As organisations expanded in terms of both investments and capacities, human resource departments constantly found the need to either bring in new staff or increase the output of the existing ones (Welsh et al., 2003). Either way, the departments needed to conduct some kind of training to orient the workforce with new work instructions or environments. With video networks, the human resource personnel did not have to make themselves available in person for the training programmes. The video network system rendered their physical presence needless as the staff could follow the training proceedings from the videos with minimal supervision (Welsh et al., 2003). Moreover, it gave them time to interact freely with their colleagues and provided a form of icebreaker between the old and new staff. In addition, in this kind of arrangement, the staff (learners) had the opportunity to have contentious issues affecting them in the workplace addressed using the mailing system (Saljo, 2012: 61). The video networks served the same purpose as present-day video conferences and webinars (Smaldino et al., 2015). Many institutions in the United States, including Stanford University, invested in their video network systems during this period to facilitate distance learning (Power, 2008: 508). Lecturers were able to conduct course sessions from various locations simultaneously without inconveniencing the learners in any way.

2.3.1.4 1980s and 1990s: CD-ROM training and the emergence of the LMS

Technological advancement within the education sector continued to affect significant transformation in the modes of course and training approaches. The incorporation of blended learning strategies in schools and organisations began to show as teachers employed instructional designs that integrated the use of learning instruments with the traditional F2F classroom strategy (Cutrim, 2008). Specifically, CD-ROM technology was in its prime and learning institutions integrated its use into their systems to provide more interactive pedagogical practice (Bersin, 2004). The CD-ROM had a large capacity and could store a considerable amount of information in both audio and video formats, a factor that suited and reinforced the challenge presented by distance learning (Smaldino et al. 2015). At its height, CD-ROM technology enabled institutions and organisations to provide training and courses in a comprehensive and motivating manner (Säljö, 2010: 55). The computer-mediated courses gave a new experience to the learning process, which arguably contributed to the emergence and popularity of the blended learning pedagogy in the succeeding years (Smaldino et al. 2015). Moreover, this technology paved the way for the emergence of learning management systems (LMSs) (Cutrim, 2008: 341). While the main motive was to broaden the learning space, the advancements in this era also sought to keep track of learner progress and monitor the implementation of the computer-mediated learning approach.

2.3.1.5 1998: First generation of web-based instruction

This era marked the beginning of the drive towards blended learning. Beginning from 1988 to the present, blended learning has undergone myriad and rapid transformation thanks to the introduction of the internet (the World Wide Web) (Kraiger, 2008). The web revolution saw the masses gain access to computers, whereas initially, only established corporations and select wealthy individuals could afford such hi-tech machinery. As organisations moved to purchase personal computers for all their staff, individuals also began doing the same to participate in the web drive in the run-up to the new millennium (Beetham & Sharpe, 2013). In truth, the affordability of the PCs played a great role in the development and acceptance of the internet for interaction and learning processes (Moore, 2013). Their capacity to play video, sound and even graphics enhanced their popularity among the masses (Moore 2013). Moreover, an increase in the speed of internet connections increased interactivity as social media and its related features came into being (Beetham & Sharpe, 2013). The first generation of internet-mediated learning made the delivery of instruction even easier as the instructor no longer had to provide CD-ROMs

to staff or learners (Beetham & Sharpe, 2013). Instead, the instructor only needed to upload the learning material onto a website on the internet and the learners would then download the material through their browsers.

2.3.1.6 Defining period (2003-2006)

The internet and its use were by now commonplace and the blended learning approach of education was fast growing in popularity. However, there was still a lack of a rational framework to explain how it worked. Worse still, there lacked a comprehensive and befitting definition for the terminology and researchers spent most of their time trying to establish the most relevant definition in that regard. According to Güzer and Caner (2014), this period is recognised as the 'Definition Period' because most articles published at the time focused on defining BL. Osguthorpe and Graham (2003) provided one of the basic definitions for the term, stating that BL referred to the combination of DL systems and the traditional F2F teacher-student interaction. For his part, Duhaney (2004) suggested that blended learning was the balance between the offline and online approaches to learning. However, subsequent studies contested the rationale of these definitions, terming them as limiting (Duhaney 2004). At a glance, blended learning implied the combination of computer-mediated learning and instructor-mediated learning (Güzer & Caner, 2014). In truth, this is not the case as BL entails a broad range of options, all of which involve blended kinds of learning in distinctive ways. Alammary et al. (2014) assert that blended learning could sometimes involve non-technological approaches, such as field trips away from the classroom, which ultimately give students new experiences. The proponents of the latter definition perceive blended learning as a combination of two or more learning approaches that has the potential to influence the learning process in positive ways.

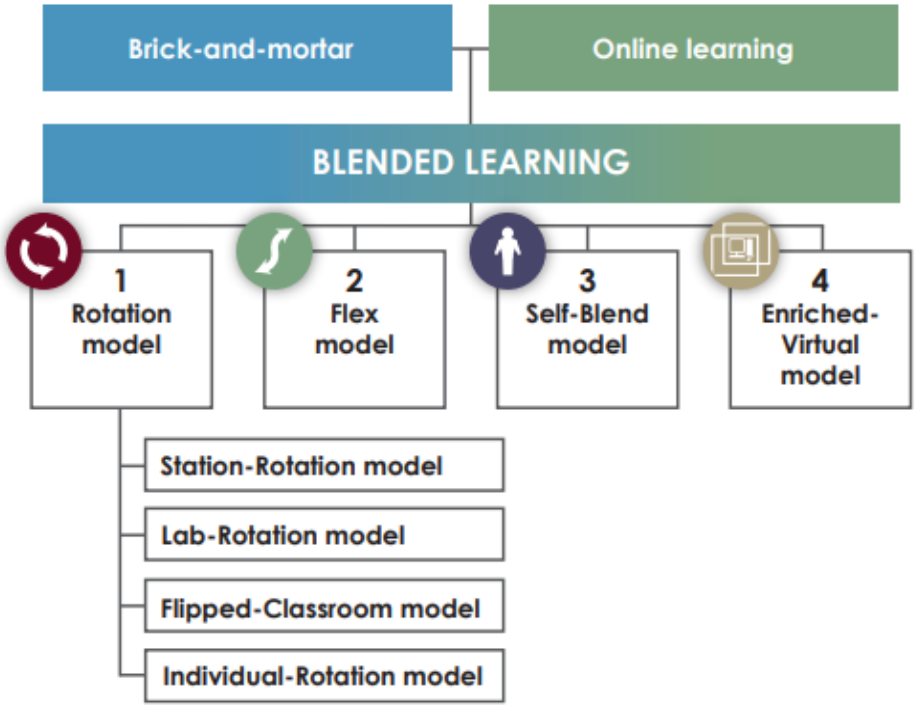
2.3.1.7 Popularity period (2007 to the present)

The final evolution phase of the blended learning strategy is the 'Popularity Period', which is characterised by an increased implementation and widespread adoption of blended learning. According to Güzer and Caner (2014), two issues have arisen during this popularity period, namely, learners' and instructors' perceptions of BL, and the effectiveness of the learning approach. Such an analysis is echoed in the present investigation which aims to investigate the implications of the implementation of BL for educational planning.

2.3.2 Emerging BL models

Most studies agree that the 'one size fits all' approach does not apply to blended learning models (Bonk & Graham, 2012). Power (2008) contends that the blended learning model employed in a learning situation depends, among other things, on time, pace, place, and path. For this reason, the model design used differs according to the needs of the individual student, considering that the BL approach promotes personalised teaching for each learner. Wang et al. (2015) identified two essential factors that dictate the choice of BL models, namely, student compatibility and success. Institutions need to pay close attention to the success and compatibility factors when making their choice of which learning model to adopt for their students. Even after selecting the right model, institutions have to revise them constantly, often for long periods in a bid to achieve the desired goals. For instance, Garrison & Kanuka (2004) note that a learning course may adopt the traditional F2F approach at the beginning but later switch to synchronous web-based discussion to continue discussing complex subjects. Overall, the main role of the learning models according to Powell et al. (2015) is to enable tutors to match learners with the relevant learning approaches at the right time. The blended learning models fall under four main categories: Rotation, Flex, Self-blended/A La Carte, and Enriched Virtual. Figure 2 below shows the main BL models in pedagogy.

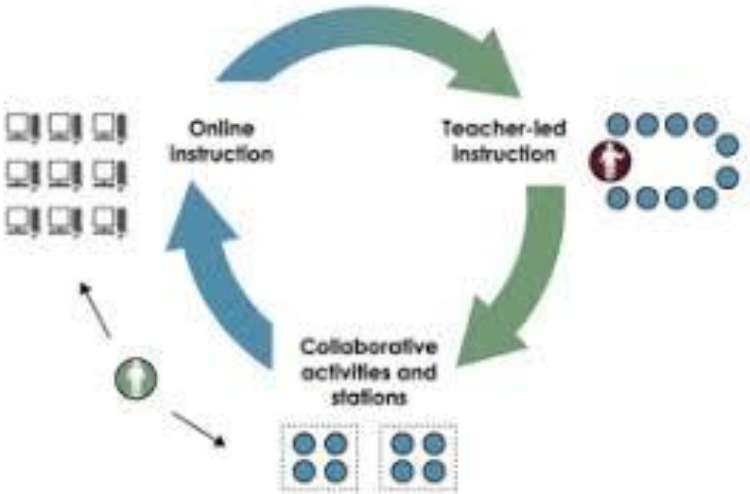
Figure 2: Blended learning models



2.3.2.1 Rotation model

Undoubtedly, the rotation model is one of the long-standing approaches to learning ever since the introduction of the blended strategy. Here, rotate is the keyword and implies the movement or shift from one learning approach to another within a fixed schedule, course or subject (Staker & Horn, 2012). Often, the switch involves the move to or from an online learning approach with the instructor's permission. For instance, during a physics/mathematics subject, a teacher may begin by taking the students through a F2F approach, then switch to an online platform for synchronous discussion (Staker & Horn, 2012). Figure 3 below illustrates the rotation learning perspective. The teacher could choose to alternate the online approach with several other options, including group work, a pencil and paper project, or even individual tutoring. Furthermore, the rotational model is split into four smaller models, namely, the station rotation, lab rotation, flipped-classroom, and individual rotation models.

Figure 3: Rotation model of learning



2.3.2.2 Station rotation

Taking station to imply a section in a classroom, this model entails the rotation between various station-based learning strategies. At least one of the stations must provide online-based instruction to offer a break from the F2F approach. The remaining stations may involve collaborative, individual or tutor-based instruction, as projected in Figure 4 below. Different station rotation models employ different strategies depending on the preferences of the tutor or the complexity of the course and lesson. For instance, while

some arrangements may involve uniform rotation of the entire class, others may require that students alternate through the stations within small groups designed by the tutor.

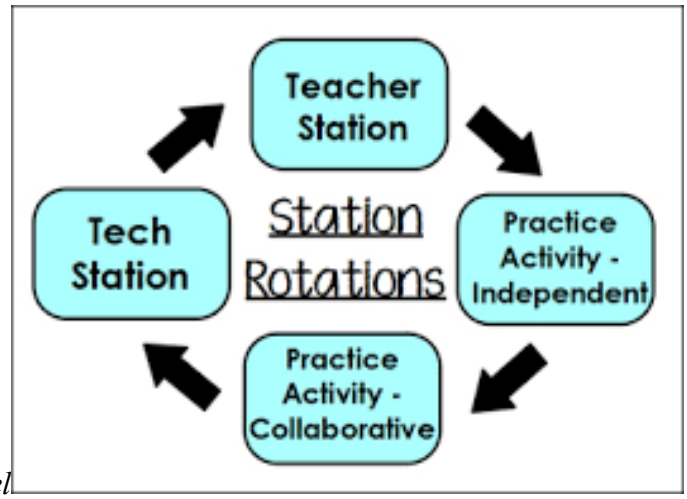


Figure 4: Station rotation model

2.3.2.3 Lab rotation

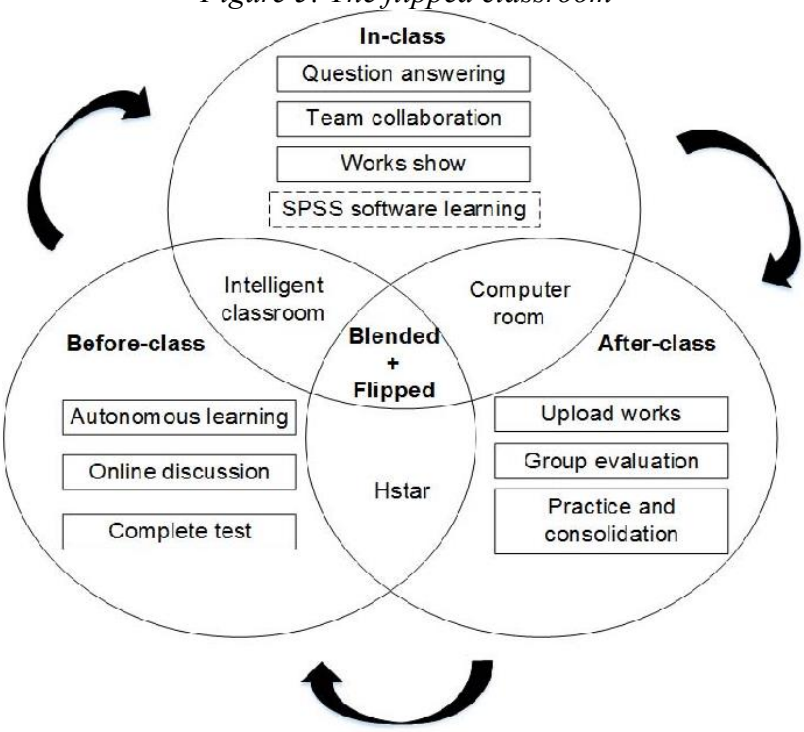
Lab rotation bears significant similarities to station rotation (Graham, 2006). In fact, it is itself a version of station rotation with only a small element of difference. Like the station rotation model, the lab rotation model allows for shifts between lessons as deemed necessary by the supervising tutor present at the station (Valiathan, 2002). At least one of the stations must also involve online-based learning. In this case, learners have to move out of the classroom to an external location — the computer lab (Singh, 2003). The main distinguishing factor between the station rotation and lab rotation models is that in the former, the online programme is arranged within the classroom, while in the latter approach, students go out to another room (Graham et al., 2014: 52). The main advantage of the latter is that lab rotation allows for a change of environment for the students during the learning process and helps refresh them psychologically (Valiathan, 2002). This also allows the teacher to use the classroom for additional activities as defined in the lab rotation model.

2.3.2.4 Flipped classroom model

As the name suggests, the model denotes a reversed learning approach, which entails bringing off-site activities into the classroom and vice versa (Bishop & Verleger 2013). For instance, instead of doing homework at home, the flipped classroom model allows students to do it within the classroom setting (Valiathan, 2002). Essentially, the flipped

classroom requires students to conduct homework research online away from the classroom, and to then return to the classroom under the guidance of the teacher (Singh 2003). In this case, online research replaces the traditional homework. This approach is claimed to be an improvement on the previous model, which did not allow much interaction between teachers and students, especially regarding homework (Graham et al., 2014: 52). The students would conduct research at home, go ahead, and complete the homework without significant guidance from the tutor. Worse still, the previous approach did not accentuate the use of the online-based approach. Enfield (2013) defends the rationale of the flipped classroom approach and observes that it allows students to prepare adequately for a lesson before they meet their tutors. According to Bishop & Verleger (2013), adequate preparation is an essential ingredient for improved empathy and educational courses and lessons for the learners. One of the main merits of implementing the flipped classroom is said to be its capacity to save time the teacher uses to introduce topics in class. Figure 5 illustrates the flipped classroom, combining in-class, before-class, and after-class activities.

Figure 5: The flipped classroom



2.3.2.5 Individual rotation

According to Powell et al. (2015), the individual rotation model is the ultimate blended learning method, as it involves personalisation of the learning process. Under this model, the teacher designs custom-made instructions and learning schedules that suit individual students' psychological abilities (Powell et al. 2015). During the rotations, students participate in different stations according to the direction provided by the supervising tutor (Powell et al. 2015). Characteristically, a rotation within a lesson may have a student employ online-based tools while the rest of the class undertake the collaborative approach (Graham et al., 2014: 23). In that same vein, the teacher may engage a student in a F2F approach while the rest go online. Powell et al. (2015) suggest that the strength of the individual rotational model lies in its capacity to bring the learning process to a personal level for the benefit of the learners.

2.3.2.6 Flex model

The 'Flex Model' is the preferred learning method in cases where learners lack sufficient time to attend classes in a traditional bricks and mortar arrangement. Graham et al. (2014) describe the flex model as a learning approach that primarily involves the delivery of educational instruction via online means. According to Powell et al. (2015), internet-based learning is the core of the flex model and constitutes the larger percentage of the applicable strategies. Most learners who find themselves in a work-study situation opt for the flex model and only meet occasionally with tutors for F2F discussions or elaboration of complex concepts regarding a particular lesson or course (Johnson & Graham, 2015). Under the flex model, tutors upload lesson instruction on online course sites for the learners who then download and handle them in their free time (Graham 2006). In addition, the lecturer customises the instruction for the individual student, as each operates in an autonomous schedule from the rest within the course (Enfield, 2013: 19). The flex model bears elements of similarity with other models, such as the rotation model in the sense that they both involve a blend between online sessions and the teacher's intervention (Powell et al. 2015). However, they also differ in that in the flex model, the learning process begins with the online sessions and proceeds to include the teacher's intervention if needed (Powel et al. 2015). In contrast, the rotation model has no definite order and may go either way as needed.

2.3.2.7 Self-blend/A la carte model

Some studies choose to refer to the self-blend model as the 'A La Carte Learning Model' (Powell et al., 2015). This model allows learners to choose an accompanying course that

helps them reinforce the knowledge they have on the broader course that they have undertaken in a traditional format (Enfield, 2013: 19). This course is a pure online affair, and the teacher, if at all, must operate remotely as well (Johnson & Graham, 2015). The model offers diverse benefits to learners, as it enables them to access courses that their institutions do not provide with ease. Moreover, it offers an alternative avenue for students with busy work-study schedules to meet and satisfy their learning requirements (Graham et al. 2014). The main difference between the self-blend model and any other learning model is the fact that it is a purely voluntary exercise — completely off-curriculum and off the training course. The model is self-initiated and does not function as a substitute for the main course.

2.3.2.8 Enriched virtual method

Fundamentally, the 'Enriched Virtual Method' is an evolving learning model and procedure where the student begins their course under a particular instructional delivery model and then moves on to another as the course progresses (Graham et al., 2014). They incorporate an additional learning approach but do not abandon the previous approach. Often, the main motive is to supplement the extant bricks and mortar approach with other online-based blended learning modules (Powell et al., 2015). The primary idea behind this enriched virtual model according to Staker and Horn (2012) is to 'enrich' the virtual method, which implies that the model mostly employs online-based instruction to facilitate the learning process. For this reason, the additional approach is not online-based, and it may have elements of direct interaction between the learner and peer (group discussions) or teachers (expert guidance). Moreover, Staker and Horn (2012) explain that enriched virtual models start off as full-time online courses but embrace other BL inclined programmes to equip the student with bricks and mortar-based knowledge and experiences. The enriched virtual model resembles the flipped classroom in approach but differs in the sense that in the latter model, learners have to attend physical classes on a regular daily basis, whereas learning in the enriched virtual model seldom involves F2F meetings between learners and teachers.

2.4 Summary

In this chapter, we have looked at different definitions and effects of blended learning which is the focus of this study, and identified and described key periods in the emergence and evolution of blended learning models, after which different emerging blended learning models were examined. A common understanding of blended learning and usage

of the term is to describe an arrangement that combines educational technologies such as online tools with traditional physical classroom experience. This was how blended learning was defined, for example, by Alammary et al. (2014) although it has been clarified, for example, that this combination must be systematic (Bliuc et al., 2007) and complementary (Friesen, 2012).

Blended learning is thus a hybrid form of learning that combines computer-mediated learning with F2F learning (Graham, 2009; Powell et al., 2015) to maximise the benefits of both (Graham, 2013). The former takes place online usually remotely, and the latter requires physical presence of both teaching and learning parties. The trends seem to be an increasing adoption of this approach (Garrison & Vaughan, 2011), including in Saudi Arabia (Alebaikan, 2010), and scholarly attention to how it can be better understood (Dziuban et al., 2016). Importantly, there are implications for relevance, suitability and implementation.

The early form of blended learning was distance learning courses in the 19th century. Rudimentary mainframe computer-based training emerged in the 1960s, television began to be more widely used to support learning in the 1970s, more developed software was devised in the 1980s, and web-based instruction was arranged in the late 1990s. This then led to the Definition Period in the mid-2000s in which blended learning was taken more seriously and defined variously prior to the current Popularity Period since around 2007 characterised by widespread adoption and implementation.

Newer emerging blended learning models recognise the need to adapt blended learning arrangements according to time, place, pace and path (Power, 2008), and to student compatibility (Wang et al., 2015). And there are different strategies when arranging for blended learning, such as matching learners with relevant approaches (Powell et al., 2015).

There are also different ways of combining the two approaches, such as adopting the traditional approach initially and then allowing for web-based discussion to follow on (Garrison & Kanuka, 2004), using a ‘rotation model’ (Staker & Horn, 202) that shifts to and from both; ‘station rotation’ in which a class is divided into groups using each approach in turn, including its variant of ‘lab rotation’; ‘flipped classroom model’ which involves brining off-site activities into the classroom and vice versa (Bishop & Verleger, 2013); ‘individual rotation’ in which the learning process is personalised (Powell et al., 2015); the ‘flex model’ to accommodate learners who lack time (Graham et al., 2014); the

'self-blend model' that allows learners to choose an accompanying online course to help reinforce knowledge (Powell et al., 2015), and the 'enriched virtual method' where students begin learning under a particular instructional delivery model but move on to another course as they progress (Graham et al., 2014).

Having considered, in this chapter, the definitions of BL, the next chapter explores the main theoretical underpinnings of BL.

Chapter 3: What Are the Theoretical Underpinnings of Blended Learning?

3.1 Introduction

In the previous chapter, the many varied definitions for 'Blended Learning' (BL) were examined, how BL has developed was outlined, and having set the background in this way, this chapter now explores the theoretical underpinnings for 'Blended Learning'. It not only describes different learning theories and how they developed since the last century, but also examines their relevance to explaining and investigating BL. A summary of the chapter is provided at the end.

The theoretical underpinning forms the supporting pillar upon which the research investigation hinges. Fundamentally, significant elements such as the research objectives and questions give a study its shape and form. In that same vein, the research theories provide a conceptual background on which the entire study revolves. According to Andrews (2007), the theoretical underpinning, also known as the theoretical framework, is an outline of the pertinent theories that support the main concept under investigation within a study. Bitchener (2009) suggests that knowledge of the relevant theories guides the researcher in writing the theoretical underpinning section in a dissertation project. In addition, the process helps accentuate the rationale of the study by supporting and validating the main concept. In effect, the theoretical framework provides the basis for evaluating the relevance and necessity of implementing the new learning approach in the realm of contemporary pedagogy.

While the realm of higher education began to realise significant developments around the mid-20th century (Brown, 2018), experts in the field of education have been committed to examining the whole sector with the aim of explaining the vague elements of the learning process for a long time. It was not until the last century that academics made real, significant strides towards providing rational explanations and views on education and related issues. Over the course of this period, several views surfaced that altered the understanding of the learning process, research, and educational practice in many ways. Importantly, these views ultimately contribute to extending perceptions and understandings that constitute the learning process.

As Pritchard (2013) argues, actors in a sector must have an enhanced understanding of its nature, elements as well as the subtle challenges within it, in order to advance. Even so, over time, in the evolution of the learning process through the centuries, three views have

stood the test of time: behaviourism, cognitivism, and constructivism (Ertmer & Newby, 1993, 2013). The three views have established their dominance in the field of education in the last 100 years and Ertmer and Newby (2013) believe that they exemplify the true representation of the type of education that the world now needs. Further, they enable the development of functional and dependable learning systems and practices that mutually favour both the learner and the tutor.

Essentially, the three theoretical views lay the groundwork for the conceptualisation and development of the specific learning methodologies used presently in most societies around the world. They are the source of the emerging trends that influence learner-tutor interaction, as well as the personalisation of the learning process in a bid to maximise the outcome for the benefit of the individual learner (Anderson & Dron, 2011). Moreover, the views offer a broad platform on which several other relevant theories of the learning processes thrive, which are discussed in the subsequent sub-sections. In elaboration, the theoretical views function to satisfy three important human educational needs. Firstly, they facilitate learning in the perspective of enabling individuals to strengthen their response to stimuli or events in their immediate surroundings (Ertmer & Newby, 2013). Secondly, the theories foster learning in a bid to promote the acquisition of knowledge, which helps strengthen learners psychologically (Driscoll & Driscoll, 2005). Thirdly and lastly, they expedite the learning process as a means to the construction of knowledge itself (Liu & Matthews, 2005).

The importance of the three views (behaviourism, cognitivism, and constructivism) in the advancement of the learning process and pedagogy at large gives rise to the need for them to be analysed in light of research on BL in practice. In effect, they play a significant role in the development of Instructional Design (ID) models, which both define and determine the quality and nature of the teaching process (Reigeluth, 2013). Instructional designers in the education sector rely on these learning theories to formulate and design operational instructional simulations that enhance the quality of the courses and curriculum offered in learning institutions (Kirschner et al., 2006). Besides providing a functional framework for arranging conducive learning atmospheres, the theories promote the creation and interpretation of developments in pedagogy. According to Metzler (2017), learning theories determine the suitability of the instructional models employed in educational practice. The researcher argues that designers must have a profound understanding of the learning theories to enable them to optimise the outcomes of their design strategies. Ultimately, the suitability of an ID model hinges on its connection with the learning

theories. Consequently, the discussion of the theoretical underpinnings will encompass not only the three broad learning theories, but also several constituent theories, such as Activity Theory, Situated Learning Theory, Engagement Theory, and Variation Theory.

3.2 Learning Theories

3.2.1 Behaviourism

Before scholars discovered or propounded the cognitive or psychological perspective of the learning process, they explored the connection that existed between behaviour and learning. The concept gradually gained popularity over time thanks to the works of scholars such as Edward Thorndike (1874-1949), Ivan Pavlov (1849-1936), and Burrhus Frederic Skinner (1904-1990) (Walker, 2017). The spectrum of behaviourism suggests that behaviour (such as learning) develops or manifests in response to alterations in the immediate environment. Commonly referred to as behavioural psychology, the theory points to the notion that behaviour or demeanour shows because of conditioning. In itself, conditioning refers to the interaction between a person and the environment. People or even animals assume specific behaviours in response to given stimuli in the environment, which eventually shape their actions. The behaviourist perspective claims that these responses determine individual behaviour, which ultimately facilitates learning.

McLeod (2017) recognises the contribution of John Watson, a renowned theorist who penned the article ‘Psychology as the behaviourist views it’ in 1913. Current understandings of the theory borrow significantly from the assumptions made in that article. According to the theorist, all manner of behaviours originate from the surroundings (Staddon, 2014). The theory underscores the role of environmental elements in influencing people's actions, with minimal consideration of inherent or hereditary factors. In clarification, behaviourist theory is concerned more with observable actions rather than with internal occurrences, such as emotion or even thinking. Further, the theory operates on the concept that learning occurs through organised and measurable observation (Malone & García-Penagos, 2014). Some inherent principles of the behaviourist perspective include reinforcement, contiguity, repetition, variation, intermittent reinforcement, and extinction, as illustrated in Table 1 below.

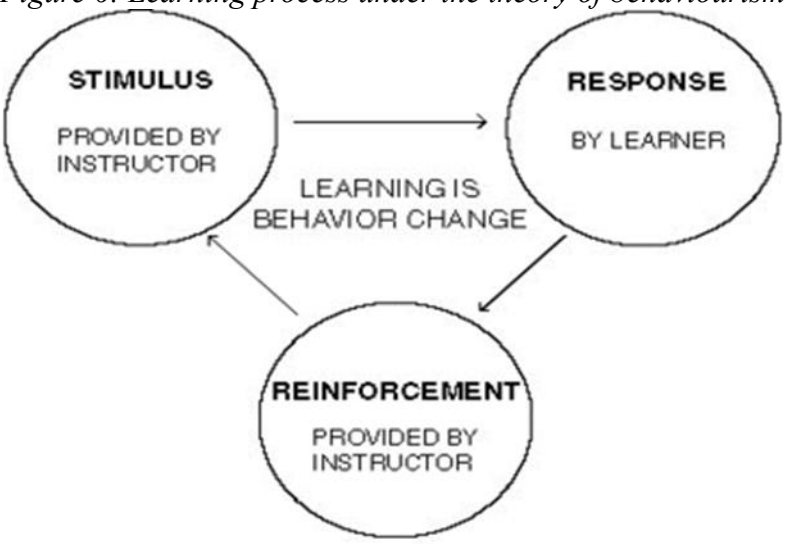
Table 1: Principles of behaviourism

Key principles	Explanation for behaviourism tendencies
Reinforcement	The provision of negative or positive feedback, which leads the learner to form a strong connection between the desired behaviour and the stimuli.
Contiguity	The strength of the connection depends on how soon the feedback is relayed.
Variation	The response is generalised by the disparities in the pattern of the stimulus.
Repetition	The prevalence of the desired outcome depends on the frequency of the stimulus-response.
Recurrent reinforcement	Not rewarding the response every time is found to be more effective than constant reward; it helps keep the learner guessing.
Extinction	The association will die if the stimulus-response link is not reinforced.

(Source: Carlile et al., 2004: 9)

Considering the principles outlined thus far, the elements provide a basic framework by means of which the behaviourism theory influences the learning processes. Firstly, the learner for the most part assumes an inactive and responsive role as the individual pays close attention to the events as they unfold in the immediate environment (Wu et al., 2012). Secondly, the principles demonstrate that the concepts underlying behaviourism call for the issue of systematic and structured instruction to the learner. Thirdly, such instruction is concrete and distinct with articulated goals, intentions, and approaches directed at all learners, and not just at one particular individual (Griffiths, 2004). Fourthly, it functions on the assumption that a well-thought-out instructional procedure produces the desired results. Fifthly, the theory accentuates the concepts of simplification and repetition, in the sense that a learner should begin with simple tasks and progress to more challenging ones (Wu et al., 2012). Similarly, it propounds that practice makes perfect, which implies that the learner must engage in drills every so often to enhance their behaviour and thereby their knowledge. Sixthly and lastly, learning is assumed to be quantifiable and instruction-dependent. Figure 6 below illustrates the development of the learning process under the theory of behaviourism.

Figure 6: Learning process under the theory of behaviourism



The rationale of behaviourist perspective still lies in its effectiveness when employed to learning processes and concepts that need responsive skills (Deubel, 2003). Essentially, the relevance of behaviourism hinges on the belief that not all forms of learning require cognitive ability or the use of emotions or the mind (Schunk, 2012). Moreover, it is relevant to this research as it helps to explain the rationale for combining two or more methods of learning in a bid to enhance the quality of higher education. Although the behaviourist perspective has no direct link to BL, it has fundamentally paved the way for the development of learning approaches. One reason for this is that the theory suits the mode of teaching that requires factual memory. The approach enables teachers to test the competencies, and to establish if indeed, that students possess the relevant abilities (Darling-Hammond et al., 2012). Secondly, the applicability of the behaviourist perspective revolves around the concept of objective observation which strengthens through practice or repetition. Essentially, practice strengthens the bond between the individual and the stimuli, which in turn establishes a connection between instruction and behaviour (Lam, 2011). Thirdly and lastly, the development of objectives or expected outcomes of learning processes borrow from the concept of behaviourism. While the learning may be cognitively-oriented, tutors expect to see tangible reactive outcomes (Obafemi & Eyono Obono, 2014). To a remarkable extent, the behaviourist perspective manifests through all spheres of the learning process irrespective of the approach employed.

Behaviourism has since given way to other implicit theories that provide explicit elucidation of the learning process in human beings (Schunk, 2012). For instance, it could not withstand the impact of the cognitive wave that swept through the field of education in the 1960s as research established the relevance of the latter over the former (Deubel, 2003). One of the limiting factors of the behaviourism theory is its incapacity to explain concepts within the context of higher education, considering that it was at this time that the sector was experiencing significant transformation. However, its main shortcoming is the view it holds concerning the role of the mind in the learning process (Engeström & Sannino, 2012). According to behaviourism, the mind is a 'black box' and does not contribute in any way to the overall learning process (Woollard, 2010). The theory gives no thought to the possibility of the mind taking part in the creation and acquisition of knowledge. This development led researchers to postulate that the learning process goes beyond mere observation, and that observation has no monopoly over behaviour (Richey et al., 2010). Ultimately, it was the precursor to the exploration of alternative theories, such as cognitive theory, which is discussed in the succeeding subsections. Two of the main sub-theories that reinforce behaviourism however, are Gagné's theory and Bloom's taxonomy.

3.2.1.1 Gagné's theory

Gagné's theory, often referred to as Gagné's assumptions, is itself an extension of the broader behaviourism theory that focuses on the particular subject of instruction (Kruse, 2009). The theory is applied in the realm of education courtesy of the pedagogical psychologist, Robert Mills Gagné (1916-2002) following the concepts he proposed in his book on the conditions of learning (Miner et al., 2015). Gagné's concept has a close connection with the behaviourist theory. and it is quite teacher-oriented (Das, 2017). It largely addresses the subject of instructional provision as the key factor in the learning process. The main strength of Gagné's theory lies in its suitability for all forms, categories and levels of learning from elementary, high, and tertiary to professional training (Gagné et al., 2005). The psychologist presents a nine-step approach (nine events) that exemplifies the instructional principles that underscore the essence of behaviourist theory. The steps include reception, expectancy, retrieval, selective perception, semantic encoding, responding, reinforcement, retrieval (assessing performance) and generalisation. Figure 7 below illustrates the nine levels of Gagné's learning theory.

Figure 7: The nine levels of Gagné's learning theory

Fundamentally, Gagné's theory focuses on the impacts of instructions issued during the learning process (Hassandra et al., 2011). The psychologist focused on the reaction of the learner as prompted by a set of instructions (Miner et al., 2015). The theory emphasises the importance of evaluating response to stimuli through the act of testing or examining. Moreover, the theory does not overlook the importance of practice drills as well as feedback (Ali & Ali 2016). Feedback for example, is important as it has been shown to improve student performance and satisfaction (Mandernach et al., 2011). The theory provides a functional framework for not only instructional designers, but also for teachers and professional trainers (Chyung, 2015). Later in his career, Gagné formulated a five-part theoretical framework for categorising learning outcomes, which comprised verbal information, cognitive strategies, intellectual skills, motor abilities, and attitudes that guide a person when making decisions.

3.2.1.2 Bloom's taxonomy

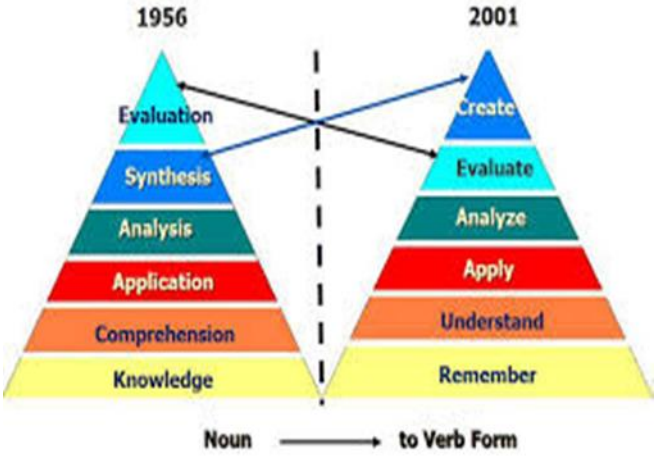
Another educational psychologist in America, namely Benjamin Samuel Bloom, oversaw the formulation of a unique set of instructional tools that aid in the assessment of learning progress in students (Cannon & Feinstein, 2014). In 1956, the psychologist chaired a meeting that saw a group of professional educators create the Bloom's famous six levels or categories of learning (Adams, 2015). Also significant, was the distinction of the three domains of educational activity, namely, the cognitive, affective and psychomotor (Boles et al., 2015). Latter-day educationists have since revised the three domains to knowledge, skills, and abilities (Armstrong, 2016). Fundamentally, the taxonomy represents a set of objectives devised for a learning process. That is, at the end of a learning process, learners should exhibit new skills, attitudes and knowledge on the subject under study (Hwang et al., 2016). Overall, the taxonomy addresses three main elements of the learning process: cognitive (knowledge or thoughts), affective (feelings or attitudes), and psychomotor (talents, physical abilities, or skills) (Wilson, 2014; Ramirez, 2017). However, the formulating community failed to provide more elaboration on the domain of skills and focused more on the cognitive and affective features instead.

Presently, Bloom's taxonomy provides a valuable framework for the development of teaching and training tools (Diab & Sartawi, 2017). As Airasian and Abrams (2003) posited, the approach helps in the identification and categorisation of learning goals, which enable tutors to assess the progress made by students from the learning episode. The primary role of setting goals in education is to set a threshold for assessing the impacts of the instructions issued to students in a learning session (Ballera et al., 2014). Furthermore, the instructor could use the goals to design courses, lessons, examinations and assignments. Upon identifying the relevant objectives, the instructor proceeds to sequence them in a progressive manner from the simplest to the most difficult (lower level to a higher level). To achieve the desired effect, Anderson et al. (2013) advises that the instructor should design the learning process according to the guidance offered by Bloom's taxonomy. Bloom's original taxonomy, extending from the lowest to the highest tier, includes knowledge, comprehension, application, analysis, synthesis, and evaluation.

In 2001, Bloom's former students, David Krathwohl and Dr Lorin Anderson, revised the taxonomy and provided an improved form of the original version (Wilson, 2014). Mainly, the psychologists repackaged the taxonomy to address a wide range of issues. For instance, they rearranged the order of the processes and changed Bloom's nouns to verbs

to suit their needs (Seaman, 2011). Figure 8 below illustrates the transformation effected on Bloom's taxonomy based on the 1956 and 2001 models.

Figure 8: Bloom's original taxonomy and the revised version



The changes highlight the significance of instructional delivery in the learning process which largely seek to facilitate an efficient transition from one stage to the next (Forehand, 2010). Firstly, a learner must be able to recall an idea, explain the rationale of the concept, and employ the knowledge gained in a familiar context (Adesoji, 2018). The individual must also be able to break the information down to facilitate easy comprehension. The more complex aspect of the taxonomy requires students to justify their course of action which culminates in the creation of new notions or ways of perceiving the information. Figure 9 below shows the progressive levels of Bloom's taxonomy.

Figure 9: The progressive levels of Bloom's taxonomy

The progressive levels show advancement in the learning process as the role of the instructor shifts from an authoritative participant to a less dominant figure. At the lower stages of remembering and understanding, the teacher or trainer assumes a central role and oversees every aspect of the learning process, including demonstrating, encouraging, lecturing, reinforcing, and assigning (Nkhoma et al., 2017). Largely, the lower levels fail to facilitate improved empathy and the development of talent. In the mid-levels of applying and analysis, the tutor's role shifts again to that of a collaborator or co-leader in the sense that he/she operates in an almost equal level with the learner. On their part, the learners focus on interacting and engaging with their peers. This section is concerned mostly with participation and experimentation.

Blended learning is said to perform best in a similar situation where aspects of the instructional outlook require learners to take the lead in the learning process (Anderson et al., 2013). Communication and teamwork take centre stage in the mid-levels and learning largely manifests in the forms and shapes of quizzing, feedback provision, and interaction with other learners (Morgan et al., 2014). Moreover, the taxonomy allows for the use of computer-mediated approaches. Finally, at the highest levels of evaluating and creating, learning instructional designs seek to help learners solve complex challenges, promote self-discovery, and foster profound mental processing (Chowdhry et al., 2017). At these levels, the teacher contributes less directly in the learning process and becomes a facilitator instead. Often, technology functions as a supplement or even a substitute for the lecturer's role as a facilitator (Adesoji 2018). Overall, Forehand (2010) observes that Bloom's taxonomy provides an effective framework for the implementation of the pedagogical approach of BL.

The constructivist theory contributes substantially to the concept of blended learning. While it does not particularly recommend the use of technology to complement the traditional F2F learning procedure, it does provide a functional framework upon which the higher education sector can sustain BL. As demonstrated earlier in the study, BL proposes a student-centred learning paradigm that focuses on broadening the horizons of the learning process with the aim of enhancing the students' ability to generate knowledge for themselves. The BL approach recommends an increase in the participation of students and a reduction in the involvement of teachers in the learning process. This allows the learners, for example, to set their own goals in collaboration with their teachers and peers (Murphy & Greenwood, 1998), and to also pace their own participation (Mitchell & Honore, 2007; Lin & Wang, 2012; Poon, 2012; Smyth et al., 2012). In this regard, higher

education learning looks to adopt the away-from-the-classroom approach in learning to create time for personalised learning with minimum supervision by lecturers. Moreover, it encourages students to embrace group and teamwork facilitated through mingling with fellow learners. In the perspective of the constructivist theory, such incentives allow the learner to interact with the environment.

3.2.2 Cognitivism

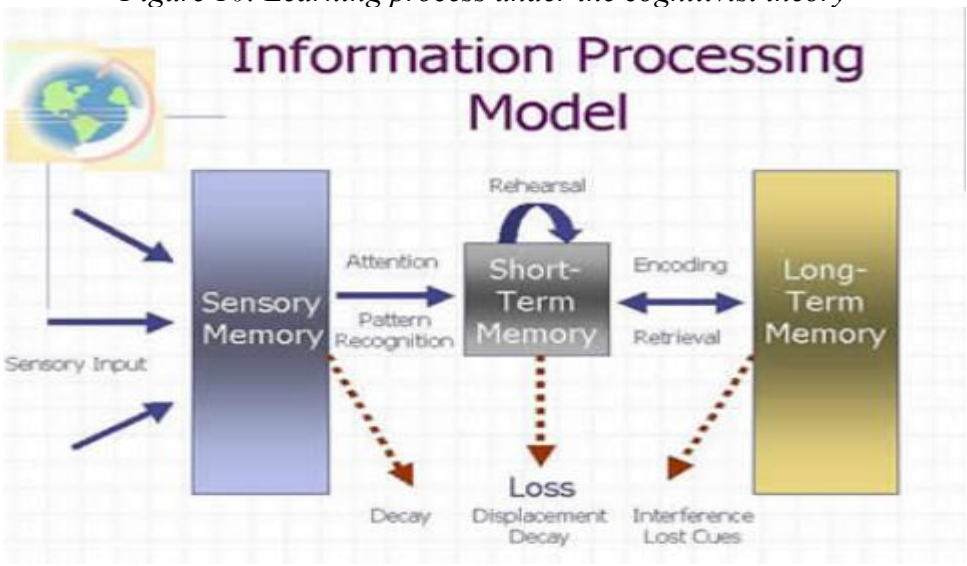
The educational sector underwent substantial progress in the 1950s, which saw governments and institutions focus on the development of higher education (McLeod, 2003). Furthermore, the formulation of other supportive theoretical frameworks in the succeeding decades promised to advance the sector. The occurrences diminished the relevance of the behaviourist learning theory, which focused on the response to stimuli and objective behaviour, in favour of cognitivism, a brain-oriented learning concept. The wheels of evolution propelled the industry into adopting the emerging trends as learning in the higher education setting looked to transform the approach of ordinary pedagogy. Clark (2018) describes the cognitive learning approach as the semi-permanent alteration in psychological processes. In that regard, cognitivists hold the opinion that education does not rely solely on the outward (external) display of learning, but rather, it focuses on the inward (internal) developments and associations that occur during the learning process.

While cognitivists recognise the rationale of the concepts presented in the behaviourist learning theory, they hold the view that the human brain and its associated processes are the most dominant elements in the learning process (Engeström, 2014). Such thinking downplays the relevance of the previous concepts that promote the analogy of objective behaviour as a measurement or form of learning. According to Kolb (2014), the learning process entails the acquisition of the relevant cognitive structure, which enables the human mind to conduct the essential mental processes as well as information storage. In reference to responses to stimuli, the theory recognises that there are indiscernible inner psychological processes that manifest in the form of thought, memory or motivation. In itself, the cognitivist approach to the learning process is the opposite of behaviourism. While the latter focuses on external processes, the former focuses on internal processes. Dennen et al. (2018) state that learning occurs on the inside and mainly entails thinking. Most contemporary teachers operate in the full awareness of students' mental capacity.

The concept of the blended learning approach enjoys significant support from multiple quarters because it looks to design learning according to individual students' psychological abilities (Bíró, 2014). Mainly, the blended learning approach designs learning programmes according to the situation experienced by the learner (Ballera et al., 2014). In other words, lecturers and trainers design customised courses and lesson instructions that suit the personal needs of the learner. Overall, the cognitivist learning theory focuses on critical thinking and uses brain-oriented strategies to design instruction for supporting the learning process.

Cognitivism is concerned mostly with the human mind. In that regard, it suffices to postulate that the mind works in a manner similar to that of a computer (Ballera et al., 2014). The acquisition of knowledge or information is the equivalent of entering data (input) into a computer, running it in the short-term memory and eventually processing it in the long-term memory (Morgan et al., 2014). Ideally, the short-term memory known as 'working memory' functions to store and utilise information acquired by means of the senses. Moreover, the short-term memory serves the linking factor to the prior knowledge stored in the long-term memory (Siemens, 2014). Ultimately, learning occurs because of the insinuations, anticipations and connections between the two types of memories in the mind. In this case, learning is measured by assessing the ability of the mind to communicate or transfer information from the various sections in a synchronised manner. Figure 10 below illustrates the development of the cognitivist theory.

Figure 10: Learning process under the cognitivist theory



In 1998, Hartley developed a set of principles that guide the learning process in the context of cognitivist theory (Ramsden, 2003). The researcher emphasised the importance of organising instruction during the learning process. To enable easy processing and recalling, one must feed data into a computer in an organised fashion. The human mind operates in a similar fashion and will recall and learn easily when it receives information in an organised manner (Valcke, 2002). Moreover, teachers must ensure the instructions issued have an inherent structure. Another significant factor is the display of the perceptual aspects of the instruction. Learners respond selectively depending on the learning environment. For this reason, the instructor must ensure that learners find it easy to recognise the important features of the information (Baerentsen & Trettvik, 2002). The next principle relates to the connection between the latest information and the already available material. The learner must be able to find a connection between the new material and prior knowledge regarding the subject (the link between short-term and long-term memory) (Van Roojen, 2004). In addition, a key principle of cognitive psychology is the need for customised instruction that caters to individual learners since they do not all think in the same way. Lastly, cognitive psychology stresses the importance of feedback regarding the learner's performance in the extant task.

3.2.3 Constructivism

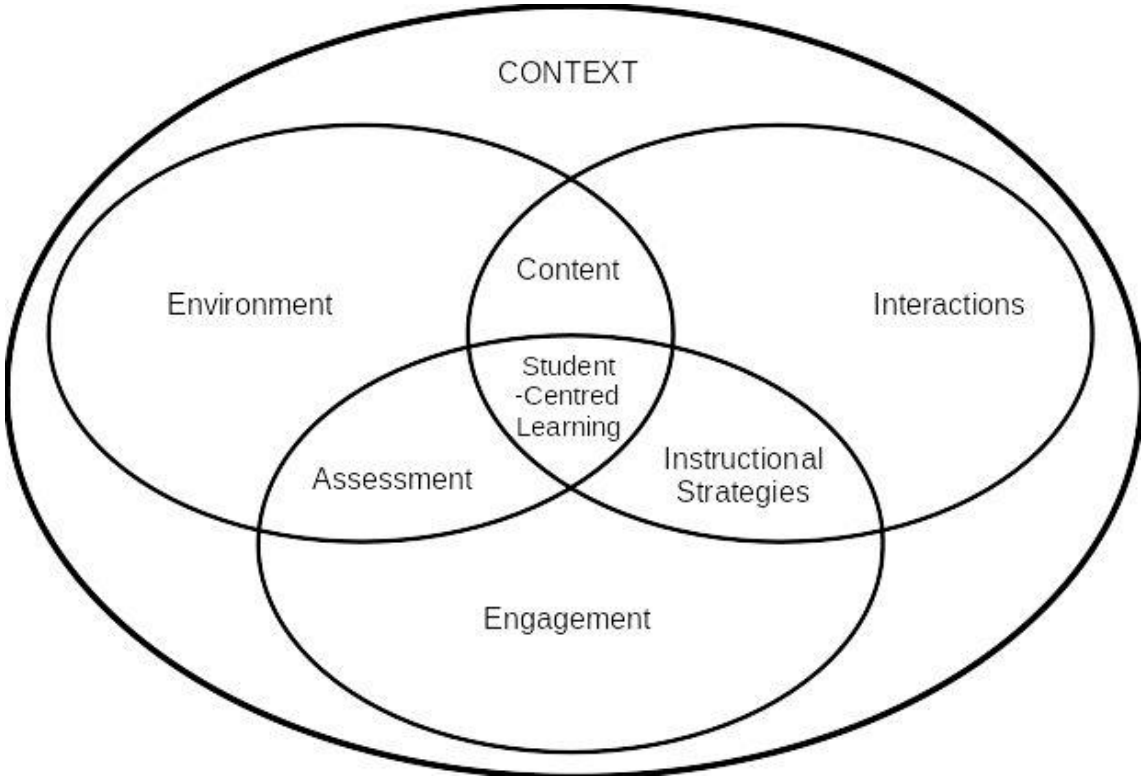
The constructivist theory of learning succeeded cognitivism theory at a time when studies increasingly reported conflicting findings that rendered the behaviourist theory inappropriate (Dennick, 2016). While the theory can stand on its own, it has a substantial connection with the two previous theories of behaviourism and cognitivism (Dennick, 2016). In a way, constructivism is a replica of both theories, as it combines their aspects into processes. According to Bada & Olusegun (2015), constructivism bases its concept on the aspect of observation and individual cognitive power. It stems from a person’s experience following his or her interaction with the environment. While interaction with the environment does influence one’s behaviour, the constructivists do not attach much importance to that fact (McPhail, 2016). Instead, they focus on the understanding and knowledge accumulated by a person in the course of the interaction. What is significant to them is the experience recorded during the event and the resultant reflections (McPhail, 2016). Aspects of the cognitivist approach are manifested within this theory, especially in the realm of reflection. Under reflection, a person reconciles current experiences with previous information stored in the subconscious. This event helps the person discard or

embrace the new material as relevant. When this happens, the learning process is said to be complete.

The constructivist learning approach emerged in the 1970s but gained popularity and momentum in the following decade courtesy of psychologists Piaget, Papert, Vygotsky, and Bruner (Amineh & Asl, 2015). The theory borrows significantly from social cognitivism and holds that learning is a process that revolves around people, the environment, and behaviour. Furthermore, the theory suggests that the three share a reciprocal relationship where each contributes to a common goal (learning process) given a constant context (Mann & Walsh, 2017). Smith (2017) identifies five main principles that dictate the learning process under the constructivist theory. One is that learners do not acquire knowledge under the constructivist theory. Instead, they construct it through the continuous process of interaction with their immediate environments (Doolittle, 2014), which includes fellow students/learners. In a sense, it highlights the importance of teamwork or group work in the context of contemporary learning, and specifically the blended learning system (Smith, 2017). Another is that the student is an autonomous figure in the equation and has the capacity to generate information by him or herself (Doolittle, 2014). The learner can create personal knowledge that explains the focus on a personalised type of learning. The theory does not rely much on instruction-facilitated learning; rather, instruction only functions to support the construction of knowledge (Duit, 2016). The theory, moreover, disregards the emphasis on knowledge objectivity as portrayed in the behaviourist theory. Lastly, learning revolves around the learner as tutors assume the role of a facilitator.

Bada and Olusegun (2015) postulate that constructivists accentuate the importance of learning over instruction. According to these researchers, learners need a conducive learning environment that allows them to mingle and interact freely with their teachers and their peers. They must also have time to themselves to create an opportunity for individual learning. The experience acquired from these environments enables learners to generate, create or construct relevant knowledge (Juvova et al., 2015). Harasim (2012) adds that the learning atmosphere must be created to suit the needs of the students. Incidentally, a learner-centred environment is one of the supporting pillars that underscore the blended learning approach (memories) (Scarantino, 2010: 741). Figure 11 illustrates the concept of the learner-centred learning strategy and the constituent elements.

Figure 11: Learner-centred concept under the constructivist learning theory



People learn through the contextualisation of events and experiences in their immediate environment. According to Smith (2017), learning takes place when a person manages to make sense of the experiences that unfold in his or her life. Fundamentally, the constructivist theory focuses on the social aspect of life and relies on its diversity to facilitate the processes of learning (Liu & Matthews, 2005). Social life in itself encompasses the interaction between the learner, his or her peers and the inanimate factors in the environment. Further, Andrews (2007) observes that the theory of social constructivism views the learner as the creator or constructor of knowledge, rather than its beneficiary. The learner wields significant power in the spectrum and reserves autonomy in the realisation of knowledge. The outcome of the learning process lies with the individual who dictates the procedure and strategy used in knowledge generation (Brown 2018). The theory diminishes the role of the teacher to that of a mere facilitator. Teachers mainly provide assistance from the periphery and mostly encourage learners to explore new principles that help them construct sufficient knowledge.

The constructivist theory contributes substantially to the concept of blended learning. While it does not particularly recommend the use of technology to complement the

traditional F2F learning procedure, it does provide a functional framework upon which the higher education sector can sustain BL. As demonstrated earlier in the study, BL relies on a student-centred learning paradigm that focuses on broadening the horizons of the learning process with the aim of enhancing the students' ability to generate knowledge for themselves. The BL approach requires an increase in participation by students and a reduction in involvement of teachers in the learning process. In this regard, higher education learning looks to adopt the away-from-the-classroom approach in learning to create time for personalised learning with minimum supervision from lecturers. Moreover, it encourages students to embrace group and teamwork facilitated through mingling with fellow learners. In the perspective of the constructivist theory, such incentives allow the learner to interact with the environment.

3.2.4 Activity theory

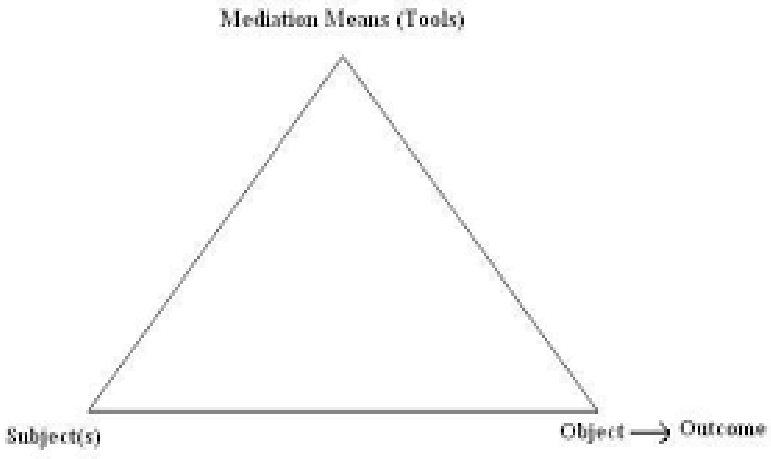
Activity Theory (AT) is an enhancement of both behaviourist and constructivist concepts of the learning process. Formulated by psychologists Lev Vygotsky, Luria, Leontief in the early 20th century, AT is itself a blend of both theories in the making and explains the development of the learning process with the help of external mediators (Fleer, 2016). The latter element implies that the aid does not originate from within the human system, but rather from the environment. AT recognises the significance of the environment in the learning process, which brings out its connection with the theoretical perspective of behaviourism (Jonassen, 2000). The learner is able to construct knowledge (constructivism factor) through the help of the mediator. Still, the entire learning spectrum revolves around the social construct that influences the learning process. In this case, the social construct is the environment. People respond to stimulus in a manner defined by specific cultural provisions and expectations (Jonassen, 2012). The main difference between AT and the behaviourist and constructivist theories is the presence of the mediating instrument or tool, which facilitates the learning process (Liaw et al., 2010). In most instances, especially in the contemporary setting, learners supplement the learning process with the computer or other technological devices such as smartphones (Altbach, 2014). Fundamentally, AT forms the basis for the rationale of the blended learning system, which incorporates aspects of eLearning and traditional F2F classroom tutoring.

According to Carvalho et al. (2015), human knowledge develops from the interaction between the physical and social aspects of life. The researchers hold that there exists a reciprocal association between activity and learning in the sense that sensible knowledge originates from the activity. In that regard, it suffices to postulate that human knowledge

results from the interaction (activity) between a person and the world or with other people. The concept brings to mind the three main components of activity theory, namely, the subject, the object, and the community (Uden, 2006). The subject refers to the learner or doer, while the object is the goal, objective or expected outcome that the doer looks to achieve, and the community is the environment with respect to the learner's social life.

However, the defining aspect of the theory is the emphasis on the mediation factor (Oncu & Cakir, 2011), that is, the mediation of the relationship between the subject and the object through rules, resources (instruments/tools), communities as well as labour division. While the object encompasses components such as the objectives and goals within the learning process, mediating resources refer to the tools employed to help attain the best results in the learning process (Joo & Lim, 2013). Such tools take two forms, namely, physical and psychological. One could choose to employ the use of technological machinery such as the computer or opt to rely on the brain. Alternatively, the learner could blend both, as depicted in the concept of blended learning. In effect, the mediating tool blends in elements of individual experiences and instructional inputs to aid in the realisation of educational outcomes (Englert et al., 2009). Figure 12 below depicts an illustration of Vygotsky's basic arbitrated Activity Theory.

Figure 12: Vygotsky's basic mediated activity theory



(Source: adapted from Gedera, 2016: 53)

Numerous studies have examined the impact of the tool-mediated learning process in the context of blended learning in the higher education sector. For instance, Aicha (2018)

reports improved performance scores among students who used the Twitter platform in a BL course as compared to those who used the controlled learning approach. The survey aimed to assess variables such as attitudes, learning tracks, and achievement tests. While students exhibited positive attitudes towards the learning approach, they also demonstrated more participation and inclination than their counterparts did under the ordinary learning arrangement. Further, Gedera (2016) agrees that the tool has the capacity to influence the nature and quality of the outcome in many ways. The outcome in terms of experience and knowledge is the main element used to evaluate the response generated from the implementation of the AT in the context of BL. Vygotsky's basic idea of mediated learning activity hinges on the prospect and implication of the interaction between the learner, artefacts (tools), and other learners within a given social context. The experience realised from this learning arrangement depends on the attitudes and support attracted from the immediate environment and associated factors.

In effect, AT provides a new perspective for examining the realm of pedagogy, particularly in the development of instructional designs for many educational approaches including the blended learning system (Smith & Ragan, 2005). The Design-Based Research Collective (DBRC, 2003) points out that the theory focuses more on the activities that learners engage in than on the knowledge aspect. The psychologists responsible for formulating the theory presumably overlooked the cognitive aspect and considered it as a constant factor in the learning process (Karasavvidis, 2009). To participate effectively in a technology-mediated learning course, students must possess the relevant cognitive power that enables them to undertake all the necessary psychological processing needs. One of the significant components of the blended learning system is the distance learning (DL) approach, which obliges the employment of learning instruments that facilitate exchanges between the learner and the educational community and environment (norms, rules, instructor or fellow learner) (Aicha 2018). To a remarkable extent, the DL thrives on the execution of the activity mediated learning process approach.

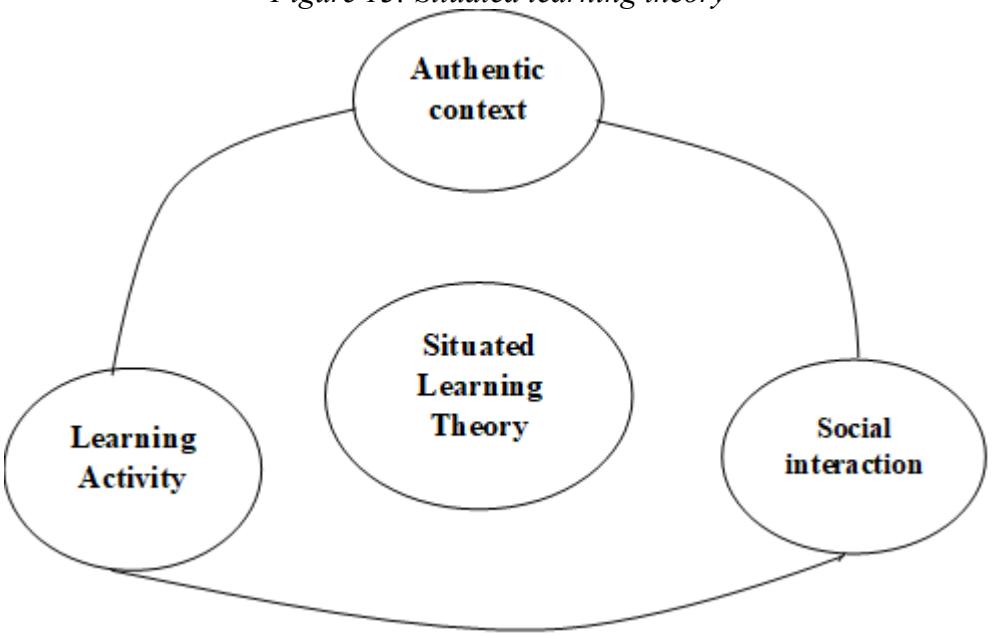
3.2.5 Situated learning theory

Formulated by Lave and Wenger, Situated Learning Theory demonstrates the occurrence of the learning phenomenon in its natural form (Lave, 2009). In the defence of his postulation, the psychologist contends that learning should occur unintentionally and within the appropriate context (Jonassen & Land, 2012). Bouton (2007) maintains that the acquisition or generation of health-related knowledge must take place within a medical context to maintain its rationale. The direct opposite happens in classroom

situated education which provides no context for most of the knowledge gained or imparted to the students (Cope et al., 2000). Korthagen (2010) contends that the out-of-context knowledge acquired in the traditional classroom warrants the call for blended learning to provide the relevant corrective interventions that pertain to culture and context. In that same vein, Instructionaldesign.org (2018) maintains that the learning process revolves around three components, namely, culture, activity, and context. Essentially, the three elements guarantee the basic set of circumstances that sustains the creation, implementation, and acquisition of knowledge for the learners.

As the name implies, Situated Learning Theory denotes the situational aspects that contribute towards the development of a particular phenomenon. It refers to the situation or condition which allows learning to take place. Dede et al. (2004) assert that learning must take place in realistic contexts, locations, and conditions that are associated with that kind of information. For example, students taking technical courses should study within contexts that enable them to experiment with engineering tools and machinery to equip them with the first-hand experience. The approach has far-reaching influences in knowledge generation throughout the course and curriculum. Furthermore, social relationships and teamwork play a central role in the development of situated learning (Lynch & Dembo, 2004). Teamwork and social collaborations give rise to the ‘community of practice', a factor that dictates the nature of demeanour and beliefs acquired from the learning process (Handley et al., 2006). The progress from the periphery of participation in community endeavours towards the centre demonstrates the advancement from a less experienced (knowledgeable) learner to a complete expert. Figure 13 below shows a representation of Situated Learning Theory as described by Lave (2009).

Figure 13: Situated learning theory



(Source: adapted from Lave, 2009)

Interestingly, contextual theories increasingly recommend that the learning process supports the interaction between the learner and external educational elements, rather than internal psychological factors. While Activity Theory focuses on the use of learning instruments such as computers and phones, Situated Learning Theory emphasises the contextualisation of the learning process (Shea, 2007; Light, 2008). Researchers increasingly find the need to make the learning experience an enjoyable one as opposed to the confining and rather an unexciting classroom approach (Dede et al., 2004: 159). The situated learning approach does not provide learning related tools that offer relaxation treats, but requires institutions and educational instructors to make available conditions, locations, and contexts, which consistently influence learners' concentration (Cobcroft et al., 2006). Overall, the definitive factor in Situated Learning Theory is the requirement of social participation, which suggests that information and knowledge resides within the larger community. Learners must therefore interact with peers, extract the information, practise it through apprenticeship (repetition), and develop beliefs, habits or skills that help identify them as professionals in a given field of study.

3.2.6 Engagement theory

In practice, Engagement Theory is an enhancement of situated learning, as it accentuates both the elements of activity and interaction within its tenets. The distinguishing element,

however, is the requirement that learners must always be sure to engage in meaningful learning endeavours. The activities in question must also be worthwhile. Omicsonline.org (2018) contends that Engagement Theory provides a framework for the use of technology-mediated means in pedagogy. According to the website, technology provides exceptional means through which students can engage their peers in meaningful learning activities in circumstances where non-technological approaches would fail. Formulated by Kearsley and Schneiderman in 1999, Engagement Theory is built on the premise that social contact and teamwork enhances both individual and collective experience, which ultimately influences the acquisition and generation of knowledge. The theory capitalises on the concept of community of practice, making it the fulcrum upon which behavioural and cognitive development takes place. Moreover, the ‘worthwhile tasks' requirement signifies that learners should ensure that the learning process addresses various academic issues such as reasoning, knowledge creation, decision-making, problem-solving, and critical assessment. Eventually, the learners should derive a sense of motivation from the activities.

Numerous researchers, including Kearsley and Schneiderman, acknowledge the autonomy of Engagement Theory, especially the fact that it can happen without technological intervention (Miliszewska & Horwood, 2004). For this reason, the link between Engagement Theory and blended learning and its rationale may seem far-fetched. Nonetheless, the real implication of incorporating technology under Engagement Theory is manifested in the learning process, which involves the use of online discussions, video conferencing, emails, and chat rooms (Mollen & Wilson, 2010). Blended learning, on its part, promotes the employment of a variety of approaches (not exclusive to internet use) that not only simplify, but also enhance the quality of the information and knowledge acquired during the learning process. The main motive in this case is to expand the interactive space while increasing inventiveness and communication between and among the learners (Notarianni et al., 2009). While it can stand on its own, the use of technology produces massive impacts on the outcomes of the learning process. Consequently, most experts recommend it as an effective framework for the creation of learning instructional design (Ituma, 2011). Indeed, the proponents of the theory agree that it could provide an effective learning paradigm pertinent in the present information era, which holds technology in high esteem and views it as the ultimate interaction and development medium. In retrospect, Engagement Theory has conspicuous similarities with various

other theories discussed earlier, including constructivism, cognitivism, and situated learning.

3.2.7 Variation theory

Only on rare occasions do students view a learned concept from the perspective of the teacher or trainer. The best explanation for this challenge is the difference in the psychological capacity or complexity in either brain. In this case, action should equal reaction. In clarification, teachers should always strive to present concepts in more than one way (variety) for ease of understanding. The Variation Theory of learning aims to propound this concept. It aims to illustrate that people learn best through personal experiences and prefer to take on the world in their own unique way (Johnson & Johnson, 2009). Dayan & Daw (2008) for example, showed that teachers err by trying to force the student to see things from their perspective. The researchers suggest that teachers should instead attempt to present concepts in various ways that students can identify with easily, rather than a singular difficult-to-grasp approach. This is because learners need to see and experience various versions of the same occurrence so that they can develop their own individual perspectives and ways of perceiving a phenomenon.

The relevance of Variation Theory revolves around three fundamental factors, namely, variation, discernment, and learning (Oliver & Trigwell, 2005). Firstly, the theory bases its rationale on the idea that a learner must experience the element of variation for learning to take place. Secondly, there is no discernment without variation. Thirdly and lastly, learning only occurs because of discernment. The interconnections between the three factors expound the idea behind the variation theory. Discernment implies the capacity of the subject to recognise phenomena in reference to a related occurrence in his or her past. The subject's ability to recognise the difference between the past and the present determines discernment. Oliver & Trigwell (2005) defined discernment as the experience of difference. Learning occurs upon the display of such ability in the student. Blended learning functions in a similar fashion and suggests that instructors should allow students to encounter the element of the variance in their experiences in a bid to improve their learning capacities. Johnson & Johnson (2009) note that instructional designs in higher education could blend books with video watching, online chat, or field trips to broaden the field of discernment for learners.

3.3 Summary

This chapter looked at a number of theories underlying learning and the process of learning in order to gain a deeper understanding of the basis of blended learning, and to clarify its characteristics, suitability, potential effects, and likely strengths and weaknesses. This helps inform decisions such as evaluating relevance and need for implementing it (Bitchener, 2009). Three major paradigms were identified, namely behaviourism, cognitivism, and constructivism, and these three have dominated the education field over the last century and have set the groundwork for conceptualising and developing specific learning methodologies. They also serve as the sources of emerging trends, and play a significant role in the development of instructional design models (Reigeluth, 2013). Understanding these and other learning theories is thus essential to optimise design strategies (Metzler, 2017).

Behaviourism suggests learning behaviour develops in response to changes in the immediate environment, just as behaviour changes because of 'conditioning' which is an interaction between a person and the environment. This role of the environment is fundamental to the theory (Staddon, 2014), and the theory also views learning as taking place through organised and measurable observation (Malone & Garcia-Penagos, 2014). Inherent principles of behaviourism include reinforcement, contiguity, variation and repetition, and behaviourist learning is characterised by inactive and responsive learners, distinct and concrete goals and approaches, systematic and structured learning, a well-thought-out instructional procedure, reliance on simplification and repetition because "practice makes perfect", and quantifiable and instruction-dependent learning. This approach is found to be effective for responsive skills (Deubel, 2003), and situations where cognitive ability is not required so much (Schunk, 2012), but it does not have the capacity to explain concepts, and it dismisses the role of the mind in the learning process (Wollard, 2010). Extensions of this theory, such as Gagne's Theory give more emphasis to applying theory to practice, for example, through practice drills and feedback (Ali & Ali, 2016).

Of the other notable trends in learning theory that emerged, cognitivism helped turn more attention on the inward developments associated with learning and the role of thinking (Dennen et al., 2018) by placing the brain at the centre (Engestrom, 2014). Constructivism, which combines elements of both behaviourism and cognitivism (Dennick, 2016), lays greater emphasis on the knowledge and understanding accumulated (McPhail, 2016) through learners' interaction with the environment (Bada & Olusegun,

2015) and on observation. Instruction is thus seen as serving to construct knowledge (Duit, 2016) and learning (Bada & Olusegun, 2015).

Other learning theories introduced above were situated learning theory, engagement theory, and variation theory. Situated learning theory demonstrates the occurrence of the learning phenomenon in its natural form (Lave, 2009) and which relies on social participation and interaction. Engagement theory accentuates the elements of activity and interaction further, and accounts for technology as a means for students to engage in meaningful learning activities, as well as teamwork for enhancing both individual and collective experience for knowledge acquisition and generation (Kearsley & Schneiderman, 1999). The third variation theory is based on the idea that people learn best through personal experiences (Johnson & Johnson, 2009).

In addition, Bloom's taxonomical contributions have provided us with useful categories of learning (Adams, 2015), and the distinction between cognitive, affective and psychomotor domains of educational activity (Boles et al., 2015). It also serves as a set of learning objectives (Armstrong, 2016); a means for acquiring new knowledge, skills and attitudes (Hwang et al., 2016), and it provides a valuable framework for developing teaching and training tools (Diab & Sartawi, 2017), including the identification of learning goals. Implications for blended learning may be seen in noting that it is applied best in situations where some instructional aspects require learners to take the lead in their own learning process (Anderson et al., 2013). This raises the importance of communication, interaction, teamwork and feedback (Morgan et al., 2014). Technology is used as a substitute for the facilitating role of lecturers (Adesoji, 2018).

Constructivist theory also contributes to the very concept of blended learning substantially by providing a functional framework for sustaining it given its student-centred learning paradigm to enhance students' ability to generate knowledge for themselves. This includes pacing their own participation (Smyth et al., 2012), and encouraging them to embrace group learning and interaction. This helps create an environment conducive to supporting individual learning (Bada & Olusegun, 2015), and to construct relevant knowledge (Juvova et al., 2015). As under BL, constructivism acknowledges the diminished role of the teacher to that of a facilitator, and raises that of the learner who dictates the procedure and strategy for generating knowledge (Brown, 2018).

Cognitivism is also relevant to BL because learning materials have to be designed according to students' individual psychological abilities (Biro, 2014), and the situation experienced by them (Ballera et al., 2014). For example, it has helped to understand how memory functions, and its role in the learning process (Morgan et al., 2014), the importance for the learner to find a connection between new material and prior knowledge (Van Roogen, 2004), and the need for organised instruction (Hartley, 1998).

The rationale for BL may be found further in Activity Theory (AT) from the reciprocal relationship between activity and learning, and regarding knowledge as resulting from the interaction between people (Carvalho et al., 2015). By combining the behaviourist and constructivist approaches to learning, AT considers both physical and psychological dimensions. It can also provide useful perspectives for examining pedagogy in BL systems (Smith & Ragan, 2005). Distance learning for example, obliges the use of learning instruments that facilitate exchanges between learners and the environment of educational communities (Aicha, 2018).

Situated learning theory is also relevant to BL because it takes into account the situation or condition in which learning takes place. As an contextual theory, it lays emphasis on supporting interaction in the learning process between learners and external elements (Light, 2008). Since BL typically involves varied experiences, engagement theory is also relevant, as variation allows for discernment and learning to take place. A varied technology-based learning environment can blend with books to broaden this discernment for learners (Johnson & Johnson, 2009). Having discussed different learning theories and examined their relevance to BL, the subsequent chapter builds upon this development history in the field of education to examine the implementation of BL.

Chapter 4: What are the Emerging Implementation Issues with Blended Learning?

4.1 Introduction

Building upon the previous chapter in which the theoretical underpinnings for blended learning were explored and explained, this chapter examines the implementation of blended learning in terms of its positive and negative effects on the learning process by identifying several success factors of blended learning initiatives that have been found to influence the success and the experiences of blended learning among students, lecturers, and academic leaders in various capacities. This includes experiences of blended learning, and professional development. Lastly, the chapter examines the challenges and deficiencies in the existing literature in implementing BL and identifies gaps in the research, which it is hoped this study will contribute to bridging.

4.2 Effects of BL on the Learning Process

The blended learning strategy has grown and gained massive support from all quarters in education, and it has the potential to determine the future of pedagogy globally (Cobanoglu & Yurdakul, 2014). In addition, the changes in contemporary culture and technological advancements have necessitated its employment in the learning sector (Sarıtepeci & Çakır, 2015). To this point, many participants including students, teachers and academic players have experienced both sides of the impacts of the blended learning strategy (Holley & Oliver, 2010). The impacts of the blended learning approach on the learning process continue to be manifested in many ways on various educational platforms (Picciano, 2006). Notably, the higher education sector has registered substantial developments since the turn of the new millennium with learners relishing the many opportunities and options it offers them (Kashefi et al., 2012). Sein-Echaluce et al. (2016) reveal that BL has contributed in various capacities in the learning process, including increasing education access (flexibility), attainment, and communication, among others.

4.2.1 Positive effects of BL

Several positive effects or benefits of blended learning have been reported in the literature. Commonly mentioned benefits are reduced location dependency (Sharpe et al., 2006; Graham, 2013; Picciano et al., 2014; Dziuban et al., 2018), improved access to rich information (Ashton & Elliott, 2007; Battye & Carter, 2009; Collopy & Arnold, 2009; Poon, 2012; Reiss & Steffens, 2010), time savings and judicious use of time (Sharpe et al., 2006; Ashton & Elliott, 2007; Battye & Carter, 2009; Collopy & Arnold, 2009; Reiss

& Steffens, 2010; Poon, 2012), which can also lower costs (Fischer et al., 2015; Grabinski et al., 2015), grant greater flexibility, simplify the revision process and increase cost-effectiveness (Osguthorpe & Graham, 2003; Graham et al., 2005), and lead to greater interaction and improved communication skills (DeLacey & Leonard, 2002; Garrison & Vaughan, 2011; Kashefi et al., 2012; Allen & Seaman, 2013; Sein-Echaluce et al., 2016), greater collaboration (Zygouris-Coe, 2012), and better engagement in learning overall (Holley & Oliver, 2010; Sarıtepeci & Çakır, 2015). These aforementioned key benefits and their supporting studies are summarised in Table 2 below, which includes further benefits found in studies examined after the table and in which the benefits are categorised into educational, social and practical benefits.

Table 2: Key benefits of BL and their supporting studies

Key benefit of BL	Examples of supporting studies
Educational Benefits	
Information — Improved access to rich information	Ashton & Elliott, 2007; Battye & Carter, 2009; Collopy & Arnold, 2009; Poon, 2012; Reiss & Steffens, 2010
Learning related (general)	
- Engagement is improved	Holley & Oliver, 2010; Sarıtepeci & Çakır, 2015
- Learning environment is better overall	Garnham & Kaleta, 2002
Academic benefits (specific)	
- Academic achievement, Positive association with	Cobanoglu & Yurdakul, 2014
- Cognitive ability is enhanced	Dziuban & Moskal, 2004; Zhao et al., 2005; Sitzmann et al., 2006; Bernard et al., 2009, 2014; Means et al., 2010; Cobanoglu & Yurdakul, 2014; Sarıtepeci & Çakır, 2015
- EFL students, Advantageous for	Al-Jarf, 2005
- Learning is more effective (mild to moderate correlation)	Zhao et al., 2005; Sitzmann et al., 2006; Bernard et al., 2009; Means et al., 2010, 2013; Bernard et al., 2014
- Understanding of course content is deeper	Abo-Mosa & Al-Soos, 2010; Allen & Seaman, 2013
Revision process is simplified and more flexibility	Osguthorpe & Graham, 2003; Graham et al., 2005; Sharpe et al., 2006
Social Benefits	
Interaction and communication are improved	DeLacey & Leonard, 2002; Garrison and Vaughan, 2011; Kashefi et al., 2012; Allen & Seaman, 2013; Owston et al., 2013; Sein-Echaluce et al., 2016
- Community, Improved sense of	Rovai & Jordan, 2004
- Critical thinking skills are developed	Zygouris-Coe, 2012
- Knowledge enhancement	Murphy & Greenwood, 1998
- Knowledge, Enhances shared contributions to	Voci & Young, 2001

- Knowledge transfer, Enhanced in teaching	Garrison & Vaughan, 2011
- Social restrictions are overcome	Tubaishat et al., 2006
Collaboration is greater	Zygouris-Coe, 2012
Practical and Technological Benefits	
Location dependency is reduced	Sharpe et al., 2006; Graham, 2013; Picciano et al., 2014; Dziuban et al., 2018
- Access to education	Picciano, 2006
- Advantageous for those in rural areas	Yudko et al., 2008
Time savings and judicious use of time	Sharpe et al., 2006; Ashton & Elliott, 2007; Battye & Carter, 2009; Collopy & Arnold, 2009; Reiss & Steffens, 2010; Poon, 2012; Al-Qahtani & Higgins, 2013
- Work and study, Allows for both simultaneously	Hwang et al., 2013
Costs are lowered / Cost-effectiveness is increased	Osguthorpe & Graham, 2003; Graham, Allen, & Ure, 2005; Fischer et al., 2015; Grabinski et al., 2015
Technology, Use of innovative	Dziuban & Moskal, 2018

Greater interaction and collaboration for example, can lead to enhancing previous knowledge (Murphy & Greenwood, 1998); assist in the transfer of knowledge in teaching (Garrison & Vaughan, 2011), and enhance shared contributions to knowledge (Voci & Young, 2001). It also contributes to developing critical thinking skills in learners besides assisting in the construction of new knowledge (Zygouris-Coe, 2012), and it can ensure success in learning outcomes overall (Dillenboug et al., 1997). Moreover, the opportunities for greater interaction through collaborative learning overcomes the social restrictions placed across gender, cultural and religious backgrounds in Saudi Arabia and other Middle Eastern countries (Tubaishat et al., 2006). According to Smyth et al. (2012), students are more likely to benefit from these interactions if they are familiar and competent with using the technology involved, and such students tend to be satisfied with interacting with the faculty in this way. Student satisfaction in BL is also supported, for example, by Dziuban & Moskal (2011), and another social effect noted in the literature is an improved sense of community among students who engage in BL (Rovai & Jordan, 2004).

Additionally, blended learning has also been shown to have positive academic effects in terms of enhanced cognitive ability, more effective learning and improved academic performance (Dziuban & Moskal, 2004; Zhao et al., 2005; Sitzmann et al., 2006; Bernard et al., 2009, 2014; Means et al., 2010; Cobanoglu & Yurdakul, 2014; Sarıtepeci & Çakır, 2015). Specific areas of learning that have been shown to benefit from blended learning

include deeper understanding of course content (Abo-Mosa & Al-Soos, 2010; Allen & Seaman, 2013), and advantages for EFL students (Al-Jarf, 2005). With respect to technology for course providers, BL provides lecturers with the opportunity to use new educational technologies, and to study course content from other institutions more than is possible from either one mode of teaching alone. This sub-section examines the aforementioned studies for their claimed positive effects.

Cobanoglu & Yurdakul (2014) postulate that BL is the most dominant learning strategy in the higher education sector. The researchers set out to investigate the effects of the approach on the learning process within the realm of higher education. Students were selected for obtaining a sample of the population under study, while perceived cognitive flexibility levels (PCF levels), academic achievement, and self-regulated learning abilities were the dependent variables. The main objective was to examine the effects that BL had on the identified qualities in students. The study was conducted in an "IT & Ethics" course of Computer Education and Instructional Technology Program at the Faculty of Education in Ege University. The study used a sample population of 65 students enrolled in Computer Education and Instructional Technology courses in 2013. The researchers opted for the mixed method research method where the triangulation design represented the quantitative research method and the qualitative method involved an analytical exploration of secondary sources. The software used generated ANOVA and t-test results, which helped interpret the association between the independent variable of blended learning and the dependent variables of self-regulated learning, PCF levels and academic achievement. The analysis of secondary sources also helped determine the effectiveness of BL, the success of the implementation, and other related issues. The results of the analysis confirmed that there are indeed positive associations between blended learning and student academic achievement, self-regulated learning skills, and PCF levels. Students exhibited improved performance and cognitive ability that enabled them to employ critical thinking and evaluation in their studies. Moreover, the strategy pushed students to take charge of their education which in effect reduced the teacher's workload and simplified the learning process to a significant degree.

In another study, Sarıtepeci and Çakır (2015) discussed the impact of blended learning on two learner-based factors, namely academic attainment and learner engagement. The study aimed to analyse the conditions in the blended learning environment and to determine how it influenced the quality of the learning process. The main methodological approaches employed in the investigation included the controlled pre-test and post-test

sample under a quasi-experimental research design. On the one hand, quasi-experiments involve the use of the non-random sampling technique in the process of participant selection. The pre-test and post-test techniques on the other hand refer to the process of examining study samples before and after a research survey within the quasi-experimental research design. Specifically, the research involved the examination of a sample of two distinct groups, one control and one experimental. In total, the researchers managed to recruit 107 students and split them between the two groups with 52 students in the control group and the remaining 55 in the experimental group. The findings from the investigation showed that students in a blended learning arrangement recorded better academic attainment than those in the traditional F2F learning system. Similarly, the findings revealed a significant increase in the average rate of student engagement in blended learning in comparison to F2F learning.

Student engagement is one of the fundamental tenets that determine the outcome of the learning process (Napier et al., 2011). The rationale and suitability of course instruction hinge on their capacity to influence the learners' ability to respond effectively to the experience and the knowledge that they impart. In light of this fact, Sarıtepeci and Çakır (2015) noted that most challenges in education arise from the failure to guarantee student engagement. In the same vein, Holley & Oliver (2010) assessed the connection between blended learning and student engagement among students in higher education. The researchers employed an exploratory research technique to evaluate the impact of BL on student engagement. In particular, they developed a model for using the cross-case-analysis approach to determine the learning experiences that individual students have in their courses that either improve or diminish their extent of engagement in their studies. The model designed for the investigation sought to appraise the subject in three dimensions. Firstly, it sought to examine student's response to technology. Secondly, the model aimed to scrutinise the students' future learning experiences. Thirdly and lastly, it intended to examine students' capacity to manage the learning space as well as their expectations. Student participation in the entire learning process pointed to an improved learning environment that not only supported but also allowed students to immerse themselves significantly in their studies.

Undoubtedly, access to higher education is one of the major issues that affects the education sector on the global platform. While the political and economic landscape plays an important role in the general outlook of various industries in a nation, the education sector always seems to demand extra attention and commitment from the relevant

authorities. The mere fact that America, one of the most developed nations in the world, still grapples with issues of limited access to education for its students provides sufficient backing for this supposition (Picciano, 2006). Reports indicate that the education sector in the USA put in place significant plans to guarantee a significant portion of high school graduate positions in national universities and colleges. Regardless, only 75% of the population managed to enrol in the institutions in the space of two years. The statistics confirm that access to education is still a cause of concern in many regions around the globe. However, Picciano (2006) projects that blended learning strategies offer the much-needed remedy to limited access to education. The researcher undertook an explorative approach in his research in an attempt to establish the effect of BL on pedagogy, access and growth. The sources revealed that most higher education institutions adopted the online learning strategy as a supplement to the existing F2F learning arrangement in an initiative aimed at increasing access to education for learners across the nation.

The e-learning approach provides a much-needed educational alternative to the traditional classroom system with limited places (Kenney & Newcombe, 2011: 47). Furthermore, changes in the economy, and especially in terms of employment, necessitated the introduction and adoption of distance learning (Napier et al., 2011: 26). The shift allowed people in employment to work and study simultaneously without having to quit or infringe on their work time (Hwang et al., 2013). Moreover, it allowed the learners to balance between family, work and studying, which ultimately contributes to a busy life. By the turn of the new millennium, some institutions had already begun offering distance-learning services, which involved the use of technology to bridge the gap (Owston et al., 2013: 41). In addition, Al-Qahtani & Higgins (2013) identify physical distance and geography as two of the major and most common reasons students give for enrolling under a DL programme. The two scenarios isolate time and distance as the two main factors that limit the suitability of the F2F system while supporting the BL system (Moskal et al., 2013: 18). Over time, several higher education institutions began offering BL courses for other reasons besides the convenience of time and distance (Owston et al., 2013: 42). The need to access education shifted from distance and time to within a personalised context. While some learners find the need to enrol for online courses as a supplement to the physical classes, other students pursue it as an obligatory segment of a course.

In addition, teamwork emerges as one of the primary objectives of the BL approach, as demonstrated in the various models discussed at length in the previous subsections. In

more than one scenario, the models aimed to promote the need for collaborative learning initiatives, which were said to contribute towards improving the learning process. Most models, including the station rotation, flipped classroom, individual rotation, and even the enriched virtual model, allow learners to participate in group-based discussions, which function to improve the individual students' communication skills. Effective communication is one of the basic attributes that every professional must exhibit regardless of the field, and numerous researchers have set out to determine the impacts that the introduction of BL have on students' communication skills (Owston et al., 2013: 40).

For instance, Kashefi et al. (2012) investigated the relationship between communication skills and blended learning, and examined how the outcome influences learners' ability to perform satisfactorily in a professional context. The study bases its context on the field of engineering and reveals that most students taking such courses lack the necessary communication skills. The research aimed to evaluate students' communication skills in BL based studies that involve statistical reasoning and ingenious problem-solving techniques. The researchers adopted a longitudinal design for the research with a sample population of 62 students in their first year in an Iranian institution, the Islamic Azad University of Kermanshah (IAUKSH). The project schedule lasted at least 6 months, during which time the researchers conducted experimental (laboratory sessions) and controlled (F2F classroom learning) surveys on the sample. In addition, they employed a scale for the process of analysis to measure changes in communication skills and teamwork among the sample of engineering students. The findings revealed that the blended learning approach adopted for the multivariable calculus has a positive influence on learners' communications skills. In addition, the BL approach improved student participation in teamwork learning programmes.

In the same vein, Sein-Echaluce et al. (2016) investigated the impact of teamwork on the learning process within the concept of knowledge sharing. Teamwork is a measure of several educational factors, the chief among them being communication, as established in an earlier study by Kashefi et al. (2012). The concept of knowledge sharing between learners or employees prevails in conditions where communication thrives. Kashefi et al. (2012) revealed that there exists a direct relationship between communication skills and blended learning. Similarly, Sein-Echaluce et al. (2016) sought to examine the effects of communication on the learning process. The researchers employed an action research design in an investigation focused on examining the levels of knowledge sharing in both

student-student and teacher-student collaborations. The control group and experimental group also provided a comparison framework. This helped in comparing and contrasting the impacts on participation and communication between the two groups. The findings revealed increased levels of interaction among students in the experimental groups compared with the control group.

The various researches examined above show that blended learning has been applied under various designs and has revealed in a significant progressive impact on the learning process, as well as the apparent practical benefits due to changes in the student-to-teacher relations in Saudi Arabia where this relationship is advancing the student perception of retaining the F2F element alongside online learning, and which appears to be even further accepted when we consider its advantage and impact on the learning process. Dziuban & Moskal (2004) stressed that teaching blended courses give lecturers the opportunity to use innovative educational technologies. It is suggested that learning how to use new educational technology was one of the highest rated outcomes of lecturers at the University of Florida, and in support of these studies, research from institutions such as Stanford University and the University of Tennessee have indicated that blended learning is favoured over using traditional methods and eLearning technology on its own. Singh & Reed (2001) observe however, that "blending not only offers us the ability to be more efficient in delivering learning, but more effective" (p. 6). After reviewing over 300 studies of blended learning in the UK, Sharpe et al. (2006) stated that among the rationales for blended learning are:

> *...flexibility of provision, supporting diversity, enhancing the campus experience, operating in a global context and efficiency. A few course level rationales related to institutional strategy, particularly offering flexibility in time and place of learning. However, most rationales at this level were in response to practical challenges being faced by staff and/or in response to student feedback (loss of staff-student contact, large classes, inconsistency in quality and quantity of feedback between markers) as well as responding to the demands of professional bodies in vocational courses. The rationale reported most frequently by local implementations was maintaining quality in response to increasing cohort sizes. (p. 3)*

Several studies have indicated that blended learning is applied to facilitate access and flexibility, improve pedagogy, simplify revision, increase cost-effectiveness (Osguthorpe & Graham, 2003; Graham, Allen, & Ure, 2005), and to improve performance. A pilot program was undertaken at the University of Wisconsin-Milwaukee, and the whole group of participating lecturers stressed that they are eager to teach blended courses once again,

as they experienced a better learning environment for both students and themselves in all aspects (Garnham & Kaleta, 2002). Furthermore, the lecturers at the University of Glamorgan approved the blended method for delivering an improved understanding of different learning styles and pedagogies, which is regarded as a dynamic transfer towards change in education (Jones & Lau, 2009).

Blended learning offers flexibility and accessibility, and has become an established method for providing Higher Education to a broader population regardless of geographical location and culture. It therefore, gives an opportunity for students who live far away from the university or who have other obligations that conflict a rigid on-campus timetable to access learning materials. Yudko et al. (2008) recognised the positives of blended learning for rural areas in a study exploring students' attitudes towards combining online learning with F2F learning in the State of Hawaii. Hawaii provides its residents with a unique geographical location with barriers such as greater travel distance. The students who participated in this course had a positive feedback toward blended courses with the most computer and Internet literate of the students in the strongest support of the course. The authors concluded that the study emphasises the potential benefits of combining this content delivery method with traditional classroom lectures, which makes it a blended course.

However, the impact of this new learning method on the students' learning experiences and the subsequent perception of this learning method have not yet been fully examined. In the last 10 years, there have been several meta-analyses that have examined the influence of blended learning environments and its relationship to learning effectiveness (Zhao et al., 2005; Sitzmann et al., 2006; Bernard et al., 2009; Means et al., 2010, 2013; Bernard et al., 2014). These studies have showed in their results small to moderate positive effects on volumes in favour of blended learning when compared to fully online or traditional F2F environments. However, one must take into consideration the particular variables and components examined in these studies that impact our acceptance of the generalisability of conclusions.

4.2.2 Negative effects of BL

Besides having numerous merits, BL also has an array of limiting factors that threaten its suitability as a learning strategy worthy of mention. One is that BL has a lack of specificity within the realm of definition. According to Chen & Lu (2013), the lack of a functional definition has been one of the greatest limitations for blended learning. According to the

aforementioned researchers, the failure of experts to provide a suitable description of BL has contributed to the widespread confusion and some instances of its failed implementation. The source adopts an exploratory approach to the study and strives to explain the negative effects of the strategy in the realm of pedagogy. After conducting the review process, the authors found faults with education leaders and experts, and attributed the confusion to their inability to provide tutors with the appropriate dimensions for BL. The study outcomes suggest that major practitioners in the education sector ought to commit and direct more research toward the development of a comprehensive and feasible definitive framework for blended learning. In addition, it revealed that the lack of a proper definition significantly reduced its impact on the learning process.

Another issue that highlights the shortcomings of blended learning is the cognitive load, a concept that encompasses the mental capacities of students, and their ability to store and sustain information and experiences accrued over time. Hwang et al. (2013) conducted their investigation on the analysis and comparison of students' cognitive load within the contexts of traditional F2F, online, and a blend of both aforementioned approaches. The study focused on the realm of blended learning. Surveys were conducted on both a control and experimental basis to facilitate the investigation of either or both online and offline learning approaches. A sample population of 51 students participated in the questionnaire based survey designed to obtain personal opinions regarding mobile learning. The article describes the cognitive load as the amount of psychological action imposed on short-term memory (also known as working memory) at any particular point in time. The findings revealed opposing outcomes. While online learners recorded a lesser cognitive load, traditional-based learners in the control group reported an increasing cognitive load. It was deduced that the blended learning approach would lead to a clogged cognitive load due to the ‘confusion’ that characterises the BL process.

In addition, studies have evaluated the suitability of the blended learning model and observed its limitations on various other fronts, including time wastage and work overload for the learners. Undoubtedly, time is a fundamental factor in education in the same way that it is in every other activity. Following developments in the blended learning system, Bonk & Graham (2012) maintain that the learning process loses its initial uniformity. In an ideal situation, the learning process is guided by lesson schedules designed to coincide with the extant learning paradigms. Often, the instructors prepare the learning schedules in agreement with the learning model employed in that particular institution. For instance, in a station rotation model, the instructor always struggles to cover and achieve the session

objectives within the various phases of the BL process. Ideally, learners respond differently to each segment, which affects time significantly. All the learning sessions within a BL system – the online sessions, collaborative sessions, and the teacher-student session – have distinct features with different outcomes, which ultimately affects the students' performance.

Kenney and Newcombe (2011) examine the challenges that result from the adoption of the blended learning strategy. The study aimed to determine the association between time management among students and the adoption of the blended learning system. The researchers employed a cross-sectional research design and the quantitative research method. Using a snowballing sampling technique with a tutor as the contact person, the researchers recruited a sample population of 75 students to participate in the survey. The researchers administered a structured questionnaire designed to obtain information on the influence of the BL system on time management. A Likert scale was used to facilitate the assessment of the participants' various attitudes and opinions towards the subject under study. The findings revealed that time management was a cause for worry, as both students and teachers had difficulty keeping time in specific instances. The survey also showed that students lacked the necessary cognitive capacity to practise time management discipline given the chaotic scenarios caused during the switch from one strategy to another. Moreover, the availability and utilisation of a wide range of learning options were said to cause wastage of time and energy.

Interestingly, alteration in the learning process spreads over to the realm of interaction. Incidentally, increased interaction is one of the leading benefits that students stand to gain from the implementation of the BL system in education. Napier et al. (2011) examined the subject of learner interaction within the BL system using an exploratory design. Numerous studies including Gautreau (2011) account for the significance of interaction within the learning environment, and they attribute its progress to the introduction of blended learning as a contemporary pedagogy. However, few have endeavoured to assess its real impact within the actual perspective of student connection and collaboration with their peers. Some teachers use e-books, which essentially limit the interaction between them and their students. According to Napier et al. (2011), this barely suffices as interaction, as it resembles the teacher-student interaction within the F2F classroom arrangement. They argued that online learning ought to provide a larger interactive space for students, such as chat rooms or Twitter/WhatsApp discussions, which would allow them to connect with their peers virtually.

In Table 3, a summary is presented of the negative aspects of BL highlighted in the range of studies examined above with examples of the supporting studies for each aspect. It shows the identification of five major negative aspects, namely cognitive load, lack of a functional definition, inadequate interaction, loss of initial uniformity in learning, and issues with time management.

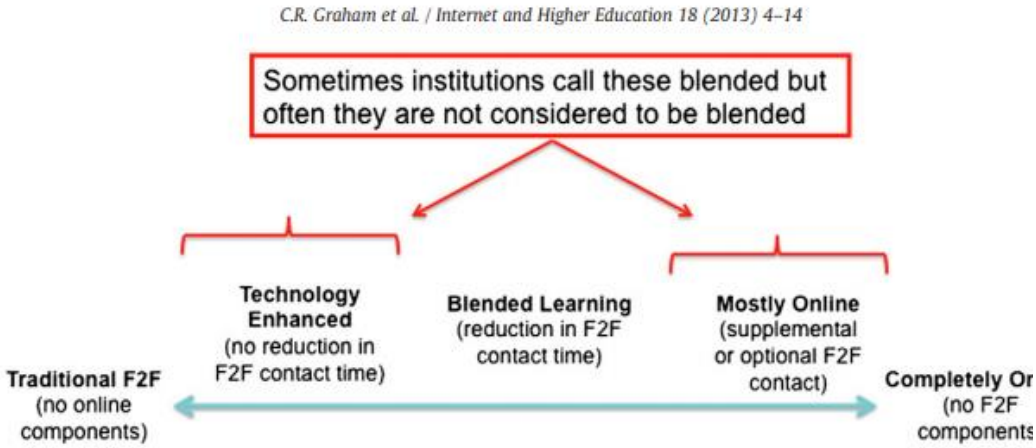
Table 3: Negative aspects of BL and their supporting studies

Negative aspect of BL	Examples of supporting studies
Cognitive load is clogged	Hwang et al., 2013
Definition, Lack of functional	Chen & Lu, 2013
Interaction is usually inadequate	Napier et al., 2011
Learning related	
- Loss of initial uniformity	Bonk & Graham, 2012
Time management issues	Kenney & Newcombe, 2011

4.3 Factors Affecting the Success of Blended Learning Initiatives

Life in the contemporary setting revolves around technology and other related advancements, and learners and teachers have gradually found themselves caught up in these changes. Over the last two decades, local governments and educational institutions have made significant strides in integrating technology into the day-to-day learning process, albeit with mixed outcomes. Educational departments the world over have attempted to complement traditional classroom learning with the e-learning approach, which entails the use of web-based instruments and instructions to facilitate the learning process. Still, many researchers criticise this assumption and attribute the failure in the implementation of the BL to the inability of people to comprehend the parameters of the blended learning concept (Owston et al., 2013). However, blended learning could still take place even in the absence of online learning mechanisms. Figure 14 illustrates these inconsistencies in blended learning.

Figure 14: Inconsistencies in blended learning



Source: Graham et al. (2013)

A key success ingredient of implementing blended learning under any setting is student satisfaction (Han, 2013), but according to Cho & Tobias (2016), it is the interactions involved in BL that act as a key factor in engaging students to benefit from this form of learning. Similarly, Sidebotham et al. (2014) highlighted the role of interactions in developing the necessary affective connectedness among students as well as with educators. On the contrary, DeLacey and Leonard (2002) found that blended learning itself improves not only interaction among students, but also their satisfaction. In terms of usage however, Collopy & Arnold (2009) for example, found that older students are more successful than younger students in using a blended learning programme, and attendance in a blended course has reportedly been associated with academic achievement (Collopy & Arnold, 2009; López-Perez et al., 2011).

Arguably, the successful implementation of BL has been a leading objective for academic leaders, institutions and governments alike. In terms of implementation, Babić (2012) demonstrated that the most important key to achieving success with a blended learning initiative lies with tutor empowerment. It is up to the tutor to design, streamline and personalise the technology-based learning programmes to suit the educational requirements of the course and curriculum. This section explores the factors that affect the success of the blended learning approach with respect to the role played by teachers in its implementation. Research has thus established that the bigger challenge in BL implementation revolves around the tutoring activity.

Moskal et al. (2013) base their study on the hypothesis that the blended learning system of education is a dangerous idea. They argue that the success of the application of BL strategies hinges on the alignment of student, faculty and institutional goals. The source advocates the installation of the relevant infrastructure that supports the interaction between students, teachers and the faculty at large. For this reason, the implementation of the blended learning process must take into consideration all elements that involve the students, teacher and the faculty.

4.3.1 Balance between online and face-to-face components

An issue of contention within the subject of blended learning is the balance between the two main components of F2F and online learning. Some education experts have expressed concerns regarding the impact that online learning will have on the traditional F2F learning approach. Wolpert-Gawron (2011) postulated that the introduction of e-learning into the education system would lead to the 'demise' of F2F learning. The author attributed the growing popularity of BL to the wave of technological advancements that have influenced operations in virtually every sector. Today, institutions increasingly put up spirited efforts to not only comply, but also guarantee the provision of BL based learning experiences to all students enrolling for higher education. Wolpert-Gawron (2011) argues that both online and F2F learning approaches provide a significant contribution to the overall learning experience independently. In that regard, Wolpert-Gawron (2011) demonstrated that a combination of F2F and online learning mechanisms result in improved performance for both learners and instructors. Nonetheless, finding common ground for the two approaches has emerged as one of the main challenges in the whole initiative, with most instructors and academic leaders lacking the capacity to provide an appropriate balance between them.

Despite being touted as a noble initiative towards enhancing the quality of education and its delivery, technology use in education has been met with considerable opposition, especially from teachers (Anderson, 2008). Although it is an old observation over a decade ago, it could still be relevant in developing countries today. The perception developed by teachers ever since its introduction has seen its support diminish within the population, with most preferring the traditional classroom teaching technique to the technology-mediated approaches (Jokinen & Mikkonen, 2013: 527). Notably, the latter study represented the view of only nine teachers of nursing. Nonetheless, researchers have increasingly recommended a balancing of both approaches under the blended learning strategy in a bid to find common ground. Jeffrey et al. (2014) sought to acquire teachers'

opinions about finding the appropriate balance between the two learning approaches. Jeffrey et al. (2014) assumed a qualitative approach to the study and used structured interviews as the instrument of data collection. The main objective of the study was to examine the teachers' use of both online and F2F learning components, as well as their overall perceptions. The study showed that teachers valued and preferred the classroom components to online teaching. The findings indicated that teachers believed some teaching and learning modules performed best by using traditional classroom strategies. A significant number of teachers indicated that they valued the interaction and bond they built with their students, which is something the online approach could not guarantee. However, they showed that an appropriate integration of both teaching approaches within BL would solve the problem sufficiently. The study recommended that teachers should have the freedom to re-evaluate and remodel the course in order to provide their students with better learning experiences than those provided by either classroom or online means independently.

Indeed, obtaining an appropriate balance between online and face-to-face learning is one of the biggest challenges for all participants in the education sector. Anderson (2008) reports a low number of teachers willing to take up online tutoring roles in US higher education institutions much to the chagrin of both administrators and learners. According to the researcher, numerous experts have conducted research to establish the reason for such trends in the last 15 years. Ultimately, it comes down to the lack of a sufficient balance between the traditional F2F and online teaching methods that would encourage or attract teachers to take up roles in online teaching. The study included an extensive literature review aimed at identifying the barriers and factors that enable the adoption of online teaching. According to the author, administrators and academic leaders have failed to provide teachers with the relevant mechanisms that integrate both components of learning. Teachers have trouble executing their instructor roles satisfactorily in the absence of the basic teaching requirements, such as physical interaction, and emotional and psychological connection between them and their students. Interestingly, the number of students enrolling for online learning seemed to increase continually despite the apparent reduction of the population of teachers willing to take up online teaching roles. Anderson (2008) attributes the trend to the financial factor, which renders online learning cheaper than classroom learning.

4.3.2 The factor of flexibility and strong links in communication

Additionally, it has been predicted that the communication by faculty members of high expectations may influence how students in turn perceive their performance and their satisfaction with their performance in blended courses. In particular, faculty members who communicated high expectations but also communicated confidence in the ability of their student to meet those expectations, led to students holding a more positive perception of their blended learning course despite initially expecting to achieve lower grades. In considering the advantage that blended learning may have over other formats, it appears that as the delivery of blended learning relies on a combination of F2F and online learning environments, students are able to benefit from increased time and spatial flexibility for their study, wider and easier access to learning resources, and a higher level of autonomy in regulating their learning (Ashton & Elliott, 2007; Battye & Carter, 2009; Collopy & Arnold, 2009; Reiss & Steffens, 2010; Poon, 2012). In addition, given the considerable latitude in managing their blended courses, students are able to fit their study around multiple commitments they are faced with in their real lives, such as commuting, balancing work with family obligations, and financial challenges, in order to achieve their educational goals. For instance, students report that they appreciate the opportunity to regulate their own study, such as work with course materials, and they pace their participation in online discussions (Mitchell & Honore, 2007; Poon, 2012; Smyth et al., 2012; Lin & Wang, 2012).

In exploring the importance of communication and the factor of flexibility, it appears that the inclusion of F2F sessions within blended courses also provides students with an opportunity to communicate directly with faculty, and if required, receive immediate support and guidance (Schuhmann & Skopek, 2009; Castle & McGuire, 2010; Poon, 2012). Additionally, what appears equally important for positive student perceptions is that students feel that participation in F2F interactive activities helps them to engage with other students in the class and to develop close associations with each other that are predicted to promote the development of a strong learning community outside the classroom (Vaughan, 2007; Collopy & Arnold, 2009; Harris et al., 2009; McCarthy, 2010; Smyth et al., 2012). Having continuous access to the instructor is perceived as an important factor in students' satisfaction with blended learning (Martinez-Caro & Campuzano-Bolarin, 2011). Some students report that they receive instructor feedback and their grades faster than in traditional courses (Korr et al., 2012). Furthermore, when compared to the alternative of fully online learning, students in blended courses are more

satisfied with faculty interaction and feel better supported with instructional guidance during their study, which results in a lower level of perceived instructional difficulty and a more manageable workload for their study (Lim & Morris, 2009; Schuhmann & Skopek, 2009). An additional benefit to consider in comparison to the other formats is that the quality of teaching assistants is rated significantly better by the students in blended courses compared with traditional F2F learning environment (Woltering et al., 2009).

Valiathan (2002) observed that there are three versions of blended learning instruction that maintain professional development for educators. Such models include skill-driven learning, attitude-driven learning, and competency-driven learning. It is noted that these models are akin to the model of professional development considered by Bersin (2003), as they use instructional methods similar to those commonly used with students when a blended-learning approach to teaching and learning has been applied. Eventually, this kind of professional development programme gives teachers the opportunity to experience the learning provided and also to permit hands-on activities to be adopted. Barnum & Paarmann (2002) established a blended-learning model of professional development that included web-based delivery, F2F processing, creating deliverables, and collaborative extension of learning. This method of blended learning was established to distribute information and offer learning experiences that students would encounter in a blended-learning classroom. Korthagen & Lagerwerf (2011) recommended that personal experience, reinforced by real samples, is needed for knowledge to have a strong influence on teaching behaviour, and eventually on the teachers' repetitive practices. When blended learning is mentioned, teacher beliefs and attitudes shaped from their experience with educational technology contributed greatly to its effective implementation and incorporation. Ertmer et al., (2012) argued that giving teaching staff reliable blended and online learning experiences and using the same technologies that they could use in their actual teaching practices would be considered as an effective professional development policy. Professional development schemes for teaching staff to gain experience in online or blended learning methods have the impending to shape their confidence and attentiveness of real flexible learning and teaching policies (Atkinson et al., 2009).

Academic institutions around the world are developing blended-learning methods and arranging BL courses to improve the learning experiences of their students through using a blended-learning approach to teaching and learning. In their reading of blended-learning improvements, Mirriahi et al. (2015) studied the professional development chances given

to pre-service teachers as part of their training in the education arena. The study applied a real professional development programme that was presented to students using a blended-learning approach, and which was directed at assisting students in advancing the skills, attitudes and practices of teachers. The scheme was intended to provide students arranging for a career in teaching, and used a flipped-classroom approach that required students to participate in activities in their own time, in addition to a F2F classroom stage. The Foundations in University Learning and Teaching (FULT) programme was planned for pre-service teachers to be given opportunities to be involved in a diversity of practices, and be considered with the principles of flexibility, modelling outcomes-based approaches, modelling blended learning, and flipped classroom approaches, inclusivity and scalability, and efficiency and cost effectiveness (Mirriahi et al., 2015).

Beside investigating a professional development program offered to pre-service teachers, Mirriahi et al. (2015) also examined a course offered to support teaching staff and their utilisation of a blended-learning model to interact, mentor, and share knowledge with one another alongside experiencing online and blended learning to efficiently provide their students support with using technology and blended learning. The online course titled "Learning to Teach Online" was planned to offer professional development to teaching staff and proposed to support the learning of effective pedagogic principles interrelated to online and blended learning practices. The main outcomes from this study established that participant feedback was critical, as it allowed for individuals to identify their learning experiences and attain what they needed to support their own professional developmental requirements.

Furthermore, Mirriahi et al. (2015) recommended that professional development for teachers exemplify principles of blended and online learning, as it offers participants an opportunity to increase their understanding of theoretical foundation and practical uses. It also allows for hands-on experiences and interaction amongst colleagues to gain knowledge of instructional practices used that are associated with principles and standards to identify a program for individuals. In addition, it provides an opportunity for a selection of numerous kinds of professional development programs as educators may favour to have options in regard to topics and styles (Mirriahi et al., 2015). Furthermore, Professional development has also been developed to offer practising teachers with blended-learning instruction. Their study considered gaining an understanding of how to best support teacher learning through an online learning system.

Lee (2014) applied a model of professional development targeted at supporting middle school mathematics teachers and their learning in mathematics. This model was also designed to advance their instructional practice, and to raise productive professional communications. This professional development programme covered the course of one year and included 29 teaching participants. The undertakings within this professional development program included F2F workshop courses, web-based learning sessions through virtual interactions, and classroom implementation (Lee, 2014). Through all of these activities, participants completed various assignments online that encouraged peer interaction. Supports were given concerning the assignments and students were made capable of improving the support system, and were allowed to complete assignments collaboratively. To simplify the active learning that was encouraged of teachers, F2F workshops were directed through discussions, collaborative group work, hands-on activities, problem-solving opportunities, and presentations (Lee, 2014). Information was collected from participants' online discussions, and the impact of the professional development programmes through blended learning was measured by examining the content of all the interactions. After all the information was gathered and coded, it was detached into three units: level of participation in relation to other variables, the content of interactions, and the relationship between discussion content and associated assignment topics (Lee, 2014). Conclusions from this reading established that teacher participants used the F2F classroom time to focus on the activities provided and the problems that were shared and presented in class. The virtual online module of this blended learning course was applied by the teachers to reflect upon their performance of the problems assigned in addition to discussing with peers to get feedback related to their instructional approaches. The teachers were encouraged to share their real-world classroom experiences with their peers and to debate resources that were available to support the students enrolled in their mathematics courses. The researcher advised that it is crucial for teachers to be granted time to work with professional development related thoughts.

As it linked to this research, the participants were given time to become occupied in both classroom activities and also with the online learning system, as they communicated with their peers and had mutual thoughts related to instructional theory and practice. The constant professional development of educators is serious, and it may support their roles of working with students. Institutions of education, specifically, have long seen ongoing professional development of teachers as part of their obligation (Owston et al., 2008). In

their research of blended learning scheme evaluation, Owston et al. (2008) combined the conclusions of three diverse programs from the perspective of model design, implementation, community development, changes in teacher practice, and the overall impact on students, for each of the blended learning programs implemented dedicated on the development of mathematics and science teaching where the participants included educators at the high school, middle school, and elementary levels. Evaluative data were gathered from interviews with teacher participants, project leaders, and other stakeholders. Furthermore, a focus group was directed with participants, as well as in-class observations of the activities that were included with the professional development provided. A cross-case, comparative qualitative analysis was applied to observe the three programs provided to teachers and their efficiency in supporting the instruction within the classroom. Conclusions from this research recommend that it is crucial for teachers to learn on the job, and that professional development that directly supports with curricula may advance teachers' needs. Furthermore, the outcomes from this research and survey responses from participants reinforced that all three types of blended learning professional development improved general teacher confidence as it associated to teaching and learning. Owston et al. (2008) determined that blended learning is a practical method for teachers' professional development, as it grants the teachers to learn in surroundings that directly advance and bring into line with their instructional requirements and benefits.

4.3.3 Teachers' knowledge of technology

Babić (2012) set out to examine the qualities and factors which influence tutors' commitment to the implementation of blended learning, including competence (skills and knowledge), values, attitudes, and individual personality. The study employed a systematic review to establish the various perspectives that determine individual capacities to implement BL learning strategies. Tutor competence was said to be one of the most significant factors that determine the success of BL. To oversee the online segment of BL, the teacher must possess the appropriate experience required to teach in a computer-based class. Computer literacy is a major concern, especially among teachers who lack the requisite knowledge and skills in that area. Familiarity with computer-based instruction keeps teachers motivated and enables them to undertake their courses with confidence (Jeffrey et al., 2014). Gautreau (2011) demonstrated that adequate experience in the learning management system is the ultimate motivational requirement for teachers looking to adopt blended learning.

Al-Busaidi and Al-Shihi (2012) examined the factors that influence tutors' satisfaction with the use of LMSs in blended learning programmes. The researchers listed individual creativity, technological experience, and computer anxiety as some main factors that affect the success of BL projects within learning institutions. The main objective was to measure these qualities against LMS features, such as service, system and information quality. In clarification, the LMS helps faculties and institutions devise suitable programmes, and to implement and support both classroom and distance learning (DL) education. Al-Busaidi and Al-Shihi (2012) suggest that the LMS provides the framework based on which teachers design their courses and lessons. The performance of the instructional design depends however, on the teacher's levels of satisfaction or approval of the technological intervention. In itself, the LMS is a technological instrument – an instructional software that aids in the development, documentation, reporting as well as the delivery of pedagogy courses, curriculums, and training programmes. The investigators obtained primary data for the study by way of structured interviews designed to establish the tutors' opinions regarding their technological abilities. The findings showed that all the variables examined in the study played a significant role in determining teachers' levels of satisfaction with the LMS technology.

Further, Safar and AlKhezzi (2013) contributed to the literature by investigating the potential and impact of technological integration in blended learning. The article aimed to ascertain the full impact of computer literacy on the success of the blended learning approach. The authors agree that ICT is the present and future of the world's industries, which constantly rely on educational instruction to provide a qualified workforce. Modern trends in virtually every sector entail the integration of technological interventions with traditional management and learning processes. The study adopted a quasi-experimental research methodology while splitting participants into two survey groups: a control and an experimental group. The participants were 128 students from Kuwait University, who were obtained through a non-random technique. The results demonstrated that technological expertise is a fundamental requirement for the success of the blended learning strategy.

Next, teachers' attitudes and values have played an important role in the development of BL in contemporary education. The attitudes alternate between confirmation (positive) and anxiety (negative) and a significant portion of the teaching population have increasingly found themselves on the anxious side of the attitude pendulum. Moreover, teachers hold the opinion (belief) that F2F learning (direct interaction) is the most suitable

teaching methodology, and consequently resent the overemphasis on technology (Jokinen & Mikkonen, 2013). Lastly, tutor personality hinges on the discussed factors – attitudes and competency – and often goes a long way to influence a person's character, response and behaviour within a particular context.

Bijeikienė et al. (2011) examined the implementation of the blended learning approach and the corresponding tutors' attitudes towards the use of ICT in English curricula in higher education. The study bases the investigation within the levels A1-B2. The primary objective was to analyse levels of computer experience of teachers in the language department, as well as their attitudes and perceptions towards BL. The researchers employed a mixed methodology that entailed the use of questionnaires and interviews. The findings reveal that computer experience is a fundamental requirement that dictates the outcomes for the application of the blended learning system.

4.3.4 Teachers' professional development

There has been an overemphasis of the suitability of the blended learning approach for the learner, much to the detriment of the teacher (Anderson, 2008), although the practical benefits of blended learning for the professional development of teachers was reported by Owston et al. (2008). While studies have demonstrated the positive impacts of the blended learning approach for students, they have failed to do the same for teachers. Researchers assume that tutors do not experience any challenges when implementing the new learning trends. Teachers have been pushed to the periphery and merely function as the invisible collaborator or overseer of the learning process. According to Graham et al. (2013), the implementation of blended learning amounts to overwork on the part of teachers, who not only have to integrate the various BL programmes but also oversee their application.

Discussing the professional development of teachers within the context of blended learning strategy brings into perspective the myriad challenges they experience while executing their teaching roles. Tutors face many challenges when designing and choosing appropriate teaching methods. Moreover, they find it difficult to control the scope to satisfy every student's needs, given that BL requires personalisation of learning interventions (Kaur, 2013). Teachers often struggle to standardise the proportions of online and offline learning in a bid to ensure that their learners benefit from the blended arrangement. The BL strategy comes with a new teaching methodology, and unfortunately, most teachers lack the relevant knowledge and experience to undertake the procedures.

The continuous developmental setting of higher education put forward by the beginning of technology and its applications to provide more adapted learning, indicates for a move to adopt more online learning practices (Johnson et al., 2014; Johnson, Becker, Estrada, & Freeman, 2014). The matter of small digital knowledge amongst teaching staff must be considered if effective online learning is to become a vital element of a conventional higher education. The restricted use of educational technology in higher education can be ascribed to teaching digital knowledge to the staff insufficiently (Johnson et al., 2014) providing an insignificant operative combination of technology in the course plan. The explanation is that teaching staff may be cautious to implement choice in educational technology because they are not familiar with the tools to consider the availability of technological sustenance (Handal et al., 2013), and their perception about the relevance of technology to improve student learning (Ely et al., 2014). These approaches of teaching staff towards technology approval were directed by Ertmer et al. (2012) to have the maximum impact on the achievement of technology acceptance and use in the classroom.

Therefore, to improve the implementation of technology among teaching staff, it is vital to support them in appreciating the outcomes it offers for transporting flexible and tailored learning, together with improved student participation (Chen et al., 2010). As indicated above, developing teaching staff practices via online and blended learning, simplifying a mind transferral among teaching staff to take benefit of the online setting is a noted and vital difficulty when applying online or blended learning policies. It has been discussed by Korthagen and Lagerwerf (2001) that individual experience, reinforced by solid examples, is required for knowledge to have a strong effect on teaching performance, and most importantly on the routine practices of individuals.

When approaching blended learning, teaching staff philosophies and approaches articulated from their experience with educational technology can significantly add to its effective implementation and incorporation in their own course plan. Therefore, supporting teaching staff with trustworthy blended and online learning experiences, applying similar technologies that they could have in their real teaching practices, can be an active professional development scheme (Ertmer et al., 2012). Professional development schemes for teaching staff provided in online or blended learning ways have the potential to establish their assurance and awareness of operative flexible learning and teaching policies (Atkinson et al., 2009). Specifically, they can offer a flexible, thoughtful and individually relevant learning experience, and the chance to institute online communities that can inspire constant admission to resources, and the support and

distribution of knowledge (Glitz, 2013). This could support the incorporation of online technologies into course design, and help lessen obstacles to the real application of the technologies. It is submitted therefore that higher education institutions need to increase the alertness of the benefits of active online learning approaches by offering a variety of chances for the professional development and building up of institutional strategies and planned policies (Garrison & Vaughan, 2011).

4.4 Experience of Blended Learning

The blended learning approach has led to the transformation of the learning experience for the better, at least in most instances (Jeffrey et al., 2014). In as much as it may have elements of inconsistencies, BL has redefined the profession of teaching in the same way that it has given learners unique learning experiences (Thorpe et al., 2008.). In particular, it has given a new dimension to the learning practice by diversifying important elements, such as learning venues, instructions and educational approaches among many other factors (Picciano et al., 2013). Ultimately, students' perceptions and attitudes towards the overall learning experience have shifted tremendously (Garrison & Vaughan, 2013). Similarly, tutors have exhibited new, although largely conflicted attitudes, regarding the shift in instructional models of courses and curricula following the introduction of the online learning system (Gecer & Dag, 2012). Academic leaders have also had to contend with new challenges and experiences following the changes in curricula development and educational affairs. This section of the chapter will strive to identify and discuss the experiences that BL is reported to have produced for participants in contemporary pedagogy including students, lecturers, and academic leaders.

4.4.1 Student experience and stakeholder engagement

The sector of higher education offers students the opportunity to seek knowledge in vast professional fields (Garrison & Vaughan, 2013). As established throughout the review, relevant authorities in the education sectors focus on reforming the industry through the introduction of blended learning into the learning system. Thanks to their role in the whole learning experience, learners have always found themselves at the centre of the blended learning debate (Owston et al., 2013). The rationale for this supposition stems from their capacity as the primary recipients of knowledge and educational experience. Both teachers and academic leaders function in various capacities with the aim of improving the learning experience for their students. Lecturers and academic leaders oversee the designing and implementation of various learning instructional designs. The evaluation

of the learning experience, for the most part, begins with the establishment of students' levels of satisfaction (Tyler, 2013). The general feeling is that blended learning provides meaningful learning experiences, and it facilitates knowledge acquisition among learners (Picciano et al., 2013). Overall, Tamim et al. (2011: 17) indicates that the experience of students in the BL process revolves around its capacity to influence change or to improve the trends in the traditional approaches for the better.

A considerable amount of the literature addresses the subject of learner experience within the context of blended learning. For instance, Picciano et al. (2013) demonstrated that blended learning in college faculties played a fundamental role in increasing the interest of students in their education. In a qualitatively designed study, the researchers showed that students expect to derive a sense of enjoyment in their studies, which in turn reflects itself in the form of better grades and improved participation in both academic and extracurricular activities. Students who took part in the interviews indicated that they participated more in the learning process when their teachers incorporated technology into their courses. In a similar investigation, Milligan et al. (2013) observed similar trends in their analysis of the patterns of MOOCs, and their influence on learner experience. The study showed that the integration of technology in ordinary learning breaks the monotony experienced in offline courses.

In further research, Tamim et al. (2011) compared the efficiency of computer-based academic research versus the traditional physical library format. The researchers aimed to establish the real impact of technology integration in the learning process on the individual student under the BL arrangement compared to the traditional approaches. Using a quantitative approach, the researchers solicited data by administering a structured questionnaire to a sample of university students. A significant portion of the respondents indicated that computers were the ultimate lifesaver. They stated that in addition to the availability of the internet, technology had made researching in academics a fun activity as well. A substantial number indicated that they always looked forward to conducting computer-mediated research. The long-standing effect of the use of technology in facilitating research was its capacity to keep students focussed on their studies going for longer durations, a feat that is quite difficult to achieve with hard cover articles or books, as is the case in the traditional format. According to this study, the computer factor helps cultivate a culture of exploration and scholarly investigation in students.

According to Broadbent (2017), blended learning promotes the attribute of self-reliance in learners, and it prepares them for the imminent challenges in their careers. It delivers

to learners, a very important objective in education, which is to instil a sense of maturity and responsibility in the average learner. Nature dictates that, at some point, individuals should begin to take care of their own affairs without having to rely on other people. The ability to engage oneself in proper decision-making endeavours to improve elements of individuals' lives is the ultimate reward for participating in education. Kassab et al. (2015) observe that the utilisation of online learning resources enhances students' capacity to set reasonable goals, which enables them to determine their own academic destiny. The autonomy that comes with blended learning is the key to achieving top results in academics for the average learner.

The better part of the experiences that learners obtain from engaging in blended learning serve to improve their status for the better (Milligan et al., 2013). For instance, the experiences promote self-advocacy among students (Broadbent, 2017: 26). Over time, the students acquire the drive that propels them toward self-awareness, which ultimately leads them to capitalise on improving their strengths and addressing their weaknesses (Kassab et al., 2015: 29). Broadbent (2017: 267) postulates that self-advocacy enables learners to monitor their progress and academic achievements. As a result, learners can locate the relevant resources, and obtain the help they need to catapult them academically (Ramos et al., 2015: 5). In addition, it promotes learner ownership, which points towards the feeling of responsibility for one's actions.

Stakeholders in the education sector also stand to benefit from campaigns aimed at improving operations in the learning system. Apparently, the developments associated with blended learning are not limited solely to students and teachers. The exercise cuts across all parameters of the pedagogical sphere, and this includes all stakeholders, such as the government, alumni, local community, parents' associations and statutory authorities. Ramos et al. (2015) delineated stakeholder engagement as the process through which organisations or groups engage or communicate with people associated with the particular establishment in the formulation of policies, strategies, or for making important decisions that affect the running of the organisation. All these people have stakes and interests to safeguard within the learning institutions, organisations, and ministries (Broadbent, 2017: 25). The named groups contribute to the welfare of both teachers and students by formulating legislation and strategies that enhance the nature and quality of operations within the learning sphere (Jordan et al., 2016). This implies that the groups engage in constant communication with the students, lecturers and academic leaders.

To begin with, the stakeholder organisation thrives through communication. Most members of the organisation live apart and meet only occasionally (Ciabocchi et al., 2016.). At one time, the group would have been obliged to attend board meetings physically (Jordan et al., 2016). However, the introduction of technology in the communication system has made it easier for the members to participate remotely. Using technological devices such as computers and smartphones, stakeholders can access proceedings of meetings and other resources via the internet (Jordan et al., 2016). Furthermore, most stakeholders have busy schedules, which often eat into board meeting times (Jordan et al., 2016). The BL concept is a key component in stakeholder engagement, as it helps in overcoming such communication barriers. To facilitate proper stakeholder engagement, learning institutions should therefore consider integrating elements of both online and offline communication in their operations.

4.4.2 Lecturers' expectations

Technology and its captivating aura are one of the most conspicuous elements of life in contemporary times. The present study focuses on investigating the impacts of the integration of technology-mediated strategies and instruments into the learning system. Lecturers, like students, have unique perceptions and attitudes regarding the incorporation of technology in the learning process. The product of the combination – blended learning – has attracted praise and controversy in almost equal measure (Jordan et al., 2016). For instance, the review has established thus far that students and lecturers have conflicting perceptions about the rationale of blended learning. According to Poon (2012), a significant portion of the teaching population agrees that BL has rendered teaching services to become affordable, time-saving, and cheaper to deliver. Although this does not represent the general perspective, a major objective of BL is to enhance the quality of the teaching process for all teachers in higher education.

The level of satisfaction with the delivery of teaching services using the BL format hinges on individual tutors' ability to find a balance between the two fundamental learning elements – the online and offline teaching techniques. To register success with BL, lecturers must demonstrate their readiness to blend their basic knowledge of F2F teaching with the new e-learning trends. To a remarkable extent, the new teaching approaches have confirmed teachers' expectations within the realm of pedagogy. Quinn et al. (2012) opined that lecturers are aware of the effects of technology on social life, and most of them have been bracing themselves for the imminent transformations in the teaching process. Gecer (2013) explored the outcomes of the implementation of the BL process from tutors' points

of view. According to that researcher, lecturers have found renewed support in the new blended learning strategy. The study revealed, for instance, that blended learning assures lecturers of flexible routines in terms of availability. Blended learning is a rather flexible learning approach, which allows lecturers to deliver their services anywhere and at any time. The teaching procedures can take place regardless of time or distance from the physical classroom. Lecturers only need to access the internet to communicate with their students.

Beetham & Sharpe (2013) posit that technology-mediated teaching allows lecturers to access globally relevant teaching material that guarantees the provision of knowledge and experience pertinent to the learners' levels and needs. The availability of sufficient alternatives in the learning process is a key element that goes a long way to ensure the quality of the teaching process. Thanks to technology and the internet, lecturers are able to provide or recommend relevant sources that increase their students' levels of understanding of their courses. Kattoua et al. (2016) showed that blended learning accommodates both fast and slow learners in the sense that it provides the framework by which lecturers can personalise courses to suit the pace of each learner without inconveniencing their peers. In the article, the authors describe it as self-pacing. While it increases learners' levels of satisfaction and knowledge preservation, it helps lower lecturer stress (demotivation) that builds in the case of uneven academic performance among the students. A study conducted by Owen (2014) found that BL bridged the interaction gap between lecturers and their students. Under the system, lecturers and students could communicate via emails, chat rooms, and online discussion boards.

4.4.3 Academic leaders' expectations

An academic leader is one who assumes an administrative or managerial position within the sphere of education (Tucker et al., 2016). In this sense, faculty and heads of institutions qualify as academic leaders, and as such, they focus on the development of conditions that favour the learning process in learning institutions. Academic leadership could also include individuals with significant achievements in the world of academia (Hilliard, 2015). The expectations of academic leaders depend on the success of implementation of the policies and conditions created by themselves in their respective positions as leaders (Chang, 2016). They expect that the existing dimensions of the learning process will have a positive influence on the institution. They also have faith that the blended learning approach offers a student-centred education (Chang, 2016). Next, the blended learning system reflects the integration of strategic course planning that

incorporates an element of both e-learning and traditional classroom strategies. The academic leaders expect that both learners and lecturers will benefit from the strategic planning initiatives set by the board of leaders.

In addition, other areas of concern for academic leaders include the utilisation of classroom time and space. The primary motive of introducing and implementing the blended learning system is to improve the use of the classroom in academic activity. A study of the various BL models, especially station rotation, reveals various uses of classroom time and space (Ciabocchi et al., 2016). The model exemplifies an integration of the various aspects of BL within the same location, that is, the classroom environment. Under the station rotation model, teachers have the freedom to take their students through a variety of learning processes, including collaborative, individual and online sessions. Moreover, academic leaders promote the provision of educational services that correspond to the needs of both teachers and learners (Gregory & Lodge, 2015). Blended learning has registered inspiring results in increasing rates of enrolment in programmes and courses in higher education (Tucker et al., 2016). Notably, nations such as Saudi Arabia have reported increased enrolment in the female population following the introduction of the BL approach (Sajid, 2016). The possibility of taking and completing courses virtually without having to attend classes in person has gained popularity among Saudi women. Consequently, universities and colleges offering online courses and learning programmes have experienced an increase in enrolment.

In one of the earliest studies, Alley and Jansak (2001) identified and recommended at least 10 key factors that guarantee quality in online learning. Potentially, the factors provide a framework for evaluating the expectations of lecturers with respect to their involvement with the BL format. The study revealed that designing course instruction around the needs and capabilities of students is the key to achieving success with virtual courses. Moreover, such programmes should enable learners to assume accountability for their respective educational endeavours. The study reported the view of leaders that knowledge construction allows for the provision of student-centred learning (Alley & Jansak, 2001). BL was said to present learners with the ability to engage in extensive reflective evaluation and thinking, which broadens the scope of their experience considerably. They also thought BL presents an opportunity to personalise learning instruction to meet and cater to individual learners (Alley & Jansak, 2001). It allows tutors to integrate elements of online learning into F2F classroom-oriented learning in a bid to find the right balance between the two learning approaches. Another proposition was that BL promotes the

elements of cooperation and collaboration in the learning process, which in turn strengthens the learner-learner and learner-tutor bond significantly (Alley & Jansak, 2001). It also helps in the identification and modification of previous instructional mistakes. The learning approach was also said to enable learners to re-examine and explicate past studies and courses for better comprehension. The last point made was that the combination of online and F2F learning approaches allows for the preparation of more comprehensible learning courses.

4.5 Professional Development and Blended Learning

The findings in the present study show the importance of the factor of professional development as one of the most vital ones to advance blended learning. However, scholarships that examine operating a professional development model that follow a blended learning approach for training to instructional leaders and educators are very limited. It is noted that Professional development styles that intended to offer instruction on blended learning for educators are limited. There are limited studies that stated either using a model that utilises a blended learning approach to teach about blended learning, or a model that has been applied to improve the learning of teachers as they consider using this instructional approach. It is submitted that there are particular models of professional development, and that they have yet to be recognised for their potential to support teachers instructing at the elementary school level, and there are research studies that operate various approaches to teaching about blended learning.

For example, Kitchenham (2005) studied numerous models of professional development considered by educators developing elements of a blended learning approach to teaching and learning. As mentioned in Bersin (2003), Kitchenham recognised six elements he thought should be considered when selecting the right blend for adult learning. These essentials included considering the intended audience, time, scales, resources, content, and business application. Additionally, it should be noted by the leaders that professional development should be focused on the audience of learners and their specific classroom sittings. In such a situation, it gives the teachers an opportunity to get training that is constructed around their needs as educators, as well as to consider the needs of their population of learners.

4.6 Challenges of Implementing Technological Change for Educational Planning

As has been discussed in the previous sections, the integration of technology into a university course (BL) has a number of potential benefits for learners. Mainly, it can support education across the curriculum, and it provides opportunities for effective interaction between teachers and learners, which traditional classrooms cannot do to the same extent (Dawes, 2001). However, this potential may not be realised easily, as a number of difficulties exist when attempting to integrate technology in education. It would seem that leaders and teachers see the value of technology in education (Balanskat et al., 2006), but they encounter a number of barriers when attempting to do so. Technical problems are not uncommon in blended learning scenarios (El-Mansour & Mupinga, 2007), which in the case of their study was found to also affect student attitudes negatively. It is therefore, important to examine these barriers and to help leaders and teachers overcome them.

The devices used to provide and avail BL pose a technological challenge besides other factors such as internet connection. According to Chen & Tseng (2012), Tarhini et al. (2013), and Calisir et al. (2014), a critical factor that influences students' perceptions of a BL environment and ultimately their satisfaction, is the ease of use of these devices and their perceived usefulness by students as the main users of them. Ease of use is important because it enables the students to have a suitable system for self-regulation of their learning (Woltering et al., 2009). Moreover, it gives them the necessary flexibility to access information and focus on their learning (Shurville & Rospigliosi, 2009). Another related challenge is familiarity since familiarity could make the devices easier to use over time. In fact, Kennedy et al. (2008) and Mahmood (2009) found that familiarity has a strong impact on students' attitude towards the use of ICT tools generally. Through training and repeated use, familiarity enables the students to make maximum uses of the technology involved in BL (McCarthy, 2010).

4.6.1 Classifying barriers to technology implementation

A barrier is described as "any condition that makes it difficult to make progress or to achieve an objective" (Schoepp, 2005: 2), and a number of researchers have attempted to classify these barriers to technology implementation into categories. One type of classification is to separate barriers into intrinsic and extrinsic barriers, where intrinsic barriers are those which pertain to individuals, and extrinsic barriers are concerned with organisational constraints (Ertmer, 1999). Another classification is to separate barriers

into teacher-level barriers, for example, lack of expertise or confidence, and institution-level barriers, such as lack of access to resources or lack of staff training to deal effectively with technological resources (Becta, 2003).

A further perspective is to classify barriers according to whether they deal with material conditions, such as insufficient technological resources, and non-material conditions, such as attitudes and lack of time (Pelgrum, 2001). Groff and Mouza (2008) identify six categories of barriers: legislative factors, institution-level factors, factors associated with the teacher, factors associated with the technology-enhanced project, factors associated with the students, and factors associated with the technology itself. The purpose of this current study is therefore to elicit the experiences of the stakeholders, including students, lecturers and academic leaders, on the impact of blended learning, and to investigate blended learning based on their experiences, and to explore ways of eliminating or minimising the barriers to blended learning and maximising its benefits. Additionally however, institution-level factors, teacher factors, factors associated with the technology-enhanced projects and the factors associated with the students are examined in this section.

4.6.2 Institution-level barriers

Institution-level barriers include external pressure to use the technology, lack of time and training, and insufficient access to the technological tools. Firstly, it has been noted that once a technological project is implemented, there is considerable pressure from the body that has financed the project, for example, the education authority or a national grant, so that the institution ensures a 'return' on the investment. In other words, there is pressure for leaders to ensure that students are engaged with the technology often and on a regular basis (Zhao & Frank, 2003; Bowman, 2004). However, educators need to take care when responding to this pressure. A body of research has demonstrated that learning goals should be placed first, and then the selection of tools to meet those learning goals should be a secondary consideration (Wiggins & McTighe, 1998; McKenzie, 2003). When this order is reversed and educators are pressured to use the technology first, and then find a learning goal to fit the use of the tool, then student learning can be compromised. Therefore, leaders need to ensure that they do not pressurise teachers to use technology frequently even when it does not fit in with their learning goals.

A number of studies have cited lack of time as a major barrier to implementing technological change (Becta, 2004; Schoepp, 2005). Teachers often complain that lessons

using technology take longer to plan than traditional lessons, and they have no common planning time with their colleagues in order to lessen the load (Lebaron & Collier, 2001). A lack of suitable training in technology is also often cited as a barrier to implementing technology (Becta, 2004; Schoepp, 2005; Balanskat et al., 2006). Importantly, those teachers who have received ICT training often complain that the instruction focused on the use of technology rather than how to implement it in their classrooms (Cox et al., 1999; Balanskat et al., 2006). Therefore, it is important that the training provided to teachers focuses on pedagogical issues as well as on the mechanics of how to use the technology (Becta, 2004). Initial training should also be supported with ongoing professional development in the use of technology to ensure that teachers maintain their knowledge and skills, and so that they are kept abreast of new developments (Casey & Rakes, 2002). A lack of suitable training for teachers is cited as one of the main issues in the implementation of technology in Saudi Arabia as well, and this is due both to a shortage of teachers able to use the technology effectively and to the prevalence of the 'delivery' style of teaching rather than pedagogical techniques more suited to the use of technology (Bingimlas, 2009). Therefore, training may be a major barrier in this study.

A further institution-level issue is access to technology. Access to computers and technology is often shared amongst teachers, and issues such as poor organisation and administration of the resources, a lack of planning ahead by teachers and a lack of sufficient hardware have been cited as constraints (Becta, 2004). These issues can often affect a teacher's motivation to use technology in their classroom negatively (Osborne & Hennessey, 2003). Furthermore, a lack of technological support in the school can also lead to barriers to the implementation of technology. Technical problems often impede the delivery of lessons, and they interrupt the natural flow of the class. It is therefore essential that a university has sufficient technical support available, and a regular maintenance programme is arranged for technological tools (Becta, 2004).

In summary, it is necessary for educational leaders to be aware of these institutional-level barriers to the successful implementation of technological projects, and to make plans to overcome them. These plans should include issues such as (a) ensuring adequate access to hardware and software, (b) providing technological and pedagogical support, (c) developing professional development programs, which focus on both how to use the equipment and how to implement it in the classroom in a pedagogically effective manner, and (d) allowing teachers time to explore the technology, plan their classes and work collaboratively with their colleagues.

4.6.3 Teacher-level barriers

The teacher and their motivations and feelings towards technology are a critical factor in determining the success of a technological innovation (Groff & Mouza, 2008). Owston et al. (2006) for example, noted that lecturers of first-year university students prefer to have F2F contact with their students over BL. The presence of educators alone can improve the quality of course elements (Garrison & Kanuka, 2004), but more than that, as Callister & Dunne (1992: 325) note, "if the teacher does not know what to make of the tool, or fears it, or misconstrues its uses, it will be used badly or not at all". Teacher-level barriers include a lack of confidence or expertise and resistance to change. In spite of this situation, there is a lack of focus on teacher training to enable them to deliver BL courses effectively (Bower et al., 2015).

Several studies have indicated that lack of teacher confidence in their expertise to use technology can present a barrier to the effective implementation of a technological project (Becta, 2004; Balanskat et al., 2006). Teachers may feel that their own skills in ICT are less than those of the students, and therefore do not want to attempt to use it, and consequently fail in front of their learners (Becta, 2004). Such a lack of confidence in their own ability can negatively affect a teacher's motivation to use technology (Osborne & Hennessey, 2003). Furthermore, it has been found that teachers who have a low level of competence in the use of ICT avoid using it in class despite seeing its pedagogical value (Balanskat et al., 2006). Therefore, suitable training is clearly a critical factor in the successful implementation of a project.

A further teacher-level barrier to technological projects is the level of resistance to change of the teachers (Becta, 2004; Schoepp, 2005). Teachers' perceptions and beliefs about the benefits of technology to education can significantly affect professional practice, and therefore, are a critical factor in the implementation of new technologies (Haney & Lumpe, 1995). For technology to be successfully implemented in the classroom, teachers need to feel comfortable that they are useful educational tools, but often teachers remain sceptical about the benefits of technology to education (Groff & Mouza, 2008). This may be because the use of technology can challenge their current role in the classroom – technology often involves a change from a teacher-centred to a student-centred approach to teaching and learning, which may be against the pedagogical principles of the teachers (Mandinach & Cline, 2000). Alternatively, resistance to change may be related to the teachers' beliefs about the benefits of the technology for learners. According to a report by Empirica (2006), the teachers who are still not using technology in their classrooms

are those who are unsure or unclear about the benefits that technology can offer for education. Therefore, teachers' resistance to change and their negative beliefs about technology perhaps indicate that they do not have sufficient education or training about the benefits of technology, and this may change with professional development courses.

4.6.4 Student-level barriers

As with any educational project, the reaction of the students and their individual characteristics will affect the success of its implementation. Therefore, it is important to consider the barriers that learners may present to the project (Groff & Mouza, 2008). As with teacher-level barriers, the students' level of technical expertise and their beliefs can influence the success and direction of a project. Some students even prefer face-to-face settings exclusively over online learning (Battye & Carter, 2009), and this traditional mode of teaching and learning is still supported strongly in many countries, as found by Barbosa (2016). In one study by Benson et al. (2011), it was even considered by users to be more effective than the traditional mode. The advantages of BL would therefore need to be compelling and the barriers and challenges to implementing and using BL must be dealt with in order for BL to be promoted and adopted more widely.

Learning through technology often requires learners to learn differently to traditional 'delivery' methods of teaching. They have to take on new roles such as collaborative learners with their peers, self-directed learners, and they may have to assume leadership roles (Atkinson, 1994). Those learners who are unaccustomed to learning in such a way may require training in such constructivist learning styles and techniques for the technology project to be successful. Furthermore, as with the teachers, the students' level of expertise with the technological tools can be a critical constraint in the successful implementation of a project. Alebaikan and Troudi (2010) highlighted the issue of low-digital proficiency or computer literacy as impacting on the accessibility of BL to students since they are expected to possess an adequate level of proficiency. Students who are highly literate in using computers tend to also have a more positive attitude towards BL, and they therefore gain more from this mode of learning (Yudko et al., 2008). Similarly, Smyth et al. (2012) showed computer proficiency to be positively correlated with positive interactions. This makes the know-how in using technology crucial for BL (Graham et al., 2013). If the students do not know how to use the tools comfortably, then it is unlikely that they will provide educational benefits. Therefore, training should be provided before the project begins, or it should be embedded in the project itself so as to extract the maximum benefits from the use of the technology (Groff & Mouza, 2008).

Finally, student motivation in using the technology and their attitudes towards it can also affect the success of a project, as can lack of self-confidence (Graham, 2013). On the other hand, some studies have established that these barriers, especially low motivation, can actually be overcome though a blended learning experience (Yushau, 2006; Tubaishat et al., 2006). As with the teachers, the students may initially have negative beliefs about the applicability of technology to the classroom, and may not see its educational benefits. Teachers need to ensure that they support students in any transition process resulting from the introduction of technology, and articulate why the technology is being used and how it can help their learning (Åkerlind & Trevitt, 1999). In summary, as the students are the primary users of any new technological project, it is essential to consider and plan for the barriers they might face, which may include barriers relating to their technological expertise and to their beliefs about the benefits of the technology.

4.6.5 Project-level barriers

The final category of barriers relates to the project itself. It has been shown that some technological projects are easier to implement than others, and that this can relate to two dimensions: distance and dependence (Zhao et al., 2002). Distance refers to the extent to which the technological project deviates from the existing culture of the educational institution. That is, if the project uses similar pedagogical practices to those already in place, it is more likely to be successful. Conversely, if the project radically changes teaching and learning practices, then it is more likely to fail. Dependence refers to the level of help needed from others outside the project. Those projects, which depend on other resources and people outside the classroom are less likely to be successful than those which rely on technology within the teacher's control. Therefore, when planning a project, it is important to consider the current teaching culture within the university and the extent to which the project deviates from this, and also the ease of access to the technology for both teachers and students.

4.7 Challenges and Deficiencies in Existing Research

The existing literature has its fair share of challenges that limit the credibility of the outcomes. The research problem seeks to establish the impact of blended studying on the realm of education. Moreover, it aims to determine the actual extent to which the integration of technology can help education leaders revolutionise the entire sector while fostering learner relationships between learners and their tutors. The incorporation of technology into the higher education system has proved difficult due to the nature of

approach that educational leaders, teachers as well as students employ. Challenges to blended learning highlighted in the review include the individual and organisational limitations that persistently compromise efforts to implement BL in higher education. On the personal platform, the implementation process suffers massively thanks to generational differences (a gap) that exist between the individual participants. In this case, teachers and students develop conflicting attitudes towards the use of technology in the classroom. Teachers may feel demotivated due to a lack of relevant skills whereas students may misuse the resources for personal interest other than for studying. Eventually, the entire process proves futile. The existing literature fails to show how various individual and organisational arrangements affect the application of BL in the higher education sector.

4.8 Overview and Gap in Knowledge

The review of previous literature has demonstrated that blended learning is not a passing phenomenon, and that educational experts perceive it as the future of pedagogy. The study revealed some gaps in the literature that highlight the areas in need of being addressed further. Blended learning is itself a broad subject with a rich research background. Numerous studies address various elements of the introduction, evolution and implementation of the models of blended learning for the researcher to select and review. Unfortunately, sufficient literature resources that address the BL issue from the perspective of the Saudi Arabian context, let alone at KKU, is lacking. Most sources reviewed in the extant study based their analysis on a global approach. A few case studies were focused on nations whose pedagogical landscapes and cultural conditions are very different from the conditions in Saudi Arabia. Despite having a strong economy, Saudi Arabia still struggles when it comes to the provision of education for all citizens. Researchers need to undertake more studies that address education-related issues from a more precise and similar perspective.

It also appears that many scholarly studies isolate students in their investigations at the expense of the other participants, namely lecturers and academic leaders. The larger portion of the sources reviewed studies presented and conducted to establish the experiences, perceptions and attitudes of students on the implementation of the blended learning system. Worse still, other studies such as Owston et al. (2013) aimed to assess teachers' experiences through only surveying students. While the approach is not entirely inappropriate, it restricts the possibility for determining the actual experiences of teachers.

Indeed, it is possible to analyse teachers' perspectives, attitudes, and experiences without focusing on other related groups, however relevant they may be to the research context. More research that investigates the experiences and expectations of teachers and academic leaders independently could help reduce the lack of sufficient representation in that area.

4.9 Summary

The literature review has emphasised the inability of researchers to create a universally accepted definition of the blended learning concept. The lack of a functional definition has resulted in the existence of a host of definitions, as every researcher attempts to contribute towards the issue. Overall, the BL learning approach refers to the mixing or the combination of selected learning methods aimed at improving the overall outcome of the learning process for students. The advanced stages of learning – the tertiary level – such as universities and colleges, offer a relevant platform for the implementation of the blended learning approach, as they take in knowledgeable learners with the capacity to handle the requirements of the pedagogical approach. The review of the theoretical underpinning, which forms the supporting pillar upon which the research investigation hinges recognised the relevance of behaviourism, constructivism and cognitivism to the development of blended learning. The analysis of the theories revealed the distinct aspects, which explain the rationale for blended learning in terms of interaction with the environment, cognitive knowledge accumulation, and learning from individual experiences. Other theories, which could contribute significantly to the objective, include variation theory, engagement theory, situated learning theory, and activity theory. Further, the analysis established that the experiences and expectations of students, lecturers and academic leaders hinged on levels of satisfaction with existing blended learning models (teachers and students), and on the suitability of the implemented policies, as in the case of academic leaders.

The next chapter details the methodology applied in this research, and it explains and justifies the mixed methods research design applied for answering the research questions (see 1.8).

Chapter 5: Methodology and Field Study Procedure

5.1 Introduction

This chapter describes and justifies the research methods that were used to address the research questions stated in Chapter 1 (section 1.8). In this chapter, several important aspects of the research process are described and justified, as correctly understanding each component of the methodology will contribute to the accuracy and validity of the data collected using the chosen methods and hence provide a firm foundation for the analysis and discussion chapters to follow. After recalling the research context, the chapter begins with the philosophical standpoint of the researcher in regard to the nature of the social world, or ontology, the methods by which we come to acquire knowledge of the world, or epistemology, and the role of values in the research, or axiology (Ghauri & Grønhaug, 2005; Kivunja & Kuyini, 2017). There follows an explanation of the choice of research strategies and methods selected for collecting data, their implementation in the two phases of the field work, and the data analysis procedure.

Alternative research methods and techniques that could have addressed the research questions are explored and the selection of one approach over the rest and the rationale as well as the criteria for its selection are explained. A descriptive and interpretive case study approach was adopted, in which a combination of quantitative and qualitative research approaches was used. The thesis relied on a survey for gathering quantitative data and interviews for gathering qualitative data, which resulted in an indicative research outcome. The survey and the interviews enabled triangulation between the quantitative and the qualitative data. This helped in the validation of the data through the use of different research methods to study the same research phenomenon.

A description is provided of the data collection techniques and instruments, including the design of the survey questionnaire. A description is also provided of the participants and sample selection procedure. Lastly, the ethical considerations raised by the field work are discussed. The chapter concludes with a summary of key highlights of the methods and techniques used in the data collection and analysis.

5.2 Research Context

The study focuses on exploring the experiences and perceptions of students, lecturers and academic leaders on the impacts of blended learning in Saudi Arabia higher education system, based on a case study conducted at King Khalid University in Saudi Arabia. Data collection and analysis in the study aimed to answer the main and four empirically focused

research sub-questions, the first and second of which (ESQ1-2) concern the experiences of students at the aforementioned University on the impacts of blended learning. The third (ESQ3) explores the experiences and expected outcomes of students, lecturers and academic leaders on the impact of blended learning at the university. Lastly, the study makes comparisons of the experiences and perceptions of the three groups included in the study (ESQ4).

To reiterate (see 18), the study attempted to address the following main research question: *What are the experiences of blended learning at King Khalid University in Saudi Arabia among students, lecturers and academic leaders, and the implications based on these experiences for educational planning and learning process strategy?*

In line with the above main research question, the following sub-questions have been developed to guide the investigation on important aspects of blended learning, and to obtain insight from the data gathered from each of the three groups of identified users:

d) What is blended learning and how has it developed or emerged?

e) What are the theoretical underpinnings for 'blended learning'?

f) What are the emerging implementation issues with 'blended learning'?

To guide the empirical aspects of the research, the following four sub-research questions were formed:

1. What are the experiences and perceptions of students on the impacts of blended learning in Saudi universities in terms of:
   (a) The factors that influence the perceptions of students of the blended learning environments in King Khalid University;
   (b) How students rate their computer proficiency for using blended learning?
2. What do students at King Khalid University experience and expect from blended learning in terms of:
   (a) Its benefits;
   (b) Its limitations and challenges?
3. What do academic leaders and lecturers at King Khalid University experience and expect from blended learning in terms of:
   (a) Perceptions on teaching and learning effectiveness;
   (b) Advantages of BL;

(c) Barriers and challenges of BL;

(d) Social benefits of blended learning?

4. How do the expectations and experiences of blended learning compare between academic leaders, lecturers and students in terms of:

(a) Their experience towards the effect of blended learning on learning;

(b) Advantages of blended learning;

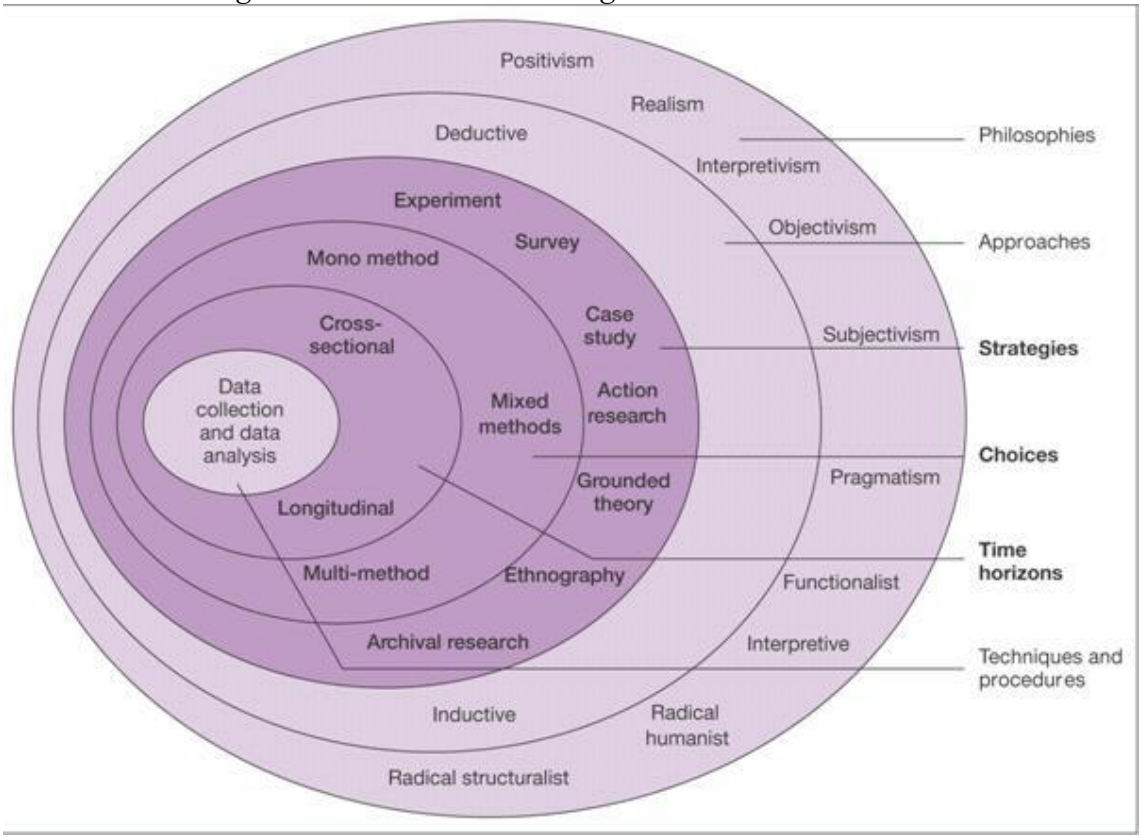
(c) Obstacles/limitations of blended learning?

The study sought to establish the factors that influence the perceptions and experiences of the students, lecturers and academic leaders on the impact of blended learning at King Khalid University. A variety of aspects were probed, including how students perceived and rated their computer proficiency in blended learning, and the challenges they experienced during blended learning. The impacts of blended learning in improving the effectiveness of teaching were explored from the perspectives of the students and their lecturers, and comparisons were also made. The study also sought to identify barriers in the application of blended learning in the Saudi context and the social benefits associated with blended learning.

5.3 Research Onion Diagram (ROD)

There is a broad range of alternative research methods for answering research questions. Therefore, making the right choices for selecting the most appropriate research method and formulating arguments in support of the choice is a daunting challenge for the researcher. The Research Onion Diagram (ROD) is a visualisation tool illustrated below in Figure 15, which helps in overcoming the challenge of choosing an appropriate research method, and in identifying the underlying research philosophy. The ROD helped in analysing and strategising in the various methodological decisions made by the researcher.

Figure 15: Research onion diagram: a visualisation tool



Saunders et al. (2012)

Since there is a vast number of possible research methodologies, the onion diagram is a useful tool for helping the researcher to identify appropriate research methods. However, it could potentially be misused, for instance, a researcher may be tempted to make the unreasonable assumption that the expedient line from the centre of the diagram to the outermost circle is the most logical way to achieve the research purpose. It is also not possible to use a mixture of methodologies without considering the main research question of the study. Therefore, the methodology of the research needs to be less structured in context. There are three broad dimensions to consider for the research philosophy, namely, ontology, epistemology and axiology.

5.4 Research Philosophy

The choice of the research methodology, techniques and instruments is determined by the research philosophy that a researcher adheres to. There are two broad approaches, namely, empiricism and rationalism. The empiricist approach is premised on the understanding of how people come to know the world, and an assumption that this can only be achieved through an objective study and analysis, and through testing of the attendant verifiable

reality (Ghauri & Grønhaug, 2005). Empiricism is closely associated to scientific methods that relate to knowing the world through the formulation and testing of hypotheses in controlled experiments (Ghauri & Grønhaug, 2005). The empirical epistemology argues that knowledge can only be gained through conducting objective studies followed by analysis. In this manner, the research is potentially freer from subjective biases and data gathering is a critical component of the research methodology, since it helps the researcher to reach a defensible conclusion. For an empiricist, data are the only source of explanatory power within the context of the research (Kivunja & Kuyini, 2017).

On the other hand, the rationalist epistemology posits that data alone is insufficient in unlocking the mysteries of the world and that data must go through the rigour and analysis of the human brain (Sekaran & Bougie, 2009). The rationalist places a different value on data, although this is not necessarily opposed to the empiricist's view of an objective study and analysis in research. The rationalist approach places importance on the role of the human brain in amplifying and contextualising the data through applying different kinds of inductive and deductive reasoning (Davies, 2007).

Empiricists can be regarded as inductivists while rationalists are deductivists (Neuman, 2003). Thus, the two opposing research philosophies form the first major paradigm in science. Inductive reasoning engages a bottom-up approach that begins with observations and then moves towards theory or to a general conclusion. On the other hand, deductive reasoning is premised on a top-down process that begins with a general statement or theory followed by a specific hypothesis, which is tested, and a specific conclusion in the research is then reached through applying logical reasoning (Neuman, 2003).

As observed in several studies, different methodological approaches can co-exist in the same research methodology (Tariq & Woodman, 2013). The combination of different methodologies may help in triangulation of the data as well as for counterbalancing multiple sets of data within the same study settings (Cohen & Crabtree, 2006). Therefore, this study exploited both empiricist and rationalist aspects in meeting the research objectives. With the need to acquire primary data in addressing the research purpose, a data collection design was adopted involving a mixed methods approach, premised on the duality of empirical and rationalist contexts. Mixed methods research involves both qualitative and quantitative approaches. This was done because in addition to the generation of empirical data, the thesis required rational interpretation in relation to the ideas developed in the literature review.

5.5 Research Paradigm

Research paradigms are important in all research and can be defined as world-views that encompass different philosophical assumptions (Creswell & Clark, 2011). A world-view is composed of stances that are adopted with respect to various dimensions, which include ontology, epistemology, axiology and methodology (Creswell & Clark, 2011). Tashakkori and Teddlie (2010) have distinguished five different world-views in research paradigms by separating positivism and post-positivism. Post-positivism is a modification of positivism that factors in some excesses of positivism, such as the assumption that research must be value free. Of these, four main world-views are: positivism/post-positivism., transformative, interpretivism/constructivism and pragmatism.

The positivist paradigm is based on what is known in research methods as the scientific methods of investigation (Tashakkori & Teddlie, 2010). The scientific methods in research involve processes such as experimentation which is used to explore observations and answer the research questions on a particular research phenomenon. The positivist attempts to interpret observations through facts and/or measurable entities. Research that is grounded in the positivist paradigm is usually based on deductive logic where hypotheses are proposed and tested. Conclusions in post-positivism. are reached through mathematical equations and calculations, as well as by means of expressions and extrapolations. The measurable outcomes in the positivist paradigm include generalisability, parsimony, determinism and empiricism.

In the assumptions of determinism, the measurable outcomes observed are a result of other factors, and thus the goal of the research is to understand the causal relationships among these identifiable factors. This enables the researcher to predict and control the potential effects of the explanatory factors on the dependent variables. The second assumption in the positivist paradigm is empiricism, which requires the researcher to obtain verifiable empirical data to support a given theoretical framework proposed in the research (Tashakkori & Teddlie, 2010). The parsimony assumption in the positivist paradigm means that the researcher aims at explaining the research phenomenon in the most economical way possible (Kivunja & Kuyini, 2017). The generalisability assumption explains how the results are obtained in the research process and the context of the research should be applicable to other situations through inductive inferences (Kivunja & Kuyini, 2017). Validation of the positivist paradigm is based on four criteria that include internal and external validity, objectivity and reliability (Burns, 2000). An alternative research paradigm is the transformative or critical paradigm, which bases

research on social justice issues. This critical paradigm is characterised by the focus on power relationships within the social structures, among other features of the paradigm.

Another key paradigm, the interpretivist paradigm, seeks to understand the subjective world of human experiences. This paradigm requires the researcher to 'get into the mind' of the research participants to understand and interpret the perspective of the research subjects instead of relying on the viewpoint of the observer. Since the emphasis is grounded on understanding the individual and then interpreting their world-view, the interpretivist paradigm is based on a socially constructed reality. The paradigm is also referred to as the constructive paradigm since data are generated during the research process and then analysed, as done, for example, in line with grounded theory (Kivunja & Kuyini, 2017).

In this interpretivist paradigm, the researcher derives meaning from the research process through their own thinking and cognitive processing of the research data as informed through the interaction with the research participants. The interactive process helps the researcher to intermingle, listen and record data that helps the research to get insight into the multiple realities and then make social constructs of the research participants' personal experiences. This paradigm forms the basis for the qualitative research in the mixed method approach adopted in the current research. The naturalist methodology implies that the data for the research are collected in a qualitative manner where qualitative research instruments such as interviews are employed (Kivunja & Kuyini, 2017). Instead of applying the positivist paradigm assumptions such as validity and reliability, validation of interpretive research is based on authenticity and trustworthiness.

The pragmatic paradigm posits that no single method is adequate for accessing the 'truth' in the real world, and therefore, it advocates both positivist and interpretive paradigms (Kivunja & Kuyini, 2017). This is a pluralistic approach in research that combines different methods to shed light on the actual behaviour of the research participants and to understand the consequences of such behaviours and beliefs. This paradigm seeks to offer an alternative to the two diametric polar positions of positivism and interpretivism, and it puts an emphasis on workability in the research process. The pragmatic paradigm rejects the positivist notion that social science investigation can uncover the "truth" concerning the real world. It emphasises workability in the research process by adopting a world-view that suggests those research designs are used in combination which are suited for the purpose of the research (Morgan, 2014). The pragmatic approach rejects the notion of locating the study in either the positivist/post-positivist or the interpretivist paradigm

exclusively; rather, it seeks to utilise the best approaches to acquire knowledge using every available methodology to assist in knowledge discovery and creation. The choice of the research methods depends on the purpose of the research and the pragmatic approach seeks the best useful approaches to connect important points in the research to facilitate the understanding of the phenomenon under study.

The research paradigm was informed by the philosophical assumptions of the nature of social reality., which is referred to as ontology and which describes the researcher's belief about the nature of reality with regard to blended learning in the context of Saudi Arabia's universities. The ways of knowing what is unknown in respect to the experience of the stakeholders of Saudi universities on the impact of blended learning was identified through epistemology. Lastly, axiology sought to identify the role of ethics and values in the research methodology.

5.5.1 Ontology

Ontology is an aspect of philosophy that focuses on the assumptions that are made in order to believe that something is real or makes sense. It is the philosophical study of the nature of existence or reality. It explores the underlying belief system of the researcher. Ontology concerns whether there is one objective or multiple socially constructed realities (Patton, 1990). Thus, it identifies two main positions: the realist or objectivist, which assumes the existence of a single, fixed reality that is not influenced by the observer, and the relativist or subjectivist, which assumes that views of the world are subjectively constructed by social actors as they try to make sense of their experiences and perceptions. This means there is acceptance that there may be multiple "realities", which may differ and even conflict with each other.

Philosophical assumptions on the nature and form of reality are important in understanding how to derive meaning from the data that are collected in the research process (Cohen et al., 2017). These philosophical assumptions help in orienting the researcher's thinking into the research problem, and its significance regarding how the researcher can approach the research problem in order to answer the research question, get insight into the research problem and contribute to a possible solution (Cohen et al., 2017).

The different assumptions align with the interpretivist and positivist paradigms. The interpretivist views the world as a set of social constructions and integrates human interest through the study, invoking the philosophical representation of idealism in the world. The

social constructions may include consciousness, shared meaning, language and instruments. On the other hand, the positivist views the world as a very clear and unambiguous as well as verifiable reality that can be examined with objective detachment (Cavana et al., 2001).

The positivist paradigm assumes a realist ontology that assumes the existence of a reality that is driven by immutable natural laws. It exists independently of the researcher, and can only be discovered through applying scientific methodologies. The researcher seeks to be detached from the observation and be entirely independent of the research process (Cohen et al., 2017: 176).

Although any research methodology can embrace either of the two ontological positions, they should not be viewed as polar opposites, since they can often be used together to study the same single phenomenon (Saunders et al., 2012). In this study, the researcher assumes that some aspects of blended learning have an objective existence, e.g., the hardware and software available. However, the research questions focus on experiences; thus, it is acknowledged that getting insight into the impact of blended learning will involve subjectivity, involving people in the same class who are offered the same materials, but who may experience and perceive them differently depending on their backgrounds, expectations, proficiency, time and effort invested, and so on. Thus, elements of both ontological positions are salient.

5.5.2 Epistemology

The term epistemology comes from the Greek word ‘episteme’ meaning knowledge. In the context of research, epistemology describes how one can know something or how the truth or reality is known (Crotty, 2003). As noted by Cooksey & McDonald (2011), epistemology identifies what counts as knowledge within the world. It is concerned with the fundamentals of knowledge, its form and nature and how it can be acquired and comprehended by the researcher. In the context of the research on the experience of the impact of blended learning in Saudi universities, the following question is posed: Is knowledge acquired or is it personally experienced? The relationship between the researcher and what is known or to be known in the research is covered in the epistemology of the research. Epistemology distinguishes four sources of knowledge, which include intuitive, authoritative, empirical and logical knowledge.

Where reliance is placed on individuals’ beliefs and faith, then the epistemology is founded on intuitive knowledge. If there is an emphasis instead on gathering data on

people with particular know-how, such as (in the case of this study) academic leaders, lecturers and learners on blended learning, then the epistemology is said to be based on authoritative knowledge. Logical knowledge is the basis of a rationalist epistemology that is founded on the search for truth. The last source of knowledge in epistemology is insight derived from experiences through demonstrable and objective facts, referred to as empirical epistemology.

In the positivist paradigm, there is dualism and objectivism where the researcher and the research participants are two distinct independent entities, and the former examines the other without them influencing each other (Cooksey & McDonald, 2011). Aspects of this epistemology were adopted in this study, in the sense that the role of the researcher involved the adoption of a non-interactive position that sought not to impede the research process. The researcher sought meaning from the research participants, rather than from his own consciousness.

Whereas the positivist paradigm seeks to generalise results, the interpretive paradigm is focused on understanding the phenomenon instead. The interpretivist world-view emphasises that reality is subjective and socially constructed, implying that it can differ based on the objectives and settings. The interpretive paradigm was relevant to the current study where the researcher sought individual experiences of the impact of blended learning. This approach, according to Orlikowski and Baroudi (1991), requires the investigator to understand the phenomenon of blended learning in Saudi higher education considering its social as well as cultural context with which the researcher is well acquainted.

The lived experiences of academic leaders, lecturers and students in Saudi universities on the impact of blended learning were examined through an interpretive lens in order to gain insight into the phenomenon more subjectively from different perspectives. The research questions require an in-depth understanding of the experiences of the study's participants on the impact of blended learning, and therefore, a more interactive form of inquiry was preferred between the researcher and the research participants.

5.5.3 Axiology

Axiology is concerned with the underlying vales and ethical issues in research planning. It takes into consideration a philosophical approach in making appropriate decisions on the ethical issues involved. Axiology defines, evaluates and understands the concepts regarding right and wrong behaviour related to research (Kivunja & Kuyini, 2017). The

nature of ethical issues and behaviours is considered, including the human values that will be involved for the research participants, the cultural, intercultural and moral issues arising from the research, and how they are going to be addressed. Axiology also addresses how the goodwill of the research participants will be safeguarded, and the need to minimise risks and harm when conducting the research. In regard to addressing these ethical issues, research axiology considers four criteria, which are deontology, teleology, fairness and morality (Kivunja & Kuyini, 2017).

Deontology is defined as the understanding that every action in the research process has its own consequences. These consequences extend benefits to the researcher, the research participants and the scholastic community, as well the public in general. Deontology allows the researcher to have flexibility when interacting with individual research participants. The teleology criterion in axiology is the theory of morality that posits that doing what is intrinsically desirable is a moral obligation that should be pursued in every human activity, including the research process (Kivunja & Kuyini, 2017). The attempts that are made in research to make sure that the research findings have a meaningful outcome that will satisfy the research community reflect the teleology criterion. For instance, in order to meet the teleological criterion, the researcher may pose the question whether the research methods applied in the study are pragmatic and whether they make sense. The actions that are undertaken during the research process should not cause more harm than good.

5.5.4 Choice of paradigm for this research

It has been suggested that the researcher should align the research within one paradigmatic stance that directs the choice for the research methodology (Lincoln & Guba, 1995). Here, the two main possible paradigms would be either positivist or anti-positivist, which are often associated with qualitative or quantitative methodologies respectively (Tashakkori & Teddlie, 1998). However, another strand within the current literature suggests that there can also be reciprocity between the paradigms. Proponents of this view suggest that the research questions should dictate the paradigms and research methodology best suited to fully addressing the aspects that the questions raise. So, following on from the main research question of this study (see 111), the key aspects are going to be the respective views of three groups of users of blended learning, namely students, lecturers and academic leaders. In order to gather data from these groups, a mixed methods approach is appropriate as it underpins the concept of pragmatism, which

favours the blending of qualitative and quantitative methods, under a mixed methods research design (Tashakkori & Teddlie, 1998).

Given this complementarity between the quantitative and qualitative approaches suggested by the current literature (e.g. Bijeikienė et al., 2011; Cobanoglu & Yurdakul, 2014), it was considered appropriate to combine qualitative and quantitative instruments for the context of the King Khalid University campus setting. On the one hand, the research questions implied a need to accurately reflect human perspectives and impressions indicated by participants with regard to blended learning, for which qualitative exploration of contrasting interpretations would be helpful. On the other hand, obtaining an objective overview of which findings are more representative of the perspectives held by the participants could enable the researcher to offer a convincing analysis as the basis for subsequent recommendations.

A pragmatic approach is "one in which the researcher tends to base knowledge claims on pragmatic grounds, for example, problem-centred, consequence-oriented or even pluralistic" (Creswell, 2013: 18). The pragmatic paradigm engages strategies of enquiry that involve collecting different kinds of data, either simultaneously or sequentially, to best understand the research phenomenon of interest. For the purpose of this study, the data were effectively collected simultaneously. Such data collection involves the collection of both numerical data via research instruments such as a structured questionnaire and text-based data gathered from interview transcripts.

Since the study is focused on the perceptions as well as the experiences of blended learning methods, the researcher has adopted a pragmatist approach as the basis for identifying the research methods to be used to obtain data to address the research questions (set out in 1.8). The use of both qualitative and quantitative methods appeared even more appropriate to the nature of this study due to the need to understand in detail the perspectives of both students and educators as different stakeholders, whilst also being able to present findings to a wider target audience. In summary, the pragmatist approach appeared to best suit the nature of this study and its stakeholders, as it appeared that the aim of this study could not be fully achieved through the use of qualitative or quantitative research approaches alone. This led the researcher to seek to combine the benefits presented by both research approaches, thereby also gaining the opportunity to more strongly substantiate similar results indicated through each method and thus provide the foundation for a more convincing data analysis.

In the subsequent sections, the different qualitative and quantitative methods considered are discussed in relation to the context of the research questions of this study (set out in 1.8), as well as their limitations and advantages, followed by identifying which research methods were selected and used in a complementary manner.

5.6 Pragmatic Approach: Possible Research Methods

Applying the pragmatic approach could lead to selecting appropriate research methods for addressing the set research questions (see 1.8), selecting the study's participants and data collection procedure, as well as for conducting the data analysis. A pragmatic stance is appropriate since some research questions are quantitative in nature and need to be analysed using quantitative procedures, whereas others require the gathering of qualitative data, using, for example, interviews and observations, and their analysis would be done using qualitative procedures. To understand the experiences of the research participants, the researcher needed to understand the perspectives of the academic leaders, lecturers and students through their narratives. Qualitative data collection allowed the researcher to critically analyse the experiences of the participants in relation to the social, historical and cultural context of blended learning in Saudi universities. This would entail data gathering methods that follow a grounded approach, seeking to generate theory from the real lived experiences of the stakeholders in blended learning.

The pragmatic paradigm suggested the adoption of a narrative inquiry in its qualitative research approach. For empirical sub questions ESQ1 and ESQ4, the merits and limits as well as implications of the blended learning environment for the learners as perceived by academic leaders were investigated due to the emic positioning of the researcher and the internal biases that may influence their positionality in the research. The pragmatic paradigm acknowledged the perception in the setting to be a product of internal and external influences. The qualitative approach enabled a thematic and humanistic interpretation of these interfering influences on the perceptions and experiences of the impact of blended learning.

In regard to empirical sub questions ESQ2 and ESQ3, the study sought to capture the perceptions and experiences of the students on the impact of blended learning. Although the students may hold an emic positioning, like that of the academic leaders, the influence of internal bias on their perceptions and experiences may not be significant in the learning process. Therefore, the students' perceptions and experiences of the impact of blended learning could be examined using a quantitative approach by employing research

instruments such as a structured questionnaire. For the last empirical research sub question (ESQ4), which requires comparing and contrasting between the perceptions and experiences of the three groups on the impact of blended learning compared with a traditional F2F learning environment, a qualitative content analysis could help in accurately corroborating the results obtained from students, lecturers, and academic leaders.

5.7 Research Approach

There are two main research approaches, namely deductive and inductive, which differ in the methods they use in developing their theories. The deductive research approach begins with the general and moves towards the direction of the specific, while inductive research approaches move from the specific to the general (Trochim, 2006). The current study is exploratory in nature, as it seeks to gain insights into the experiences of the stakeholders connected with King Khalid University on the impact of blended learning. The selected research methodology was mixed methods that involved applying both deductive and inductive research approaches. While inductive approaches are observational in nature, deductive research approaches are based on widely accepted scientific principles and values. This was the approach to data gathering on the experiences of the students on the impact of blended learning.

As noted by Creswell and Clark (2011), inductive research approaches are based on a bottom-up approach that relies on the attitudes, views and perceptions of research participants to build and generate theory. On the other hand, deductive approaches are based on top-down approaches that rely on hypotheses that oppose or add new knowledge to existing theory. Inductive approaches rely on research questions, while deductive research approaches rely on hypotheses in delimiting the scope of the study (Creswell & Clark, 2011).

5.8 Researcher Positionality and Philosophical Assumptions

5.8.1 Researcher positionality

In undertaking any research, it is important to ensure transparency, so that any preconceptions or even predispositions that the researcher may have are declared. In choosing the research approach, the ontology and epistemology that influenced the perception of the researcher about the research phenomenon have been acknowledged. The study sought to identify the cultural context and external influence present among the research participants in the study. Since the researcher has been involved in the Saudi

higher education system, there are internal perceptions that may influence his conceptualisation of what constitutes negative or even positive experiences of the impact of a bended learning environment in Saudi Arabia's universities; KKU in particular. These biases emanating from the researcher may lead to conditioned biases that may alter the researcher's internal criteria.

This possibility implies that the researcher, being an individual who is socially situated and therefore, considered at least in part as a by-product of these social influences and biases, cannot claim a purely objective stance, and therefore, he may not be able to evaluate the nature of the perceptions and experiences among the stakeholders objectively with regard to blended learning (Creswell, 2013). Consequently, this suggests that the point of view of the researcher was subjective, as his own perceptions of the experiences among these relevant stakeholders were subject to similar influences to those that affected the participants in this study. For example, the cultural and religious differences between Saudi Arabia and other parts of the world may produce a different internal construct of what constitutes a positive or negative experience of blended learning.

The need to consider this presence of internal bias is also suggested by the axiological view that the research is by nature "value-laden". To mitigate the limitations and weaknesses of the researcher being an individual who is a by-product of the existing Saudi social influences and biases, the researcher directed his efforts towards taking a neutral stance during the research process, while ensuring the reliability and validity of the research, and recognising that complete objectivity may never be realised (Hegelund, 2005).

In order to achieve philosophical objectivity and limit his subjectivity, the researcher stepped back from his ego-centred point of view to position to a more detached view (Hegelund, 2005). In essence, the pursuit of objectivity in research requires the cultivation of an austere universal objective self, though there is a consensus that one cannot completely free himself from a particular human view. The researcher in a qualitative study is the primary instrument of collecting and analysing data. Therefore, the background information of the researcher is pertinent for the credibility of the research (Merriam, 2009). As noted by Gagnon (2010), the researcher's personal attributes can have a significant effect on the research findings. Therefore, it is relevant for researchers to demonstrate that their positionality did not bias the study in any way. This required the researcher to establish his position within blended learning in order to circumvent the

potentially negative consequences of the researcher's preconceived beliefs, theories and perpetual lens.

Furthermore, it is also important that the researcher acknowledges the field of research as an environment characterised by the crossing of many different opinions and perspectives, which may corroborate each other but at times conflict one another instead. Because of this, the researcher developed the research methodology under the premise that perceptions of reality, including the researcher's own perspective, are ultimately subjective, and that assuming an objective stance would distort the results of the study. Another aspect of this study to consider is that the researcher, being a Saudi national, has had several years of experience within a Saudi Educational environment, which could present some complexity to the research position. On the one hand, the researcher is considered to hold an 'emic' positioning due to the internal perspective from being a Saudi national. On the other hand, he may also be considered to hold a positioning that is 'etic' as an outsider, due to having been outside the Saudi educational environment for the last five years (Morris et al., 1999).

Emics and etics are complementary perspectives, although they have been viewed as innately conflicting (Morris et al., 1999). In the emic positioning, the researcher has had a lived experience in the Saudi educational environment. The emic and etic acknowledge the qualitative nuances between the researcher and the researched in qualitative studies. Since the current study seeks to understand the lived experiences of the academic community in the Saudi higher education sector on the impact of blended learning, the emic perspective was helpful in accessing the study participants' lived experiences of blended learning in Saudi universities, and it helped in generating trustworthy data with relative ease (Reeves, 2010).

Insider status implies that there is more to gain when researching in an unpredictable environment such as Saudi Arabia, where blended learning is still underdeveloped. However, there are counterarguments to the insider position, where it is argued that researchers doing research in their own cultural group may highlight the social divisions between the study participants and the researcher, since the researcher is uniquely positioned to unravel points of sameness and difference. This implies that being an insider in the emic positioning does not automatically guarantee significant proximity and better access to the participants' lived experiences (Ganga & Scott, 2006). This justifies the need for embracing both the emic and etic positioning in the current research since both the insider and outsider statuses have their inherent strengths and weaknesses (Breuer &

Roth, 2003). Indeed, being an insider is complicated and it is impossible for the researcher to share many subject positions with the research participants. This is usually unattainable in the scope of fieldwork, since there exists some level of objectivity, distancing and abstraction that are required when conducting rigorous research, such as on the experiences of students, lecturers and academic leaders on the impact of blended learning in the Saudi higher education system.

Nevertheless, it is probable that the researcher cannot declare himself as an absolute outsider since he shared some subject positions with the study participants, although they were not mutual acquaintances (Ganga & Scott, 2006). There is no absolute insider status, implying that the emic and etic perspectives are extremely fluid constructions, and they are neither coherent nor stable in ongoing fieldwork interactions. The term positionality is thus the preferred notion in the researcher-participant relationship during fieldwork interactions. The researcher's social location during fieldwork is wholly or partially constituted in relation to the positioning of the active participants. As the researcher positions himself, he is also simultaneously positioned by the research participants. The challenge, therefore, for the researcher is to leverage the processes of positionality and identity in order to cultivate the collaboration of the research participants.

5.8.2 Research assumptions

The research makes assumptions by declaring the positionality of the researcher and the stance of the research participants, including those of the academic leaders, lecturers and students. Since the pragmatic research paradigm combines qualitative and quantitative methods, the assumptions of the two research approaches must be explicated in the research assumptions. In adopting quantitative research procedures, the researcher assumes the reality as objective and singular, and that it can be separated from the researcher. The researcher assumes the study findings can be replicated and that generalisability is possible to similar study settings, in this case to other universities in Saudi Arabia besides KKU.

In the qualitative research procedures, the researcher makes assumptions that the reality is subjective and multiple, as perceived by the research participants. Another assumption in qualitative approaches is that the research is context bound, although patterns and theories can be explicated to develop a more in-depth understanding of the research problem or phenomenon. One of the principal philosophical assumptions in qualitative research approaches is that reality is constructed through the interaction of the researcher

with the social worlds. Since meaning is embedded in the individuals' experiences, these meanings can be mediated through the researcher's own perceptions. The assumption that is made in the pragmatic research paradigm is that the integration of quantitative and qualitative methods within the same study can evoke complementarity (Greene & Caracelli, 2003).

5.9 Study Site

For the higher education institution site at which to conduct the study, the researcher selected King Khalid University (KKU) located in Abha, Asir province of Saudi Arabia in the south-west of the kingdom. KKU is a rapidly growing institution of higher education within the Kingdom that is ranked fourth in overall performance. With around 58,000 students, it is currently considered one of the biggest learning centres within the entire Middle Eastern region as well owing to it having a reputation as a major provider of both higher and further education. The eLearning Centre (eLC) at KKU was established in 2005 as part of the university's ongoing efforts to provide the latest scientific methodologies with the aim of improving the learning process.

Because of this focus, KKU provides an ideal setting for a study of the blended learning platform. With an already-established eLearning Centre, this University already contains the necessary infrastructure to support the e-learning component of blended learning and e-knowledge processes. Faculty members, students, and administrators are already able to achieve access through the centre portal to a robust and almost fully integrated Learning Management System (LMS) on which many of these blended learning components would be based, as well as supporting resources for applications and knowledge that extract data from the Student Information Systems (SIS).

Blended learning at KKU is also supported further by having the Classroom Capture Application, e-assessments, authoring tools, Virtual Classroom Tools, and a highly capable Learning Object Repository (LOR) that can share learning objects drawn from a variety of international open learning resources and content providers. Its already modernised University campus could therefore provide a more accurate representation of how both students and lecturers perceive blended learning, as many cultural and logistical barriers are present in other Saudi campuses without which prior e-learning experience will be mitigated. In the next section the researcher will provide further details about the target groups specific to each phase of the research, as well as the particular advantage of

distributing the questionnaire to students at King Khalid University, given their previous experience with at least one component of the blended learning process.

5.10 Research Design

Research design refers to the framework according to which a research method or set of methods are employed. It includes "all the issues involved in planning and executing a research project - from identifying the problem through to reporting and publishing the results" (Punch, 2009:112). The present research is based on gathering quantitative and qualitative data to address the research questions stated in section **Error! Bookmark not defined.** in Chapter 1.

5.10.1 Mixed method: why choose a mixed method?

The research design adopted in the current study is a mixed method approach, which aims to enhance and strengthen the validity and reliability of the study's findings (Bryman, 2012). Through complementarity of quantitative and qualitative research approaches, the research design helped in increasing the confidence of the research data thereby providing a clearer understanding of the research phenomenon (Thurmond, 2001). The research design entailed using questionnaires and interviews for the qualitative research, such that the research methods would complement each other to add depth to the obtained results and findings. Although mixed methods research designs are challenged by researchers who take a purist stance, since they mix different paradigms, they can be applied in a single study if the paradigms are perceived merely as research instruments for facilitating the understanding of a research phenomenon.

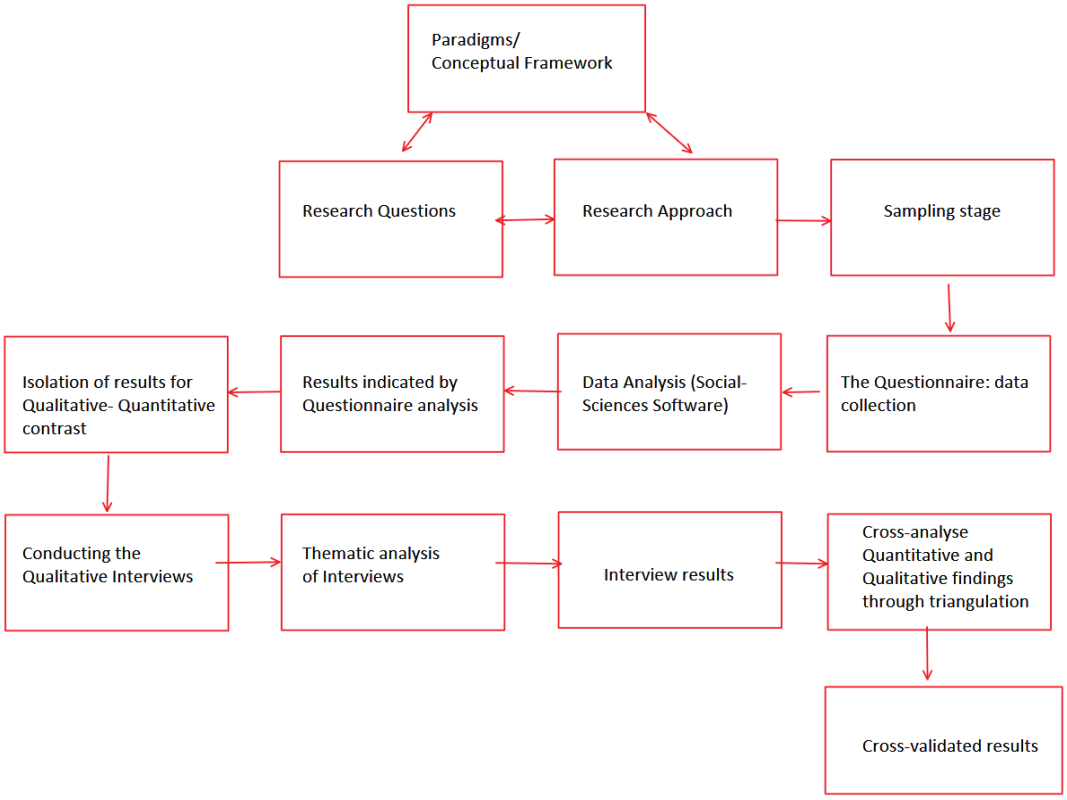
Quantitative research is defined as an approach for testing objective theories by examining the relationship between variables where variables are measured and numerical data are analysed using statistical techniques (Creswell, 2013). The quantitative research was undertaken using a descriptive research design since it enables the researcher to generalise the study's findings on the experiences of the impact of blended learning on the wider Saudi Arabian higher education system. As defined by Cooper & Schindler (2006), descriptive research is focused on finding out the what, how and where of a particular phenomenon. Since surveys do not provide the researcher with any clue as to why participants give certain responses, interviews can provide meaningful inputs to fill the void in the survey generated quantitative data (Bryman & Bell, 2012). The researcher can understand not just the answers to specific questions in the narrative

inquiry of the interviews, but can also potentially obtain a wealth of data on how research participants arrived at certain conclusions (Bryman & Bell, 2012).

While interviews provide in-depth information on the research phenomenon, they entail a highly laborious process and thus they are limited in the number of responses that can be reasonably attained. Thus, the study applied both survey and interviews to provide an amplified set of data to get insight into the experiences of academic leaders, lecturers and students on the impact of blended learning in Saudi universities. Interviews, as research instruments, are appropriate for gathering in-depth experiences and perspectives from a few participants (Powney & Watts, 2018). The interviews targeted academic leaders, with open-ended questions regarding their experiences of the impact of blended learning in the Saudi higher education system.

In conclusion, each research method has its strengths and weaknesses. The present research makes use of both questionnaires and interviews to benefit from their respective strengths. There is a need to avoid the negative features as much as possible when gathering raw data. The flowchart in Figure 16 below demonstrates the overall holistic research process undertaken in work that incorporates quantitative and qualitative research approaches.

Figure 16: Research process



(Adapted from: Creswell & Plano Clark, 2011; Robson, 2011)

5.10.2 Case study (embedded single case): why choose a case study?

A case study accepts that there are many variables operating in a single case, and, hence, to catch the implications of these variables usually requires more than one tool for data collection and many sources of evidence. Case studies can blend numerical and qualitative data, and they are a prototypical instance of mixed methods research that can be used to describe, illustrate and enlighten on a particular phenomenon (Yin, 2009: 19–20). Yin (2009: 46) identified one scenario of a case study design as follows:

> *"The embedded single-case design, in which more than one 'unit of analysis' is incorporated into the design, for example, a case study of a whole school might also use sub-units of classes, teachers, students, parents, and each of these might require different data-collection instruments, for example, a survey questionnaire, interviews, observations etc."*

According to Stake (2005), instrumental case studies examine a particular case in order to gain insight into an issue. The case study aims in this research to explore the experiences and perceptions of students, lecturers and academic leaders on the impacts of blended learning in the Saudi Arabian higher education system based on a case study of

King Khalid University in Saudi Arabia. Identifying the lived experiences of the three different aforementioned groups can potentially help in surmounting the challenges that arises in the implementation of blended learning in Saudi universities. This case study to investigate the experiences of students, lecturers and academic leaders at King Khalid University provides a unique example of real people in real situations (Yin, 2009). These parameters of the case design are clarified below with respect to Stake's (2005) recommendations on what to describe about a planned qualitative case study:

- Boundary – Blended learning in the Faculty of Education at King Khalid University.
- Phenomena – Perceptions and experiences of blended learning by students, lecturers and academic leaders.
- Patterns in data – Emergent themes arising from the perceptions and experiences of this mode of learning.
- Triangulation – Data from the survey questionnaire and interviews.
- Interpretations – Interpretations particularly of the qualitative data in light of the literature review.
- Generalisations – Although applicable to KKU specifically, some findings may reflect a similar situation in other all-male universities in Saudi Arabia.

As drawbacks, a case study lacks a high level of control, and in addition, according to Yin (2009), there could be biased views from the case study investigator that influence the direction of the findings and the study's conclusions. Also importantly, the results of a case study cannot be generalised unless other readers see the same in a previous work or otherwise different but related scenario. Wellington (2015) mentioned that case studies have this limitation of non-generalisability, as well as non-representativeness, which are common criticisms of the case study as a method, although it is at the expense of the worth of carrying out a case study to gain insight of a real-life phenomenon. For this reason, no claims of generalisability are made in this study despite the real possibility of some findings to also be applicable to other similar all-male universities in the Kingdom. Notwithstanding, according to Bassey (2010), the certainty of generalisation in scientific research could be replaced with fuzzy generalisation (uncertainty) statements, which contain qualifiers such as: "it is sometimes true that…", and "It may…". In other words, fuzzy generalisation shows in a tentative way that particular consequences may be led by particular events. The element of uncertainty is carried out by fuzzy generalisation by

means of reporting that when something happened in a certain situation, it may also happen elsewhere. In the case of this current study, it is possible that the study's findings applicable for KKU could therefore be applied at least to other major universities in Saudi Arabia as well.

5.11 Data Collection

Data collection in this study involved both quantitative and qualitative research strategies. Specifically, the study used a questionnaire for quantitative data gathering and interviews to collect qualitative data. The guiding premise in research data collection in mixed method research approaches is to balance the depth of the data with the breadth of the data. The interviews with academic leaders provided detailed and objective qualitative data, while the semi-structured questionnaire helped in widening the size of the sample, so that the study's findings would have a wider relevance and could be generalised to similar study settings. According to Zikmund et al. (2013), there is no ideal methodology for all settings, so the researcher aims at offering a balance of depth and breadth with no compromise in mixed methods in order to counter the practical realities of the research environment.

5.12 Quantitative Approaches

The quantitative procedures applied in this study focused on the second research question about the impacts on students' learning experiences of blended learning. In exploring this research question, the study examined the factors that influenced students' experiences of the current blended learning environment at King Khalid University and how students at the university rated their computer proficiency for using blended learning. It was imperative to evaluate the context of blended learning in the process of understanding academic leaders', lecturers' and students' experiences of the impact of blended learning at King Khalid University. There have been similar experiential studies on the impact of blended learning in higher education, but there is a dearth of literature in the specific context of the Saudi Arabian higher education system, and specifically at KKU. The quantitative data obtained by the structured questionnaire were also used to provide insight for addressing the first empirical sub question (ESQ1).

5.12.1 Survey strategy and justification

Surveys directed to students were chosen as a mode of collecting quantitative data since they can provide significant breadth of information and do not usually require substantial resources to administer. Surveys can be distributed to a large number of people quickly,

and therefore, are able to generate a significant amount of numerical data from the research participants in a short amount of time (Evans & Mathur, 2005). However, one limitation of survey-based data collection is that it is descriptive only (Zikmund et al., 2013). That is, surveys lack the capacity to offer further explanation on the responses of the respondents, although they can indicate interesting trends that become apparent in the process of analysis.

For the researcher to gather quantitative data, there are various possible research instruments that can be used. In the current study, a survey questionnaire was delivered to university students at KKU in order to gain knowledge of their perspectives and experiences of the impact of blended learning. The questionnaire is an efficient research tool for collecting large amounts of data from a wide range of research participants in a relatively short period of time, using relatively minimal resources (Gilham, 2000; Teddlie & Tashakkori, 2009; Creswell, 2013). The questionnaire was designed such that it would reduce potential researcher bias whilst ensuring anonymity of the participants and that the questionnaire tool elicited truthful responses. The questionnaire was used in the mixed method research design in order to explore the experiences and perceptions of the research respondents of the impact of blended learning at KKU in Saudi Arabia.

5.12.2 Questionnaire design and structure

The devising of the survey questionnaire was based on the aims and objectives of this study, the need to address the research questions, and the findings from the review of previous literature to find out what is known and what needs to be known. An instrument of another research was not therefore used because it was necessary to make the questions and gain information appropriate for the institution under study, namely KKU and the wider Saudi context, and the items are grounded in the previous chapters in this paper.

The survey questionnaire addressed the first empirical sub question (ESQ1):

1. What are the experiences and perceptions of students on the impacts of blended learning in Saudi universities in terms of:
    a) The factors that influence the perceptions of students of the blended learning environments in King Khalid University;
    b) How students rate their computer proficiency for using blended learning?

The questionnaire consisted of two sections and began by eliciting demographic data pertaining to the respondents. The demographic section gathered descriptive data with the aim of understanding the background of the participants, which could influence their

perspectives of blended learning at their university. The background data included the age of the student participants and information about their use of computers.

The second section of the questionnaire contained 33 statements to which the participants indicated their level of agreement related to their experiences on the impact of blended learning at their university, based on a Likert scale. The perceived proficiency scale was a 4-point scale as follows: 1 = novice, 2 = good, 3 = very good, 4 = excellent. The other agreement scale, which included mode of use, interaction with blended learning and barriers to blended learning, consisted of a 5-point Likert scale as follows: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

The questionnaire probed the proficiency levels of the students in using computers and ICT. In addition, it sought the views of the students on the blended learning environment and its mode of delivery of BL at KKU. The students were also questioned about their experiences and suggestions for improving their interaction during blended learning, and to identify potential barriers to the success of blended learning at their university. The design of the questionnaire items was based upon four factors which emerged from the literature review and these were, ‘proficiency’, ‘mode of delivery', ‘interaction’ and ‘barriers’. The reliability of these scales was tested are are reported below in Section 6.3 where values for Cronbach’s alpha for each scale are shown (see below table 4).

5.12.3 Construction and administration of the questionnaires

Although there are different ways of administering a questionnaire, including F2F, via the internet and by telephone, the semi-structured questionnaires were administered using a self-administered delivery method, so that the cultural and educational context did not act as barriers to the collection of data from the students. Self-administered questionnaires promote autonomy and confidentiality to ensure the data are free of any researcher subjectivity. Due to confidentiality in responding to self-administered questionnaires, Robson (2011) established that such questionnaires tend to have a higher response rate. However, one prominent drawback of self-administered questionnaires is the potential for confusion or misunderstanding in completing the questionnaire. This negative potential was minimised by providing the text of the statements in the questionnaire in both English and Arabic. The questionnaire items (attached in Appendix C: Survey Questionnaire) were derived or inspired from previous empirical studies on blended learning by Almalki (2011), Alasmari (2014), and Alshahrani (2015). Specific items were taken or adapted from earlier study survey questionnaires by Al-Arfaj (2001), Alferaihi (2003), Landry

(2003), Chandra (2004), Osman (2005), and Vaughan (2007), and Alaugab (2007). The internal reliability of the questionnaire was confirmed by Cronbach's Alpha (see section 6.3).

5.12.4 Advantages and limitations of questionnaires

The questionnaire provides a standardised form and structured data that can easily be pooled and analysed by a researcher (Matthews & Ross, 2010). Since the questionnaire's items are determined by the researcher, the research can be targeted for answering the set research questions (see 1.8). However, it cannot provide significant insight into the experiences and perceptions of the respondents. In addition, the questions may lead to the risk of research bias, especially if there is a low response rate to the survey, which can lead to making a biased interpretation. However, when used in a survey, the questionnaire offers a means for theory testing and enhances the external validity from a managerial perspective (Patel & Eppstein, 2006, p.95). Relative to the qualitative research instruments such as interview questions, there is no in-depth qualitative exploration of the beliefs in the phenomenon of interest. This makes it necessary for interview based qualitative methods within a mixed methods design to mitigate the weaknesses associated with quantitative questionnaire tools (Bryman, 2012), as arranged in this current study.

5.13 Qualitative Approaches

The quantitative data were analysed before the interview session so that the interviews could be appropriately prepared and key informants for the interviews identified. The qualitative interview procedure adopted semi-structured interviews where the researcher assembled a set of questions for starting the interview sessions with the students, lecturers and academic leaders. The semi-structured interview questions ensured the interview data were consistent, and that the instrument generated the required data. In order to ensure that interview sessions were as free as possible from researcher bias and subjectivity, the respondents were given sufficient leeway to take the conversation in the direction they felt was relevant to exploring their experiences of the impact of blended learning at KKU. This ensured that no information was missed from the interview sessions (Dearnley, 2005). The interviews were recorded and the transcripts are included in the appendices.

5.13.1 Devising the semi-structured interviews

In this study, the qualitative method of direct interviews was employed so as to provide a clearer understanding of how blended learning is experienced by addressing the questions outlined below. The qualitative interview session sought to answer the last three sub

questions ESQ2-4 (see 1.8), regarding what students at KKU experience and perceive on the impacts of BL; what students at KKU experience and expect from BL, and what academic leaders, lecturers at the KKU experience and expect from blended learning.

5.13.2 Administration of the interviews

The interview questionnaire comprised of 13 questions for each category of participant (students, lecturers, academic leaders), and each interview lasted for between 20 and 25 minutes.

5.14 Sampling Procedure

5.14.1 Questionnaire: obtaining participants

In distributing the survey questionnaire, the target population comprised of a group of 203 male fourth- (final) year students between the ages of 18 and 26, and actively studying at KKU as well as within the campus in its Faculty of Education. This figure of 203 was the total number of students in this faculty, the only one to be given access to for conducting this study.

A researcher uses a process to establish a sample from the population which is "the segment of the population that is selected for investigation. It is a subset of the population" (Bryman, 2012: 168). Its selection brings the researcher important benefits. Surveying a sample as opposed to the whole population requires less time and financial resources, and depending on the sample size and sampling technique used, is likely to produce results similar to those that would have been recorded for the whole population (FAO, 2018, p.5).

The first step in sampling is the recognition of the population under study, which is "every possible case that could be included in your study" (David & Sutton, 2011: 226). It is extremely rare for the entire population to be included in a research survey, with national censuses being one common exception. As this is a single case study conducted at KKU, identifying the population under study for the survey was not complicated. This population comprised of all current undergraduate male students in their final year in the Faculty of Education at KKU and enrolled at the institution. The population for this study, according to data published by the university for the academic year 2016/2017 was 203.

Considering the need to study the target population, the researcher must decide what an appropriate sample size would be. The larger the sample, the more statistically significant the results will be. Although there are no concrete rules when choosing a sample size, it is known that taking a large sample size produces smaller error and vice versa (Peers, 2006). The final decision is dependent on several factors: the nature of the research topic,

its importance and its objectives, and the social, political and economic context of the research. Different ratios of sample to population produce different confidence levels. Larger samples reduce sampling error and provide the study with adequate statistical power (Fink, 2009: 58).

In establishing a minimum appropriate sample size widely used formulae have been established (Cohen et al., 2017). When the size of the population is known, as in our case, then there are two formulae that may be used sequentially to establish the desired sample size (see Equation 1 and Equation 2 below). Cohen et al. (2017) use these formulae in which ss is the minimum sample size for a large or unknown N size, Z is Z-value for the targeted confidence level, p is the expected sample proportion, C is the confidence interval (margin of error) where 8 per cent is a common choice, nss represents minimum sample size for known population size, and N represents the entire population.

Equation 1: Sample size formula – stage 1 $ss = \frac{Z^2 p(1-p)}{C^2}$

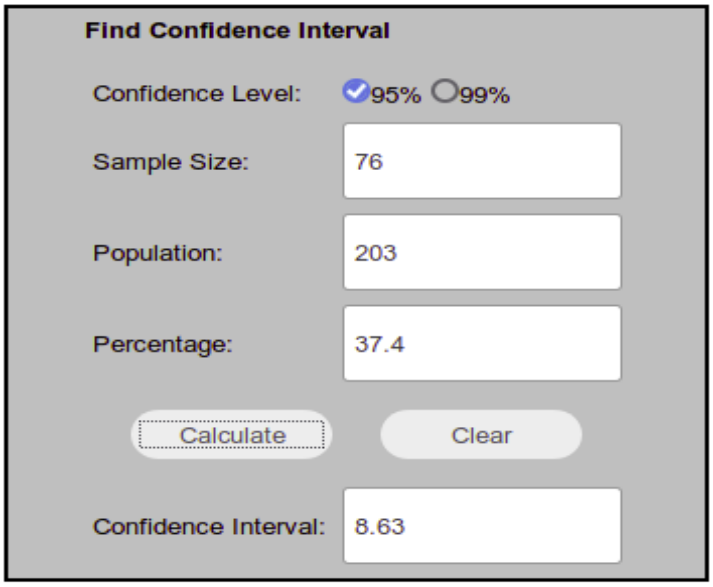
Equation 2: Sample size formula - stage 2

$$nss = \frac{ss}{1 + (\frac{ss - 1}{N})}$$

As a further check, Cohen et al. (2017) recommend using an online tool to calculate sample sizes. In this case the one published by Creative Service Systems (2012) was used to verify the calculations by simply inputting the population size and confidence interval. With this goal in mind, the researcher distributed this questionnaire to a population of 203 male students within the Faculty of Education at King Khalid University. The restriction of the sample to the Faculty of Education of KKU is a delimitation of this study imposed because KKU only gave permission for access to students in this one faculty. The population of 203 students available from which to obtain a sample was therefore delimited by the number of students studying only in this faculty.

The survey questionnaire was sent to all 203 students in the population described above, of which 76 questionnaires were returned that were completed and therefore in a form capable of being subjected to analysis. This is a useful response rate of 37.4%, which was lower than expected. An additional 17 questionnaires were incomplete and were therefore considered as unsuitable to be included in the analysis, otherwise the actual response rate was 45.8%. It provides a margin of error (or confidence interval) of 8.63 at the 95% level of confidence (see Figure 17 below). If the target of 133 had been achieved, this would have allowed for a smaller margin of error of 5.

Figure 17: Output from the online sample size calculation tool



5.14.2 Semi-structured interviews: obtaining interview participants

There were three groups of respondents in the interview study: students, lecturers and academic leaders. Firstly, the researcher had to establish an objective for the total number of interviews to include in the study. There is no universally agreed method for arriving at this number. One of the most commonly used concepts is that of saturation (Powney & Watts, 2018) under which interviewing continues until no further useful data is being collected and instead the data becomes repetitive. Creswell (1998) suggests a number between 20 and 30, while Morse (1994) recommends at least six interviews be conducted, and Bertaux (1981) put the minimum at 15. Green & Thorogood (2009: 120) argue that "the experience of most qualitative researchers is that in interview studies little that is 'new' comes out of transcripts after you have interviewed 20 or so people". The length and depth of the interviews also has a bearing on what a suitable number would be. In the present study, the researcher set the objective of a minimum of 15, and the research involved interviewing 18 comprising 6 students, 7 lecturers and 5 academic leaders. Unlike the population under study involved in the survey questionnaire who were asked to describe their perception of blended learning from the students' perspective, these participants were intended to reflect both their own perceptions of using the blended learning method of teaching with respect to their own unique needs and concerns, and also to their perceptions of how their students responded to using the blended learning format, which may either corroborate or conflict with the perceptions indicated in the questionnaires by the students themselves.

Two types of sampling processes were applied. On the final page of the student survey, the respondents were asked to tick a box to indicate whether they would be willing to help the research further by participating in F2F interviews with the researcher. Of the 76 completed surveys, respondents indicated their willingness to be interviewed in 38 cases. Since 38 was considered as too many, a sampling process was undertaken.

Firstly, the potential participants were listed randomly. Those to be approached first were then selected on an nth number basis. This is a systematic random sampling technique also referred to as Nth name selection technique (Bryman, 2012). Lavrakas (2008: 871) explains that "Systematic sampling is a random method of sampling that applies a constant interval to choosing a sample of elements from the sampling frame." Having established that 6 students should be interviewed (from a total objective of 18 interviews when including the lecturer and academic leaders), every fifth name in the list was selected. When a selected name dropped out or did not respond to the approach within two weeks, the selection process continued with nth plus 1. This continued until six confirmed participants and two reserve participants had been identified.

For the other two subsamples for the interview study - lecturer (n=5) and academic leaders, the sampling was on a self-selecting basis: "A sample is self-selected when the inclusion or exclusion of sampling units is determined by whether the units themselves agree or decline to participate in the sample, either explicitly or implicitly" (Lavrakas, 2008: 806). More specifically, the research selected all the heads of the five departments in the faculty. Moreover, with regard to lecturer sampling, the Dean of education faculty at the KKU provided the researcher with the contact details of potential participants of both subsamples who had already indicated their willingness to participate, to the dean. The lecturers were all male and all based at the same KKU campus.

5.14.3 Difficulties encountered

Some difficulties were encountered during the data collection period, as the researcher had a short time to conduct the data collection because his scholarship only gave three months for this purpose. In that case, the researcher used the first month to administer the student questionnaire, and the second month for completing the descriptions of the first stage of data collection and considering the questions which needed to be asked in the second stage. The third month was then used for the second stage of data collection which involved conducting the semi-structured interviews of students followed by interviews of lecturers and then academic leaders.

Moreover, a few difficulties were encountered during the process of recruiting the participants. For instance, in many cases, the participants, particularly academic leaders, were very busy and this disrupted the set timetable of scheduled meetings. With some of them, although the meetings were pre-arranged, they were not found to be present in their offices at the appointed time as a result of other commitments, and this led to the need for rescheduling or long waiting times in the department on most working days and in some cases on a weekly basis.

5.15 Pilot Study

The researcher conducted a pilot study in multiple stages prior to the actual data collection by conducting a pre-test of the survey questionnaire and interview schedule. Pre-testing increases the validity of the instrument contents, and it ensures clarity of the questions and the time taken to self-administer the questionnaire. According to Leady & Omrod (2013), a pilot study assists investigators to eradicate bugs in the collected data and helps in rephrasing the questions in order to refine them if considered necessary; for example, it they present a difficulty to the participants in understanding them.

The findings from the pilot were tested against the study's research questions (set out in 1.8). The pilot study helped in rephrasing and refining the questions in a valid way (Balnaves & Caputi, 2001). The pilot study showed which questions were difficult for the participants to understand. Furthermore, the pilot study aided the researcher in understanding the main constructs to be included in the questionnaire, which provided their picture.

Roulston et al. (2003) suggest that a pilot study gives researchers the opportunity to gain experience and skills in interviewing and to gain knowledge about the target population in the study, which could help in the major phase of data collection. The questionnaire was distributed to 35 students in the Faculty of Education at King Khalid University under an attempt to make the pilot study as formal as possible so as to make it easier to reach the target participants in a more structured and fluid way. After piloting the interview schedule of the in-depth interviews conducted with two academic leaders from the university, they verified that the questions were easy to understand and non-invasive, and they only suggested very minor changes, such as changing the word 'issue' to 'leadership issue' and changing 'making solutions ' to ' solving problems'.

The back-translation technique was used in the creation and answering of the interview questions. The interview questions were first written in English and then translated into

Arabic. The responses were collected in Arabic and translated back into English. The responses were collected using a recorder so as to allow for a smooth interview process without pauses. Following the data transcription, the transcripts were then translated into English.

5.16 Data Analysis

5.16.1 Quantitative analysis

The researcher focused on descriptive statistics for the quantitative analysis. Here, closed-ended questions were analysed using the statistical software program the Statistical Package for the Social Sciences (SPSS) (Pallant, 2005). Numerical data pooled from the semi-structured questionnaires were stored in a spreadsheet data file where it was then cleaned before conducting further analysis. Descriptive analysis included the frequencies and percentages of the participants' responses, as well as mean and standard deviation from the mean. The second component of quantitative data analysis sought to establish the extent to which the students at King Khalid University perceived blended learning as a constructive and engaging learning format. Here, the researcher also considered the mean values derived from this analysis in order to rank the statements in order of importance or strength of agreement from the respondents.

5.16.2 Thematic analysis of qualitative data from the interviews

The qualitative data analysis involved an iterative process of thematic analysis; assessing the transcripts repeatedly over several planned stages to ensure that the most implicit as well as explicit experiences and perceptions were extracted from this part of the methodology (Creswell, 2013). The researcher undertook thematic analysis to identify major themes in a process of "category construction" (Merriam, 2009:179).

According to Braun & Clarke (2006:78), thematic analysis is "a method for identifying, analysing as well as reporting patterns (themes) within data. In effect, this approach minimally organizes and describes the data set in (rich) detail". These are some reasons why the researcher chose to incorporate this procedure for analysing the qualitative data produced in this study. Within this analysis, major themes were extracted, identified, categorised and quantified. As an area of study closely related to Blended Learning, a significant number of studies on the e-learning component have adopted such thematic analysis techniques (Miers et al. 2007; Mitchell et al., 2007). Indeed, Mitchell et al. (2007) similarly conducted thematic analysis of their qualitative data along with descriptive

analysis of their quantitative data, thereby utilising two instruments: a questionnaire and controlled focus groups, which is similar to the methodology used in this study.

In conducting the first pass of the thematic analysis, the researcher also acknowledged that creating predictions and inferences was a critical aspect of this process, and that a failure to develop this interpretation would limit the 'richness' of information contained within the transcripts (Leech & Onwuegbuzie, 2010). Furthermore, prior to the analysis of these interview extracts, ensuring the validity of the data sources is also essential. Therefore, to identify any visible trend while maintaining accuracy in the analysis, any absent information was traced, whereas any excess or non-useful information was deleted. Additionally, there was also a substantial amount of background information to analyse to ensure consistency of the predictions and other values, in addition to enhancing the researcher's own understanding of the lived experience of the participants in regard to the impact of blended learning.

In undertaking the thematic analysis, the researcher highlighted the data that fitted into set categories, which would then enable the analysis to verify the validity of the categories found. In this second stage, the researcher prepared a codebook to establish the structure of the data, and this pass also included screening the data to check for any mistakes. Identifying unusual themes and details during the interview can be crucial for obtaining new insights that otherwise would have gone unnoticed (Vaismoradi et al., 2016). Finally, by testing and confirming these different categories, the researcher was able to draw theoretical conclusions from the analysed data.

5.17 Validity and Reliability

Validity is "the ability of an instrument to measure what you intend it to measure, and reliability speaks to the consistency of your measurement" (Colton & Covert, 2007: 65). Validity thus ensures the usefulness, accuracy and applicability of the instrument, whereas reliability ensures it measures consistently in a way that it may be used again. Validity may be further divided into internal and external validity, where 'internal validity' "pertains to the credibility of inferences that experimental treatments (factors) cause effects under certain well-defined circumstances", and external validity "to generalizing the effects observed under experimental conditions to other populations and contexts" (Eisenhart & Howe, 1992).

As mentioned earlier, the validity and reliability of the research instruments used in this study are supported especially by pretesting and adopting a mixed methods approach.

Rather than validity, it is more relevant in a mixed-methods research design to talk about legitimation of results, representation of findings and integration of the different types of methods (Onwuegbuzie & Johnson, 2006, qtd. In Cohen et al., 2017), but these are treated herein as aspects under the term 'validity', which is more commonly known.

The pilot study was particularly helpful for ensuring the topic has been covered sufficiently, for refining the instruments, and that the instrument would be suitable for the actual study by providing the information required to achieve its objectives. Krishnaswamy et al. (2006: 265) describes this kind of validity checking as checking for "representativeness of the content of a measuring instrument". The mixed methods approach improves validity by combining the strengths of both types of quantitative and qualitative methods and compensating for their individual weaknesses. Moreover, it allows for analysing complex issues, as in the case of this study, and also for the data to be triangulated since multiple methods were implemented. Triangulation within a mixed-methods study involving two different kinds of research methods increases the accuracy of the data and the reliability of the study's findings (Denscombe, 2014). It was also useful in this study because it allowed to examine blended learning experiences from different perspectives via dissimilar methods.

Threats to validity and reliability can never be erased completely, but the following provisions were made for improving validity and reliability in addition to the above, the suggestions having been taken from Cohen et al. (2017):

- Internal validity was maintained further by ruling out other design related factors that could cause the same effect. This was done by prolonged engagement in the field in order to gather sufficient and rich data on perceptions and experiences of blended learning, avoiding premature closure of data collection, making persistent observations of relevant issues, leaving an audit trail of interview transcripts, and respondent checking by member validation. Weakness minimisation was thus achieved.
- External validity was maintained further by ruling out external design related factors that could limit the applicability of the current study's findings to other similar contexts. This was done by maintaining ethical rigour for investigation validity, striving to catch true perceptions and experiences of blended learning as accurately as possible for interpretive validity, and reducing order bias by ordering

the questions in the two instruments appropriately so as not to be leading or suggestive.

- Inadvertent researcher bias was minimised by taking a neutral stance as mentioned under 'researcher positionality', which affects both internal and external validity.

One of the threats to external validity is due to the delimitation of this study to the Faculty of Education of one particular university (KKU), which brings into question how applicable its findings are to other faculties and to other universities in Saudi Arabia. KKU is a major university in Saudi Arabia and a leading implementer of e-learning programmes that many other institutions tend to follow. It can therefore, be considered as representative of e-learning practices in the kingdom Besides, the above-mentioned provisions for minimising external validity taken collectively should be adequate in making some generalisations, especially from the survey part of this mixed-methods study.

5.18 Ethical Issues and Considerations

The researcher has also taken into consideration certain ethical principles for the protection of the participants. The researcher understood voluntary informed consent to be the condition in which participants understand and agree to their participation without any duress prior to being involved in the research. Furthermore, the researcher also acknowledged the importance of taking the steps necessary to guarantee that all participants within the study understood the purpose of the study by highlighting the objective of the study in the informed letter of consent issued to the study's participants.

In addition to identifying and obtaining the participants most appropriate for the qualitative and quantitative components of this study, the researcher was also careful to take the following further ethical aspects into consideration: Firstly, in conducting this study, the researcher made sure not to reveal the names of any student, teacher, or academic leader at King Khalid University. Secondly, in order to obtain permission to undertake this study, the researcher also ensured that a number of meetings with supervisors were held to reach agreement on the final draft of the questionnaires and the research questions, after which the necessary legal procedures were conducted to guarantee that the ethical issues involved in this research, as well as its safety and legality, would be strictly adhered to.

Formal permission to conduct the study was granted by the University of Hull, Faculty of Arts, Cultures and Education's Ethics Committee and a copy of the certificate for this is included as Appendix A.

Data security was ensured by not identifying individual participants by name, and by keeping the files secured in a password protected directory and account. The procedures were followed in accordance with the university's GDPR and the UK Data Protection Act 1998.

In order to ensure the maximum engagement and participation of each volunteer, and therefore, the maximum validity of the answers provided through each research instrument, the principle of voluntary participation was also an ethical issue that the researcher saw as essential to cover. This meant that the participants were not forced to participate, provide data or respond against their will (Robinson & Moulton, 2005: 53). As a result of this requirement, the participants were advised, via consent forms, about the data collection and that they had the right to withdraw from the process at any stage or the project itself, without any penalty. In Appendix C is a copy of the questionnaire used in this study. Also included in the appendices are copies of the information sheet and consent forms giving participants guidelines about the subject under investigation, their right to participate or withdraw, their right to ask any questions and their right to remain anonymous. These are the most important forms when conducting this kind of research, as they give the participant the chance to be informed about the nature of the research before committing to participating (Bryman, 2012). Overall, while adhering to these standard ethical procedures was important to ensure full consent and non-intrusion from a legal and procedural point-of-view, the researcher also acknowledged the importance of obtaining data that was most reflective of the experiences of blended learning as these individuals themselves perceived them to be.

5.19 Chapter Summary

This chapter has outlined the methodological design of this study, with the specific choices made by the researcher throughout the construction of this methodology being weighed and discussed in order to highlight and ultimately mitigate any bias the findings may contain. The researcher has also explained key philosophical considerations, which have been discussed, elucidating a pragmatic underpinning for this study, which enabled the researcher to combine qualitative and quantitative research instruments together. Furthermore, procedures for developing the instruments and analysis were also presented,

and it was explained how observation of ethical principles in relation to the participants of this study was ensured in an effort to strengthen the validity of the collected results, by ensuring that the results from each participant were an accurate reflection of their true perceptions and experiences under a blended learning programme. Overall, the use of the semi-structured interview as a qualitative research instrument enabled the researcher to conduct an in-depth contextual analysis of the real-life perceptions of both students and lecturers of the blended learning format. Meanwhile, the use of the questionnaire as a quantitative research instrument enabled the researcher to statistically group and identify recurring themes of opinion and thus present an objective overview of these perceptions from the perspectives of the students. By combining these approaches, the researcher produced a methodology well-equipped to tackle the research questions raised by this study, as well as the current literature. By approaching the data collection from these different research angles, as well as conducting the data collection at a university already familiar with the online component of the blended learning process, this methodology should present a strong foundation on which the results and subsequent assertions relative to these perspectives can be explored in the chapters that follow.

Chapter 6: Quantitative Analysis

6.1 Overview

The current study aims to investigate experiences of the blended learning environment in the context of King Khalid University (KKU) in Saudi Arabia. The quantitative data were obtained to address the first empirical research sub question of this study (ESQ1):

1. What are the experiences and perceptions of students on the impacts of blended learning in Saudi universities in terms of:
    a) The factors that influence the perceptions of students of the blended learning environments in KKU;
    b) How students rate their computer proficiency for using blended learning?

This chapter reports the views expressed by male students through the survey questionnaire. This survey aimed to investigate students' perceived level of proficiency in computers and related technologies (ICT), their views about the blended learning mode/method of delivery, how they saw it improving interaction, and finally, potential barriers (as negative aspects) to successful BL implementation. The questionnaire data were analysed by inferential statistics provided through using the SPSS statistical analysis software.

Descriptive statistics aim to provide an understanding of participants' responses in each of the main parts of the questionnaire. They indicate the distribution of the results pertaining to their views about the BL environment. Mainly, this study used frequency (number of participants under each answer) and the percentage (%) for this purpose. Furthermore, a total score for agreement (Agree, Strongly agree) was calculated to enable the researcher to rank items in terms of their importance (level of agreement). It should be noted that the perceived proficiency scale was based on a 4-point quality scale (1=novice, 2=good, 3=very good, 4=excellent), while the other three scales used a 5-point agreement scale (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree). The reason why a 4-point scale was used for perceived proficiency is that everyone had some experience of using computers and the internet. Hence, Novice was used as an indicator of low proficiency, and a neutral point was avoided. As for the 5-point Likert scales, they all measure opinions and hence it was also important to know those who could not agree or disagree (hence a neutral point was included). Based on the total agreement, items within each construct were ranked (from 1st for the item that generated the most agreement).

Before introducing the main scales (perceived proficiency, mood of use, interaction and barriers) the following paragraphs firstly describe background information, followed by the results of the reliability test, and then the participants' views about the BL environment. The views and experiences of the BL environment directly address the first three empirical research sub-questions, which deal with the mode of delivery of BL, interaction and barriers. Additional analysis was made on correlations, and to examine the impact of computer use location and frequency of computer use. In presenting the results from the qualitative phase of this study, some portions have been highlighted in bold text to show, in the view of the researcher and in light of the aims of this study, which points may be important. The participants did not necessarily make the same emphasis when responding.

6.2 Background Information

6.2.1 Age

The participants' age ranged across four age categories. However, the highest number of participants (44, 57.9%) were aged between 22-23 years followed by 16 participants (21%) aged between 20-21 years, nine participants aged between 24-25 years (12%), and five were older than 26 years of age (7%). Two of the participants (3%) did not indicate their age on the questionnaire.

6.2.2 Use of computers

Participants were asked to state whether they used computers at home, university or both. It was reported that 25 participants used computers at home only (33%) and no one appeared to use it at the university only. However, the great majority explained that they used it in both, at university and at home (66%). One participant did not answer the question. As for internet use, only two stated that they used it at home only (3%), while the rest stated that they used it both at home and at the university. No one stated that they used the internet at their university exclusively. Participants were asked how often they used computers, and 40 reported that they used computers a few times a week (53%), while 32 claimed to use them almost every day (42.1%). Only three stated they used the computer once a week (4%), while one participant reported using a computer at least once a month.

6.3 Measure of Reliability

The questionnaire looked at four main themes or constructs: the perceived level of computing proficiency (3 items), the mode of delivery (17 items), interaction (7 items),

and finally the barriers in the BL environment (9 items). The internal reliability (consistency) was tested for each construct through the use of Cronbach's alpha test. The reliability indicates the level of consistency in answers across the items within a construct, i.e. high reliability indicates that all items consistently measure the same thing. Cronbach's alpha ranges in value between 0 and 1; 0 reflecting no consistency or relationship between the items at all (0%), while 1 reflects 100% consistency, i.e. the same answers across all the items. A consistency level (or reliability score) above 70% is generally considered acceptable to regard a construct as reliable (Field, 2009). Internal reliability allows the researcher to trust the scale (set of items) to reflect the topic or construct under examination. For example, the consistency across items reflecting perceived proficiency explains that the items together reflect the same topic or idea. Reliability scales are essential, especially when later combining/computing all items under one variable.

The Cronbach's alpha test (see Table 4) indicated that all four scales can be considered highly reliable. The lowest reliability was for barriers (72.9%), and the highest was for mode of delivery (87.5%). It can be judged overall that all scales are reliable for the constructs that they intended to measure.

Table 4: Reliability score using Cronbach's alpha for the four scales

Statement	N	Cronbach's Alpha	Reliable?
Proficiency	3	0.800	yes
Mode of delivery	17	0.875	yes
Interaction	7	0.853	yes
Barriers	9	0.729	yes

6.4 Perceived Proficiency Level

Information about participants' proficiency in the general use of computers (ICT) was gathered using four items. This scale explains how participants described their own skills in using ICT and their use of it. Table 5 shows the frequency of the students' responses on a 4-point scale reflecting the perceived proficiency (1=novice, 2=good, 3=very good, 4=excellent skills). The total scores for answers 3 and 4 (3=very good and 4=excellent) were summed to enable ranking of items in terms of perceived proficiency. The combined score shows that 90.8% of the participants stated that they perceived themselves as proficient is using the internet, while the same percentage of participants described that they made proficient use of the LMS (Learning Management System) in the educational setting. The VG and E scores also showed that many of them perceived a high level of

computing proficiency (78.9%). However, that was not the case in the Proficiency Level when using blended learning (BL), where only 41.1% claimed a high proficiency level, while the rest (59.9%) reported lower proficiency or having only novice skills. Overall, it could be interpreted that the answers generally reflect high perceived computing proficiency, although there is less perceived proficiency in blended learning.

Table 5: Number (n) of participants and percentage (%) across the four point scale, along with total agreement and rank for items within the proficiency scale

Statement		N	G	VG	E	VG+E	Rank
I possess a general level of computing proficiency	n	1	15	35	25	60.0	4
	%	1.3	19.7	46.1	32.9	78.9	
Perceived Proficiency Level when use the internet	n	-	7	29	40	69.0	1
	%	1	9.2	38.2	52.6	90.8	
Perceived Proficiency Level when use BL (Blended Learning)	n	12	31	20	10	30.0	5
	%	16.4	42.5	27.4	13.7	41.1	

N=Novice, G=Good, VG=Very Good, E=Excellent

6.5 Views and Experiences of the BL Environment

6.5.1 BL method (mode of delivery)

A total of 17 statements were included in a scale asking about the BL method of delivery and how students viewed each of them. Items reflected different features or benefits of BL. All statements were scored on a 5-point Likert scale (1=strongly disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=strongly agree). This sub-section reports on the four highest and lowest ranked items. The ranks were based on the total score for agreement (agree plus strongly agree), as this enabled the researcher to see if some items had more agreements relative to the disagreements.

Overall, it can be observed in Table 6 that there was more agreement than disagreement across all items, indicating positive opinions or agreements about the mode of delivery. However, it should also be noted that for each item, a high percentage of participants, ranging from 20 to almost 40%, also selected the middle point (neither agree nor disagree). The greatest agreement was generated for "*BL method enables me to access lessons on the internet on days when I am absent from the physical classroom*" (77%) followed by "*The method of BL provides flexibility" (64.9%), "BL method enables me to*

revise previously learned material" (61.6%), and "*BL method extends my learning process to outside the physical classroom*" (61.6%). From here it can be concluded that participants particularly had higher agreement that BL enables access to lessons when absent; it provides flexibility; allows for revisions to be made, and that it extends the learning process to outside the classroom.

At the other end of the scale on mode of delivery, the lowest agreement was for the items, "*BL method has resulted in achieving set goals*" (47.3%), "*The BL method has encouraged me to place more effort into my studies*" (43.2%), "*The BL Method helped me gain a better understanding of the content*" (41.9%), and, lowest of all, "*The BL method has enabled my level to progress*" (36.5%). These percentages indicate that there was less agreement on the ability of BL to enable students to achieve their goals, encourage efforts to study, provide better understanding of content, and finally to enable students to make progress in their learning.

Table 6: Number of participants and percentage across the five points scale, along with total agreement and rank for items within the mood of delivery scale

		SD	D	N	A	SA	A+SA	Rank
The BL Method helped me gain a better understanding of the content.	n	3	12	28	29	2	31.0	16
	%	4.1	16.2	37.8	39.2	2.7	41.9	
The BL method has enabled my level to progress.	n	1	18	28	26	1	27.0	17
	%	1.4	24.3	37.8	35.1	1.4	36.5	
I enjoyed the BL module.	n	6	9	18	33	7	40.0	10
	%	8.2	12.3	24.7	45.2	9.6	54.8	
The method of BL provides flexibility.	n	1	9	16	36	12	48.0	2
	%	1.4	12.2	21.6	48.6	16.2	64.9	
The BL method has encouraged me to place more effort into my studies.	n	2	14	26	25	7	32.0	15
	%	2.7	18.9	35.1	33.8	9.5	43.2	
The BL method has resulted in achieving set goals.	n	1	13	25	34	1	35.0	14
	%	1.4	17.6	33.8	45.9	1.4	47.3	
BL is an attractive learning method.	n	4	12	17	33	8	41.0	11
	%	5.4	16.2	23.0	44.6	10.8	55.4	
I prefer the BL method as a way to study.	n	3	10	17	34	9	43.0	7
	%	4.1	13.7	23.3	46.6	12.3	58.9	
F2F contact with my lecturers could certainly be replaced by an eLearning environment.	n	8	12	15	27	12	39.0	13
	%	10.8	16.2	20.3	36.5	16.2	52.7	
The BL method provides more accessibility to valuable course-related information and resources.	n	2	15	15	32	9	41.0	8
	%	2.7	20.5	20.5	43.8	12.3	56.2	
	n	4	3	10	35	22	57.0	1

		SD	D	N	A	SA	A+SA	Rank
BL method enables me to access lessons on the internet on days when I am absent from the physical classroom.	%	5.4	4.1	13.5	47.3	29.7	77.0	
BL method enables me to participate in learning activities.	n	3	8	19	37	7	44.0	6
	%	4.1	10.8	25.7	50.0	9.5	59.5	
BL method extends my learning process to outside the physical classroom.	n	1	5	22	38	7	45.0	4
	%	1.4	6.8	30.1	52.1	9.6	61.6	
BL method enables me to revise previously learned material.	n	4	8	16	32	13	45.0	3
	%	5.5	11.0	21.9	43.8	17.8	61.6	
Using the BL increases and rejuvenates my interest in the subject.	n	2	12	18	38	2	40.0	9
	%	2.8	16.7	25.0	52.8	2.8	55.6	
BL courses enable me to achieve the goals I set out to achieve.	n	2	12	20	35	4	39.0	12
	%	2.7	16.4	27.4	47.9	5.5	53.4	
I think the BL method positively contributes to my learning experience.	n	1	7	21	34	10	44.0	5
	%	1.4	9.6	28.8	46.6	13.7	60.3	

SD=Strongly Disagree, D=Disagree, N=Neither, A=Agree, SA=Strongly Agree

6.5.2 Interaction

The perceived use of BL in improving interaction and collaboration was described using 7 items (5-point agreement scale). The neutral answer of the 5-point Likert scales indicates no opinion or a neutral opinion, that is, neither agreement nor disagreement. Hence, to differentiate between which of the items received more agreement overall, the total score of agreement (above the neutral point) was summed. It is shown in Table 7 below that the total agreements across all items were larger than the disagreements (below the neutral point), which indicates that on the whole BL was perceived to be contributing to improvement in interaction and collaboration.

However, the neutral points again showed a high frequency of unclear responses where participants could not decide whether BL actually increased or improved their interaction. The highest ranked items (with most agreement) were "*The BL method enables my instructor to be more accessible at other times*" (58.9%) followed by "*The BL facilitates the ability to be in direct physical contact between the students and lecturers*" (56.2%). At the other end of the interaction scale participants indicated less agreement on "*The BL program increases my discussions in class with lecturers*" (40.3%), and "*The BL program increases my discussions in class with the other students*" (38.4%). It can be concluded from the ranking that BL was perceived to have a positive influence in providing more

access to instructors online and to facilitate physical contact, but promoting discussion was perceived to a lesser extent than the other items.

Table 7: Number of participants and percentages across the five-point scale, along with total agreement and rank for items within the interaction scale

		SD	D	N	A	SA	A+SA	Rank
The BL method enables my instructor to be more accessible at other times.	n	5	7	18	29	14	43.0	1
	%	6.8	9.6	24.7	39.7	19.2	58.9	
The BL method promotes my collaboration and sharing of ideas.	n	4	10	24	26	8	34.0	3
	%	5.6	13.9	33.3	36.1	11.1	47.2	
The BL program increases the interaction between me and the lecturers.	n	6	17	18	26	6	32.0	4
	%	8.2	23.3	24.7	35.6	8.2	43.8	
The BL facilitates the ability to be in direct physical contact between the students and lecturers.	n	5	8	19	31	10	41.0	2
	%	6.8	11.0	26.0	42.5	13.7	56.2	
The BL program increases my classroom productivity.	n	6	18	19	24	6	30.0	5
	%	8.2	24.7	26.0	32.9	8.2	41.1	
The BL program increases my discussions in class with the other students.	n	7	16	22	22	6	28.0	7
	%	9.6	21.9	30.1	30.1	8.2	38.4	
The BL program increases my discussions in class with lecturers.	n	8	12	23	22	7	29.0	6
	%	11.1	16.7	31.9	30.6	9.7	40.3	

SD=Strongly Disagree, D=Disagree, N=Neither, A=Agree, SA=Strongly Agree

6.5.3 Barriers

This section looks at the potential barriers to the BL environment in the university as measured on a 5-point agreement scale. As can be observed from Table 8, it seems that that majority of items in this scale reflected more agreements than disagreements. This is evident by the participants' responses in the agreement points of the scale compared to the indications of disagreement across the items. It should be noted that high levels of agreement on this scale indicate stronger perceptions of the items as potential barriers, while low agreement reflects items perceived as less of a barrier. This is the case because all items are phrased as negative statements and disagreement with them therefore indicates that the participant does not see them as barriers, whereas agreement indicates otherwise. The highest item level of agreement was for "*My low Internet speed prevents me from using the BL course effectively*" (60.8%) followed by "*BL courses do not enable students to go beyond the information they might receive in a traditional classroom setting*" (50.0%), and thirdly, "*An online meeting cannot replace face-to-face contact with my tutor*" (47.3%). The internet speed, thus, seems to be a barrier, while there was

agreement that BL does not improve on information gained through traditional settings and that it cannot replace F2F interaction.

The items that received the least agreements (i.e. they received relatively more disagreements) were "*I dislike BL courses because I am spending more time learning than with traditional methods*" (29.7%), "*I dislike this BL format*" (27.4%), and "*I have a negative attitude towards learning based on ICT*" (24.3%). These low levels of agreement mean that the lowest ranked items were each perceived as less of a barrier compared with the rest. Again, the neutral point (neither agree nor disagree) showed high percentages across all items which reflects uncertainty.

Table 8: Number of participants and percentage across the five points scale, along with total agreement and rank for items within the barriers' scale

		SD	D	N	A	SA	A+SA	Rank
I dislike this BL format	n	15	18	20	13	7	20.0	8
	%	20.5	24.7	27.4	17.8	9.6	27.4	
An online meeting cannot replace face-to-face contact with my tutor.	n	6	18	15	23	12	35.0	3
	%	8.1	24.3	20.3	31.1	16.2	47.3	
I dislike BL courses because I am spending more time learning than with traditional methods.	n	11	22	19	18	4	22.0	7
	%	14.9	29.7	25.7	24.3	5.4	29.7	
My low Internet speed prevents me from using the BL course effectively.	n	3	6	20	22	23	45.0	1
	%	4.1	8.1	27.0	29.7	31.1	60.8	
BL courses do not enable students to go beyond the information they might receive in a traditional classroom setting.	n	6	14	17	26	11	37.0	2
	%	8.1	18.9	23.0	35.1	14.9	50.0	
The BL method did not facilitate enough room for constructive dialogue.	n	5	12	24	27	6	33.0	4
	%	6.8	16.2	32.4	36.5	8.1	44.6	
The traditional method of teaching is preferred over the BL platform.	n	8	17	21	19	9	28.0	6
	%	10.8	23.0	28.4	25.7	12.2	37.8	
I have a negative attitude towards learning based on ICT.	n	11	24	21	13	5	18.0	9
	%	14.9	32.4	28.4	17.6	6.8	24.3	
There is a lack of computing services and support at the University I attend.	n	7	11	25	14	17	31.0	5
	%	9.5	14.9	33.8	18.9	23.0	41.9	

SD=Strongly Disagree, D=Disagree, N=Neither, A=Agree, SA=Strongly Agree

6.6 Additional Data Examination

6.6.1 Correlations

The total score or value was computed for each of the four scales (perceived proficiency, method of delivery, interaction and barriers), i.e. the sum of all answers to all items within

each scale. As all scales were considered reliable, the overall total score provides a good indication of the overall construct. For example, high values or frequency on the perceived proficiency scale indicate higher perceived skills, whereas high scores on the rest indicate more agreements. The Spearman's correlation coefficient was deemed to be useful for measuring the association between all four variables, and age was added as another variable that could be correlated with them. Spearman's rho correlation coefficient is suitable as the data is considered not normally distributed (skewed data), and as a result, a non-parametric test should be used to measure for correlations. The correlation coefficient can be either negative (-) or positive (+), and it ranges between 0 (0%) and 1 (100%). The higher its value, the more likely scenario is that it is significant. The significance score reflects the likelihood of the result being down to chance, i.e. accidental.

A probability level of 5% (0.05) was used to estimate the significance of any correlation. This means that a correlation between two variables with a significance level less than 5% ($p<0.05$) is considered significant (Field, 2009). Table 9 shows a correlation matrix, which illustrates some significant correlations. It was found that perceived proficiency with computers was significantly and positively associated with the method of delivery, as rho (74) =0.338, p=0.003. This explains that the more participants perceived themselves as proficient, the more likely they were to agree on the benefits of this method of delivery. No significant correlations were found with interaction, barriers or age ($p>0.05$). The method of delivery was significantly and positively correlated with BL interaction (rho (73)=0.614, p=0.000), which indicates that the higher the participants' agreement with items suggesting the benefits of this method of delivery, the more likely they were to agree that BL promotes interaction. No significant correlation was found with barriers and age ($p>0.05$). BL interaction showed a positive and significant correlation with age (rho (71) =0.280, p=0.018). This indicates that the older participants are more likely to have positive views about BL interaction. Barriers to the BL environment showed no significant correlation with any of the other variables ($p>0.05$).

Table 9: Correlation table showing Spearman's rho correlation coefficient across the four scales along with age

			Proficiency	MOD	Interaction	Barriers	Age
Spearman's rho	**Proficiency**	Correlation Coefficient	1.000	.338**	.059	-.157	.056
		Sig. (2-tailed)	.	.003	.618	.182	.637
		N	76	74	73	74	74
	MOD	Correlation Coefficient	.338**	1.000	.614**	-.210	.141
		Sig. (2-tailed)	.003	.	.000	.072	.238
		N	74	74	73	74	72
	Interaction	Correlation Coefficient	.059	.614**	1.000	-.102	.280*
		Sig. (2-tailed)	.618	.000	.	.389	.018
		N	73	73	73	73	71
	Barriers	Correlation Coefficient	-.157	-.210	-.102	1.000	-.023
		Sig. (2-tailed)	.182	.072	.389	.	.845
		N	74	74	73	74	72
	Age	Correlation Coefficient	.056	.141	.280*	-.023	1.000
		Sig. (2-tailed)	.637	.238	.018	.845	.
		N	74	72	71	72	74

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

6.6.2 Computer use location: impact

Further analyses were conducted to measure whether or not the use of the computer at home or at the university or both was associated with any differences in the way participants indicated their responses on the survey questionnaire. Two groups were compared for this purpose: those who used a computer at home only (no participant showed that they used one at their university only), and those who used it both at home and at university. A non-parametric Mann-Whitney test was applied, which measures the difference between two groups. Table 10 shows the mean rank for each group across the four variables, and Table 11 highlights whether the mean ranks differ significantly or not. The results indicate that there is no significant difference between the two groups in any of the four scales ($p>0.05$), as can be seen in Table 11.

Table 10: Mean rank for location of computer use across the four scales

	Where do you use Computer?	N	Mean Rank	Sum of Ranks
Proficiency	Home	25	33.04	826.00
	Home & university	50	40.48	2024.00
	Total	75		
MOD	Home	23	33.15	762.50
	Home & university	50	38.77	1938.50
	Total	73		
Interaction	Home	22	33.93	746.50
	Home & university	50	37.63	1881.50
	Total	72		
Barriers	Home	23	40.65	935.00
	Home & university	50	35.32	1766.00
	Total	73		

Table 11: Mann-Whitney U test for the effect of location of computer use across the four scales

	Proficiency	MOD	Interaction	Barriers
Mann-Whitney U	501.000	486.500	493.500	491.000
Wilcoxin W	826.000	762.500	746.500	1766.000
Z	-1.405	-1.052	-.693	-1.000
Asymp. Sig. (2-tailed)	.160	.293	.488	.317

a. Grouping Variable: Where do you use a computer?

6.6.3 Frequency of computer use: impact

The Mann-Whitney U test was also used to see whether or not the frequency of computer use had an impact on responses to the four scales. The frequency of computer use was measured on a four- point scale (Table 12) but the majority of participants stated that they used the computer either almost every day or for a few times a week. Other responses were excluded due to their low number (see section 137). The Mann-Whitney U test (see Table 13) showed no significant effect on the four scales ($p>0.05$). Hence, it can be concluded that the frequency of computer use had no impact on the way participants viewed the BL environment.

Table 12: Mean rank for computer use across the four scales

	How often do use Comp	N	Mean Rank	Sum of Ranks
Proficiency	Almost every day	32	36.63	1172.00
	A few times a week	40	36.40	1456.00
	Total	72		
MOD	almost every day	31	36.13	1120.00
	A few times a week	39	35.00	1365.00
	Total	70		
Interaction	almost every day	31	34.05	1055.50
	A few times a week	38	35.78	1359.50
	Total	69		
Barriers	almost every day	31	34.15	1058.50
	A few times a week	39	36.58	1426.50
	Total	70		

Table 13: Mann-Whitney U test for the effect of computer use across the four scales

	Proficiency	MOD	Interaction	Barriers
Mann-Whitney U	636.000	585.000	559.500	562.500
Wilcoxon W	1456.000	1365.000	1055.500	1058.500
Z	-.046	-.231	-.357	-.498
Asymp. Sig. (2-tailed)	.964	.817	.721	.619

a. Grouping Variable: How often do use Comp

To conclude the quantitative analysis, the survey questionnaire provided a descriptive understanding of students' views about the BL environment. The high combination of A and SA scores on the mode of delivery and interaction scales and high disagreement with many of the barrier items suggest participants' views leaned towards the positive. However, it can be suggested that they were not wholly satisfied with BL and with its use in higher education, judging by the high proportions of neutral/uncertain responses and the students' perceptions of some barriers. Most participants described themselves as having a good understanding of the use of computers (or ICT), but a proportion of the participants perceived themselves as less skilled in the use of blended learning.

As for the methods of delivery and the use of the BL environment, it appeared that there was more agreement than disagreement across most of the items. This reflects positive views about the way BL works and its usefulness. As for improving interactions, which can be seen as cooperation among the students, the BL environment gained more

agreements than disagreements, but some items showed the opposite, describing that the BL environment may not necessarily improve interaction on all occasions. A number of barriers were pointed out of which low internet speed seems to be the major barrier, although some participants also stated that the online environment is not necessarily a better alternative to F2F interaction. Finally, participants' perceived proficiency in computers (ICT) was positively correlated with the mode or method of delivery in that the more skilled they perceived themselves to be with computers, the more positively they perceived the BL environment, such that high agreement on the mode of delivery indicated a likelihood of a better score on BL's ability to improve interaction. Also, according to the correlational analysis conducted earlier, the older participants were more likely to agree that BL improves interaction. The results from this chapter are discussed in relation to the themes generated from a qualitative method applied in this study in Chapter 6 in an attempt to provide more complete insight into the answers to the research questions that were set out in Chapter 1 (see 1.8).

6.7 Conclusion

The chapter provides an analysis of quantitative data gathered from male students on their perceptions of blended learning at King Khalid University. The data constitutes descriptive and inferential statistics provided from numerical data gathered using a questionnaire where male students reported their perceived level of computer proficiency, the mode of delivery, and the potential barriers in the implementation of the blended learning environment at their university. The descriptive data analysed using the SPSS data analysis program included age and the extent to which the students used computers. The Cronbach measure of reliability showed that all four scales, including proficiency, mode of delivery of BL, interaction and barriers, were highly reliable. Over 90% of the students perceived themselves as proficient with computers, while only about 41% of the students reported being proficient in blended learning.

Over 66% of the students used computers both at the university and at home. Concerning the students' views and experiences of the BL environment, such as the mode of delivery, their Likert scale scores show that there was agreement with the statements related to mode of delivery. Statements related to flexibility and the ability to access course material without physically attending the course scored highly in the Likert score. Statements related to improvement of the quality of learning, such as "*The BL method helped me gain a better understanding of the content*" and "*The BL method has enabled my level to*

progress" had lower scores below 42%. On the aspect of interaction, responses to the statements showed that the BL method was perceived to enable the instructor to become more accessible to the students. Overall, the students agreed with all the statements, underlining the fact that blended increases interaction between the lecturers and their students. This further increases classroom productivity and promotes collaboration and sharing of ideas. The most significant barrier however, which was ranked highly in the nine statements concerning interaction in the student questionnaire, was low internet speed, as it prevented students from effectively utilising the blended course. The students also concurred with the statement that online learning cannot replace F2F contact with the lecturer. In addition, most students opined that blended learning did not facilitate adequate room for constructive dialogue in learning. Having a negative attitude towards BL was seen as a less significant barrier to BL, since the statement ranked last.

In summary, the analysis of the quantitative data gathered from students shows that the students were in agreement with most of the proposed positive attributes of blended learning, including the mode of delivery, and the extent that BL facilitated flexibility and interaction between lecturers and students. According to the data gathered, most of the students were proficient in the use of a computer, but this proficiency did not necessarily translate to proficiency with use of the BL program. Students were also in disagreement with most of the barriers stated in the questionnaire. The only prominent barrier that was highly ranked by the students was a weak internet connection, as this made the use of blended learning difficult and therefore less effective.

Chapter 7: Analysis of Interview Data

7.1 Introduction

The study was undertaken to understand how male Saudi lecturers, academic leaders, and undergraduate students at King Khalid University (KKU) perceive and experience blended learning (also referred to as BL throughout the interviews and report), and the wider implications this has for the future of Higher Education in Saudi Arabia. It investigated the perceived advantages of and obstacles to blended learning, and explored whether there is a future for this form of learning at KKU in Saudi Arabia. The findings from the research are intended to inform educational policy-making and practice given that blended learning is in the early stages of implementation at KKU, so that any future plans for its continued development can be informed by the perceptions of the groups interviewed. In presenting the findings from the qualitative phase of this study, some portions have been highlighted in bold text to show, in the view of the researcher and in light of the aims of this study, which points may be important. The participants did not necessarily make the same emphasis when responding.

This chapter presents the views expressed by the interview participants in the three main areas or themes for students: computer proficiency, perceived benefits of BL and challenges; and in five main areas for lecturers and academic leaders: perceptions and expectations of the impacts of BL on teaching effectiveness, advantages, challenges or barriers, social benefits, and the future for BL at KKU. A summary of comparisons between the three groups is presented in Table 17 and a comparison of the interview findings in Table 18. These tables are shown below on pp. 191-194.

In order to produce this qualitative report, a thematic analysis was used to analyse semi-structured interview data, and this was done following the 6-step process detailed by Braun and Clarke (2006). By using thematic analysis, themes within the data are identifiable and are able to provide an overall picture of what the data is saying. In order to identify the themes, the researcher familiarised himself with the data first [step 1], which had been transcribed into writing from the verbal recording. After the data were read, the researcher produced a list of the information contained within the data, and then generated a list of interesting information from that data in a process of developing ‘codes’ [step 2]. Once these codes were identified, the researcher looked again at the information obtained in the form of codes and analysed them to identify themes from the information, that is, information that is broader than that contained in the codes and which encompass

the codes [step 3]. A further analysis was conducted to review the themes to determine whether they form any pattern, and a thematic map was then developed and the themes were refined to ensure that they are representative of what the information is saying [step 4]. There was further refinement of the themes for the purpose of clarity, and the data within them was analysed to identify the story told by the theme [step 5], from which this report was produced to give the overall picture of what was identified from within the interview data [step 6].

7.1.1 Research questions

The qualitative data were obtained to address the last three empirical sub questions (ESQ2-4), regarding what students at KKU experience and expect from blended learning; what academic leaders, lecturers at the KKU experience and expect from blended learning, and how the expectations and experiences of blended learning compare between academic leaders, lecturers, and students. The specific aspects examined were mentioned in section 1.8.

7.1.2 Perspectives

It should be noted that (ESQ1a) and (ESQ1b) regarding the factors that influence students' experience of BL and computer proficiency were addressed in Chapter 6 based on the quantitative data, and did not emerge as a separate theme in the interviews. The thematic analysis presented in this chapter is divided according to the subsequent two empirical sub questions (ESQ2) and (ESQ3), corresponding to the following two themes: benefits of BL (ESQ2a) and limitations and challenges of BL (ESQ2b). The perspectives of the lecturers and academic leaders, which contribute to addressing (ESQ3), are presented under the same themes.

7.1.3 Presentation

By reducing the temporal and spatial commitment, the researcher identified the theme of practical benefits emanating from blended learning, which makes learning easier to access, thus making students prefer these courses over the traditional F2F-based learning model. For example, some students are faced with the challenge of coming to the university campus, and as noted by Wingard (2004), blended learning enhances accessibility through offering students the ability to access course materials at any place and at any time, thereby providing them with convenience and flexibility. Thus, two key practical benefits were identified in the data: saving time and saving cost.

The finer details of the qualitative findings presented in this chapter are arranged primarily according to the emergent themes and sub-themes, and secondarily according to the group of participants. The coding follows that given in the tables below (Table 17 and Table 18). Text in italics are quotations, and the use of bold text is to highlight certain portions for emphasis in view of the researcher. The colour coding scheme used in tables in section 189 is as follows: purple indicates a single group mentioned; yellow indicates lecturers and students combined; green indicates leaders and lecturers combined, and blue indicates all three groups combined (students, lecturers, and leaders).

7.2 Advantages and Benefits of Blended Learning

This section presents the responses of the three groups of participants on their perceptions and experiences of BL to bring practical, social, affective and educational benefits. The benefits experienced by students from blended learning can be classified into practical benefits, social benefits, affective or emotional benefits, and educational benefits. These sub-themes are corroborated in the literature on blended learning in different settings (see 73 and 96). The traditional non-blended form of teaching that involves F2F teaching is impeded by the number of face-to-face hours required whereas blended learning through its practical benefit of allowing flexibility has the potential to save students' time.

7.2.1 Practical benefits (A1)

7.2.1.1 Practical benefits experienced and perceived by students

When asked about the benefits of blended learning, the ability to save time and effort was mentioned by three participants (1, 3, 4). Blended learning is also a way to **acquire information with ease and in a timely manner** according to three participants (1, 2, 3). Participant (1) viewed costs as one of the obstacles to blended learning. He said, "*Yes, but the cost and obligations of a situation in which error correction*". BL was said to save time and effort since it guaranteed faster access to better information with minimal effort when compared to the traditional learning environment. This was also supported by the views of the third participant interviewed, who indicated that blended learning eased access to information while saving time and effort. The participant also stated saving time as among the key advantages of blended learning. He said, "*The most prominent features are saving time, effort, and other educational open window and gain new experiences through the use of technologies*".

Participant (4) was of the opinion that blended learning improves access to information with minimal material cost while guaranteeing a direct connection with the lecturer. He

said, "S*ure, the BL... of the ease of access to information without any effort or material cost and also to connect the lecturer directly*". This was also corroborated in the interviews conducted with participants (1) and (3).

7.2.1.2 Practical benefits experienced and perceived by leaders

The main practical benefits reported were **saving time and money**. About saving time, two participants (2, 3) recognised that students may have logistical difficulty attending the university campus. A factor associated with the travel to classes is the time that it takes for some students who live a long distance away from their university. A benefit of the blended method is that it helps both the student and teacher to gain time and **reduces the need for location dependency**. Using the online component means that **students do not have to travel to attend classes as often** and therefore, taking part in the online component reduces location dependency when compared with the traditional F2F teaching method. This time-saving advantage means that the student has more time available to dedicate to study. Participant 2 recognised this as a benefit for both the student and himself: "*Students have more time to study and I have more time to rest, as doing my work online saves me a lot of time. The extra time gives students more space for achievement*". Participant 3 recognised the difficulties for some students in attending their university for lessons, and stated that the blended method provides **a benefit for those students who have difficulty in physically attending the university**.

Participant 4 commented on the importance of **keeping up with the times in terms of technology**. Because of the online element of blended learning, a benefit was seen in the **"*economy of time*"**, as observed by participant 3, although he did not expand upon this further. When assessing his answer overall, it could relate to the fact that **content can be stored electronically for future use**, which can then be used over again, and therefore, had a time saving element.

Participant 3 mentioned flexibility, also in terms of attendance, and thought about the importance of this for **female students** because they have **"*different domestic responsibilities*"** compared to male students. Presumably, the **flexibility** arises because the online element means that **learning is not constrained to the physical classroom environment**. The **"*economy of time and effort*"** was deemed a positive effect according to participant 3 who also anticipated the future impact of the blended method, noting that the content is stored electronically for future use, and that this could **save time for teachers when preparing lessons** in the future, as the content would be easily accessible. Also, if a teacher left the university, the **content would be accessible by other staff**,

instead of knowledge only being retained in the individual's head. This also applies to the scenario **if the teacher is unexpectedly absent, as the content will be available for somebody else** to pick up and to base the teaching upon. Participant 3 thought that the benefits of BL's **flexibility** allowed it to **fit within the society**, observing that it **saves time and money**.

7.2.1.3 Practical benefits experienced and perceived by lecturers

There was recognition that the blended method, through its online element, has the potential to reach more students and deliver education throughout the Kingdom, thereby **reducing the issue of "*location dependency*"**. This was observed, for example, by participant 1, who thought that it has the most potential of "*delivering on the concept of **full educational ubiquity** throughout the Kingdom*" by **reducing the need to travel** to a fixed location for the whole course, and therefore, reducing location dependency.

Geographical independence (reduced location dependency) was cited by three participants (4, 5, and 6) and **attendance** was an advantage mentioned by two participants (5, 6). The reasons for both of these factors relate to the fact that the **delivery of the classes is not dependent upon the student or teacher** being in a particular location, and participant 4 also felt that this resulted in **greater collaboration between students**. In relation to geographical independence, participant 6 said: "*Students would be able to study via the online component irrespective of their ability to commute physically to daily lectures that the traditional equivalent would require*".

One participant (1) identified the **ease with which course materials can be accessed** through the online component, which means that **students can achieve their learning outcomes in a shorter amount of time** compared to traditional teaching. BL was also said to provide a benefit of **time saving**. One of the reasons participant 2 stated his preference for the blended method was the time saving element, which he described as "*significantly reduced office hours*", because the online element meant that discussion with students could take place online without the need for either of them to be in the same location at the same time. However, in the short-term, participant 2 perceived that the implementation of the online system would be time consuming because of the need to transfer work onto the system and the training of the staff to use the new system.

As recognised by participant 2, the blended method has a **cost-saving effect**, and this will be attractive to the institution. However, Participant 2 did not elaborate further on the ways that costs are saved by using the blended method. Participant 1 felt that due to the

pressure being put on higher educational institutions and the "***changing economy*** *of the kingdom*", the combination of teaching methods would be beneficial.

With regard to the **flexibility** that accompanies blended learning, all the participants were asked about the place that blended learning had in universities. Two participants (2, 7) thought that **BL assisted with the barriers of travelling** to a particular location, and meant that **education was ubiquitous and accessible** due to its online element, which was a factor that made it an attractive option to two participants (1, 4). As recognised by participant 4, "*Most benefits are to be found in the online alternative: the area is dynamic, constantly changing, and presents a lot of new exciting ways in which both* ***students and lecturers can interact****. I would say that blended learning therefore, at least captures some benefits that the fully online option facilitates*".

The participants were asked what they considered to be the advantages of blended learning. All provided a response that set out its perceived advantages, or as stated by participant 6, potential advantages, although participant 3 did conclude by saying "*To be honest I am slightly put off by the question, as in my mind, only traditional methods have the most advantages*". Nevertheless, participant 3 still thought the **flexibility** associated with blended learning was an advantage associated with that form of learning. The online element can allow students who are further afield to register on the course if they know that they **do not have to travel as often** to attend a physical lecture. The blended format **facilitates constant attendance** because, as identified by participant 6, it "*enables [students] to consume content from within the home*". Three participants (1, 2, 6) said that they were not convinced of the short-term benefits of BL, although they could see its long-term usefulness, with participant 1 recognising the **flexibility and low cost** associated with its use.

7.2.2 Social benefits (A2)

7.2.2.1 Social benefits experienced and perceived by students

Another category of benefits perceived is the social domain related to interaction and communication.

Interaction

When using the blended learning approach, the activity of **students interacting with their lecturers** was more apparent according to two participants (1, 2). As noted in the interview with participant 1, there was significant improvement in the interaction of the students with their teachers. Participant 2 associated blended learning with **increasing**

interaction between the lecturer and the students through increased activity. The F2F educational environment in a traditional classroom setting also provides **opportunities for direct social interactions**. However, the interactions in the blended learning environment are further **reinforced by the teacher's reassuring informal approach and the technical support** offered by the tutor, which increases the level of interaction. F2F interaction in the traditional learning environment in the classroom provides social interaction for lecturers and their students where the lecturers offer guidance to the learners. However, as pointed out in the interviews with participants (1) and (2), the mix of F2F and web-based learning in the blended learning environment provides **opportunities for high level social interaction** that is not possible in classroom-based teaching alone, due to the **spatial and temporal flexibility** that is offered by the web-based learning in the blended learning environment, thus making BL an important aspect for potentially improving students' academic achievement when compared to F2F learning or distance learning alone.

Enhanced communication

Three participants (1, 2, and 3) were unequivocal in their view that blended learning **helps students to communicate with their teachers**. Blended learning **eased communication between the teachers and students**, according to the students who participated in the interviews. They thought it did so because it offers **adequate flexibility** to ensure high level interaction between the teachers and their students. According to participant (3), a blended learning environment **strengthens communication networks between the lecturers and students**, leading participant 3 to offer the following: "*It is suggested to the university administration to pay careful attention to strengthening communication networks and the provision of classrooms equipped better than they are now*". Two participants (2, 5) said **the ability to communicate is enhanced**, whether among students or between lecturer and students. According to participant 2, the blended method **helped to facilitate communication with his teacher** more easily. One participant (6) thought the blended method was a more practical way to send and to acquire information.

7.2.2.2 Social benefits experienced and perceived by leaders

Greater interaction

Several potential social benefits were said to accompany BL. **Interaction** was cited as a reason for the use of the preferred teaching method by participants 1, 2, 4 and 5. The reasons provided centred upon the fact that the F2F teaching element facilitated student

interaction (1, 2, 5), and enabled the teacher to read the body language of the student, which cannot be done if solely using the online component (2). For this reason, according to participant 2, "*We can't teach solely online as some disciplines (such as psychology) believe that direct communication is important*". Online interaction was perceived to provide **a distinct benefit for those students who are too shy to interact** with their peers in person and was considered to be of benefit **for those students who lack confidence to present in front of colleagues** (4). In terms of the benefit of face-to-face interaction, participant 1 said, "*Students are able to interact with one another, exchange dialogue, hold discussions, and it enables some to give presentations in front of their colleagues*", whereas considering this from the perspective of the benefit of online teaching, participant 4's view was that "*…blended learning…facilitates interaction between students and from the lecturer much more effectively by using the online component than if the same students were asked to interact and present face-to-face*."

Improved communication

Communication was a factor in the responses of two participants (4, 5), with participant 4 opining that it BL **facilitated a more effective interaction between students and teachers**, whereas participant 5 commented that it **enabled communication between students**, irrespective of location. By relying on technology, there is a **reduced location dependency** that provides **greater flexibility**.

A benefit of BL from a social perspective was thought to be that it is **compatible with Saudi culture**. In their responses, three participants (1, 3, 5) mentioned that **blended learning did not conflict with the Saudi culture or religion**. Participant 3 said: "*Cultural compatibility is more significant than most would like to believe: collaboration, communication and empowerment through education have been central for a long time to the Kingdom's Islamic perspective, which permeates all sectors, including Higher Education*".

7.2.2.3 Social benefits experienced and perceived by lecturers

Student interaction has been enhanced by the introduction of BL, according to lecturer 1 who said the blended method "***increases student interaction*** *over the course of the programme, and I think this can be hard to measure within a traditional lecture setting*". This was in line with the social advantages identified by participant 5 who commented:

> *"From my brief time in the USA, I saw how blended learning was able to address the issue of travel and geography, whereby students living in different states were able to enrol virtually as well as physically and this*

> *offset the barrier of travel… One's academic achievement within any university programme is without doubt a function of one's attendance. Therefore, as blended learning facilitates a more consistent rate of attendance irrespective of one's location of personal domestic responsibilities, the outcomes of learning are* ***very much promising****…this benefit is even more welcome in Saudi society, given the… importance of enabling domestic and segregated* ***responsibilities for women and girls*** *on a cultural level, but also the values of promoting equal educational opportunities. Blended learning solves this problem."*

Four participants (4, 5, 6, 7) thought blended learning was **compatible with the values of society** in Saudi Arabia, with participant 5 commenting that it will enable values to "*flourish further*". The reasons given were the **flexibility it offers to women and girls**, as it provides a strong balance between the realities and responsibilities of family and domestic life, and of Islamic values of **equal opportunity and empowerment** through education.

7.2.3 Affective and emotional benefits (A3)

7.2.3.1 Affective benefits experienced and perceived by students

Regarding the affective benefits associated with blended learning, this sub-theme is supported by the less compensative perspective that proposes emotions can enhance the learning experience through qualifying it and increasing the likelihood that the experience can become structured in the personal, cultural and professional context of the learner (Suprabha & Subramonian, 2015). Specific learning episodes can be shaped by contingent interactions that promote a global improvement in the learner based on the ability of feelings to connect what the individual knows with what they are able to express.

Participants mentioned two affective benefits of BL: enjoyment and interest. According to participant (3), **lesson content was more enjoyable** using this method. Asked whether blended learning was familiar to him, participant (3) replied: "Y*es most of the materials studied in this way are very enjoyable. There is a big difference in the academic achievement compared with the materials, which I studied in the traditional way*". The participant also indicated that blended learning from his perspective **reduced boredom** since it made it more interesting. He said, "*This kind of education dramatically increased my ability to take responsibility and self-reliance; it contributed to a lack of feeling bored with the repeated routine [experienced] with the traditional way, where there was a great feeling of boredom and being filled with a mass of information, and I was often confined to just listening and receiving*". It was apparent that having a mixed approach to teaching

relieves any issues of boredom and monotony associated with using the same approach throughout, such as when either the traditional or online method is used in isolation (3).

7.2.3.2 Affective benefits experienced and perceived by leaders

Leaders expected BL to **relieve boredom** by providing a more varied manner of teaching. Participant 2 considered this to be important because he was of the view that if he "*taught using the same method continuously the students would become bored and lack motivation*".

7.2.4 Educational benefits (A4)

7.2.4.1 Educational benefits experienced and perceived by students

Regarding sub-theme four on the educational benefits of blended learning, BL has been demonstrated to improve the efficiency and pedagogical effectiveness of teaching (Kintu et al., 2017). The benefits of blended learning arise from the environment in which problems inherent in traditional learning can be counter-balanced by the advantages of the online form of learning (Wu et al., 2010; Chou & Chou, 2011). Students reported experiencing a variety of educational benefits, including easier access to information, improvement of skills, and greater independence in learning.

Access to information

The experience that the **course material was better organised** and in a **more compact form** was a factor that weighed in favour of the blended method according to two participants (2, 3). As a form of learning, blended learning was attributed by participant (3) as **improving access to information in an organised and compact way** compared to the traditional form of learning. This was pointed out by the participant when he was asked to compare blended learning and online learning. He said, "*It's good when used in an effective way [and] also contributes to the access to information in a more organised and smoother way than the traditional way*". When comparing the blended approach to traditional and online methods of teaching, three participants (1, 2, 6) felt that **training** (in the online element) was an issue that needed to be addressed with the blended method, as well as improving technical issues such as **access to the online element** (1) and the issue of **internet connectivity** (2).

Blended learning is also a way to **acquire information with ease and in a timely manner** according to three participants (1, 2, 3,). According to participant (3), blended learning **facilitated the acquisition of knowledge in a timely manner** since the teacher

and the student can communicate at any time. This is captured when the participant says, "*Yes, because it facilitates the way we communicate with the subject teacher at any time*".

Improving skills

When asked about the advantages of blended learning, most students mentioned the opportunity it provided for greater skill development, especially in terms of **improving technical proficiency** (participants 1, 2, 6). As indicated by participant (3), blended learning is suitable for university education since it helps university students to improve their technical skills and thus prepares them better for the labour market. The participant said, "*Yes, it's very appropriate because this type of learning helps to train university students in the technical skills and thus trains them to keep up with the labour market requirements*". Two participants (3, 6) had positive expectations that BL would address the **issue of technical proficiency** (3) and, because of the use of technology, this would make learning easier (6).

The participants were asked if they were making progress academically with the blended approach. The group was equally split between those who thought that progress was being made (1, 2, 3), and the other half (4, 5, 6) stating that progress was not being made academically. Of those who thought that progress was not being made academically, one participant (6) nevertheless commented that his **technical knowledge had increased**. In addition, two participants (1, 3) reported that their **research skills had been enhanced**.

Independent learning

Blended learning has the advantage that it **promotes more independent learning** according to participant 3, who said: "*For example, unlike the traditional approach where the student is the receiver of repetitive course content, my ability to contextualise this information to my own learning style within the blended alternative improves my academic enjoyment and performance*".

Participants 1 and 3 stated that they were **able to research independently** and their communication skills had improved. According to participants 2 and 3, BL **increases the independence of students**. One participant (4) thought that **graduates within the private sector were beneficiaries** of this method, although the remark was not expanded upon.

7.2.4.2 Educational benefits experienced and perceived by leaders

When participants were asked whether they thought there was any advantage to using the blended learning method of teaching, two participants (3, 4) referred to the **access to**

information aspect of blended learning, with participant 3 noting the **ability to store content electronically**, which can then be accessed with ease in the future.

In terms of the participants' preferred teaching format, four of the five leader participants (2, 3, 4, 5) **preferred the blended teaching method** (namely, a mix of traditional face to face teaching and online teaching), whereas one participant (1) preferred the traditional method and did not consider his teaching format to be blended. Of the participants that preferred the blended method, participant 2 was the only one who reported his teaching format swayed more towards the traditional format "*with the addition of some of the technical stuff*". There was some selectivity shown by participants as to which group they would use the blended method with in order to deliver their teaching, with participant 3 stating: "*I always use this method with my graduate students*", citing "*practical reasons*" for this in the form of lack of internet availability amongst undergraduate students. None of the participants exclusively preferred the online method as a stand-alone teaching method. The reasons for this can be extracted from their explanations of their preference for the blended or traditional format, and centre on the issues associated with using technology, such as its accessibility and the experience of the teachers in using the internet and teaching online. The importance of **keeping up to date with technology** was raised by participant 4, and participant 5 thought its usefulness lay where **"*traditional methods fall short*"**, but did not expand further upon this comment.

7.2.4.3 Educational benefits experienced and perceived by lecturers

In response to being asked whether their teaching format was blended, seven lecturers (2, 5, 6, 7) provided a response that encompassed 'yes' to the question, although three participants (5, 6, 7) expressed a preference for using the blended format, specifically with their graduate students. Participant 5 said, "*Yes I would say that I use blended methods for my graduate students*". The reason for using the blended method with **graduate students** related to them having **access**, in general, to a **more reliable internet connection**, whereas the undergraduate students encountered issues with this.

One participant (1) identified the **ease with which course materials can be accessed** through the online component. Students are also able to access course content more easily, and participant 1 thought that, because of this, "*Students find it so much easier to immerse themselves in their course content*". If the material can be delivered in an efficient way whilst maintaining quality, then this could **increase competition between education providers**. Participant 2 commented, "*I think what we will also see is a move away from selling the 'experience' of higher education to a more 'delivery-based' approach that*

focuses on efficiency and quality of the material. Just as with any product, this could lead to an increasing quality through increased competition".

In addition to increased attendance, the blended method was similarly said to allow for **easier measurement of a student's ability** by utilising the online component when compared to the traditional method. Participant 7 said, "*The teacher is **able to identify the students engaged, motivated and interacting with the course content** via the Blackboard facility; whereas those same students may have gone completely unnoticed in a traditional course*".

The **ease** associated with blended learning was mentioned by two participants (2, 4), with both of them referring to the **ease of access to information**. The reason for access being so easy is that if a student is at home, blended learning provides a way for them to consume content from within their home (or any place that is not their higher education establishment). One participant (1) commented that the most important end result is to **impart knowledge efficiently and cost effectively**, and participant 5 supported this idea, concluding, "*I would say that blended learning has the potential to be very appropriate for university education*". Although the participants were asked to describe the current blended teaching practice, the answers provided were more descriptive of the **expected future direction** of this method of teaching. Two participants (5, 6) referred to it as having "***potential***", and one participant (1) referred to it as "***promising but compromised****"*. Participant 4 provided a positive response, saying, "*I would describe this as a very exciting area, of which I am very happy to be a part.*"

7.3 Limitations, Barriers and Challenges of Blended Learning

The area of limitations and challenges comprised three sub-themes: technological, educational and personal issues. Students, leaders and lecturers perceived technological, socio-cultural, educational and personal factors as constituting barriers to the successful use of BL.

7.3.1 Technological challenges (B1)

7.3.1.1 Technological issues experienced by students

Participants perceived the success of BL to be limited by inadequate internet connections, lack of access to devices, and the poor quality of those that are made available to them.

Poor internet connectivity

When asked whether there were any obstacles to blended learning, four participants (3, 4, 5, 6) thought that internet connectivity was a problem Because of **poor internet**

connections and the fact that the majority of **students are "*ignorant of technology*"**, which could be interpreted as lack of technical expertise. One participant (4) did not consider BL to be suitable for use within the university setting. The process of making education efficient and reliable will depend on the reliability of the internet as a conduit for spreading knowledge. The participant stated, "*Yes, the internet is perhaps one of the most important obstacles, and the basis upon which the educational process could collapse*".

Access to devices

Participant (1) noted that access to devices was one of the obstacles to blended learning on campus, who referred to the "*Unavailability of a devices Cafe on campus and in classrooms*". This limitation was also confirmed by participant (4) who offered it as a reason why blended learning was not suitable for the university education system. He said, "*[It's] not [suitable] because some students do not prefer to use technology and are significantly ignorant and also not everyone has the technical devices needed for learning or iPad and PC, as well as the cost of them that some students cannot afford*". Access to devices was also mentioned as an impediment to blended learning by participant (6), who said, "*Yes, the lack of acquisition of other electronic devices [is a problem], as well as lack of knowledge of some people of how to use this technique*".

Although five participants (1, 3, 4, 5, 6) mentioned the **difficulty in accessing devices** and the **poor quality of those devices** as obstacles to the method, two of them (5, 6) were vague and did not commit to a definitive yes/no response on the basis that its suitability was **dependent upon the course** that was being taught (5) or in the view of participant 6: "*I think the key is balance*"; he furthered this by commenting that it was dependent upon an element of the traditional methods being retained.

According to participant (5), a **weak internet connection and lack of hardware** account for some of the obstacles for implementing blended learning, "*Yes weakness of the internet and the lack of hardware and high subscription price*". This is also corroborated by participant (6) who observes the internet as one of the prominent barriers to blended learning.

Participant (1) mentioned the **lack of devices in classrooms** and the campus as an impediment to improvement in technical proficiency in blended learning at the university. Strengthening online networks can lead to improvement of technical proficiency among students. When asked about the obstacles to blended learning, he said, "*Unavailability of*

devices on campus and classrooms". Although participant (2) preferred blended learning, he claimed to **lack technical skills**, which suggests improvement in technical proficiency with computers can improve perceptions and experience of blended learning. Participant (1) also suggested the need for offering training courses to improve students' computer proficiency. This was suggested when the participant explained his perspective on current uses of blended learning compared to traditional learning and learning through blended learning. He replied, "*It [BL] is good but needs some development such as strengthening online networks and the provision of devices and also the work of training courses for students*".

7.3.1.2 Technological issues experienced by leaders

When asked whether the academic leaders faced any obstacles when teaching blended courses, they noted in particular that **technical obstacles** caused problems. **Lack of internet connectivity** was cited as a problem by three participants (1, 2, 3). Participant 2 said, "*Some areas of the university suffer **slow speeds** and some temporary parts of the university are **not as technically equipped** as the core buildings of the campus*". However, in contrast, two participants (4, 5) did not consider internet connectivity to be problematic. The reason participant 4 did not consider internet connectivity to be a problem was because of the fast internet speed on campus. However, participant 5 considered wider access to the internet, and said: "*I do not consider the internet to be a problem…in terms of whether internet connectivity is problematic for students, the majority of students now have easy-to-access internet within the home as well as the campus environment*".

Participant 3 cited a practical problem as being "*the **issues with assigning tasks to students** when the format is fully online*", later stating this to be a problem for students who live in rural locations: "*for many of the undergraduate students, **access to the internet is difficult** and many are located outside the city in rural areas where this difficulty is even more prevalent*". Another factor associated with the actual utilization of the computer, and therefore, the online aspect of blended learning was that **poorly maintained hardware** was deemed to be an obstacle by participant 3, whereas the **expensive cost** associated with internet use was stated by participant 1 as an obstacle. From another perspective, participant 5 said that **students faced technical errors** when using the online element and provided an example, such as when the system distributes incomplete assignments and tasks.

According to participant 4, the **institution supports e-learning** and the blended learning format in particular. Participant 2 provided the only negative answer, observing that many

staff stuck to traditional methods because **internet availability was not always guaranteed** and **traditional face-to-face teaching was seen as a safe option**. All five of these participants expected blended learning to be a success in the future at KKU in Saudi Arabia however, but recognised the **need to develop infrastructure** to encourage its success was asserted by two participants (3, 4).

7.3.1.3 Technological issues experienced by lecturers

Three participants (1, 2, 5) thought the main obstacle to the use of the blended method was **poor internet connectivity**. Participant 2 said, "*Among at least 20% of my students, a lack of internet connectivity makes the online component redundant, despite its promise in the future.*", although participant 1 hoped that the experience the younger generation had with technology would mitigate this in the future, and regarded it as a **short-term barrier**. When discussing technology, participant 5 also thought that **the equipment was not up to the required standard** for delivering the online component of the course, which is linked to the **cost of maintaining and setting up equipment**, which participant 1 thought was an issue when incorporating the online element.

The **limitation on access to a reliable internet service** was a factor that three participants cited (5, 6, 7) as relevant to whether they would use the online element to teach the students. It was said that **the issue relating to internet connectivity could be a hindrance** to online teaching and prevent access to a course taught through blended learning. Participant 5 commented that "*the internet is currently the biggest infrastructural challenge to blended learning becoming standardised*". In making his observations, participant 7 said: "*Well for blended learning, the internet ought to be a benefit. But circumstantially the dependence the blended learning format has on* ***internet connectivity actually restricts*** *the ability of many of our students who lack this access to participate in this type of course*". This was endorsed by participant 7 who stated, "*I think this comes down to internet access in the home as, with the majority of graduate students benefiting from reliable internet access within the City, blended learning is much more reliable – whereas many of our undergraduate students reside in rural areas where connecting to the internet can be really 'hit and miss'*".

Four participants (1, 2, 3, 4), when commenting on the difficulties that students faced with blended learning, mentioned the online element. Two of them (2, 4) thought the problem was because of **poor internet connectivity**, with participant 4 saying "*simple tasks such as* ***monitoring and assignment sending can be quite a 'hit and miss experience*** *when some students are unable to go online*". Participant 2 also noted that this limited the **ease**

with which students and lectures can be organised, saying: "*It is advantageous in the sense that everything is much easier to organise and access but **this isn't the case when there are connectivity problems and systems stop working**. Traditional methods are quite often used as a backup for when technology fails*". Participant 6 observed, "*Well, when it comes to the primary environmental requirement for blended learning: a readily **accessible internet connection** on campus and at home; graduate students appear to be much more likely to fit these criteria as they are mostly city-based*".

Three participants (1, 4, 5) thought the issues were caused by the **technology implementation which** is needed for the online element, whereas one participant (6) thought the focus needed to shift from the technology implementation to **training teachers in its use**. One participant (2) described BL as a "*work in progress*" because the work was "*almost at the 'seeding' stage that is necessary for any new educational format or idea to take its stronghold in the Universities and the wider economy*". Participant 1 recognised the **motivation** that the students have to use this method of teaching.

Participant 4 said he felt that "*traditional methods are only the standard due to the **lack of training in technology.** For example, I feel that one of my colleagues lacks the confidence to use these modern tools, and so justifies it by claiming that traditional methods are more effective – I disagree*".

7.3.2 Sociocultural challenges (B2)

7.3.2.1 Sociocultural issues experienced by leaders

Three participants (2, 4, 5) referred to the **cultural acceptance of the internet** in their responses. Two of the participants (2, 4) made reference to the **negative relationship between the local culture and internet use** and the **negative connotation associated with internet use** in Saudi culture, with participant 2 observing, "*Some children don't have access to the internet because of their parents' rules, which may be a technical hitch in general*". In contrast, participant 5 mentioned the increased access to the internet and its increased social acceptance, and did not consider that culture amounted to a barrier, but referred to it in a positive manner. Participant 4's rationale for the negative effect widened to consider it in light of the cultural perception of a fully online course, and how it would not be thought of as a serious course. He did not expand on his answer however, nor did he provide any discussion on the **cultural perception** of a course with an online element to it.

7.3.3 Personal challenges (B3)

7.3.3.1 Personal issues experienced by leaders

Three participants (1, 3, 4) considered there to be **personal problems with regard to teacher beliefs, attitudes and experiences** associated with the online learning environment and gave reasons, such as **lack of teachers with suitable experience** in technology, or who have a desire to learn to teach with the aid of technology. Participant 1 held the opinion that "*professors lack the professional experience in using technology due to the lack of prior training and educational courses*". The **lack of self-confidence around the use of technology** seemed to be a contributory factor in participant 1 stating his preference for the traditional method, which can be borne out from his comment that "*personally I do not like the technical side as I do not have the training or experience to implement it*", although the inclination and motivation to learn to use the technology is a factor that needs to be taken into account, even if courses have been undertaken to learn to use the technology. In this regard, participant 1 declared **strong resistance to the new blended approach**, arguing "*I am totally convinced that* ***the use of technology is futile*** *in the teaching process…I also desire to present and lecture in front of my students face-to-face*".

Four of the participants (1, 2, 4, 5) were of the view that students faced difficulties in using the blended method. All four agreed that there was some difficulty for students. Participant 1 mentioned that he had often noticed that students had opened attachments, which had previously been issued to them and subsequently superseded, **instead of working with up-to-date material**, and this caused a **delay in students engaging with important course material**. Participant 4 felt that there was a problem of **"*over-assuming a certain level of technical and computing proficiency*"** and thought that about 3% of students struggled with the "*simplest of applications*". **Some students did not have the commitment or the motivation to complete the online element** of the course, according to participant 2, who stated that "*online work is not seen as a priority*".

Participant 3 was concerned there could be a negative impact if the **department did not adequately train teachers** to use the system. Nevertheless, in spite of this potential negative effect, overall participant 3 did not "*perceive there to be any compromises or negative outcomes if this alternative format is employed correctly*". **Lack of knowledge in using technology** was cited by two participants (1, 3). Participant 1 thought the lack of proficiency among teachers and students amounted to an obstacle, whereas participant

3 only referred to lack of proficiency among teachers, and did not refer to students in this regard.

7.3.3.2 Personal issues experienced by lecturers

A personal issue associated with the lack of training in technology to make online teaching a success, is the **issue of confidence of the teaching staff in using the technology**, as identified by participant 4. Participant 5, along with participant 3, thought the **lack of confidence** in using the technology was an obstacle, saying, "*Others would cite technology as the main issue, but in my experience teachers are actually quite proficient in making the best of the technology they have; I think the main obstacles comes down to poor confidence in using the technology; we need a more formal training procedure*".

One participant (3) showed how teacher beliefs could be a barrier to the implementation of BL. He said that he was not convinced by BL at all because he felt the format discriminated against those who prefer to stay with using traditional methods. Four participants (2, 4, 5, 6) mentioned **training in technology** in their response to their teaching preference. Participant 2 stated this in the context of there being a "*short-term disadvantage of resource-consuming training*" in relation to a combined teaching method that he described as "*optimum and more efficient*". Whereas, the other participants (4, 5, 6) referred to the **training need in technology and proficiency** as being at the core of overcoming the barriers associated with online learning. Participant 3 thought his **lack of confidence** was a subconscious factor in his **reluctance to engage with training**, which he thought was a general concern for older members of teaching staff. Related to this, participant 4 thought that if members of staff were reluctant to use the online component, they might decide to **omit the online element** from their teaching entirely. The **reluctance of teachers to use the online element** can be seen from the response given by participant 7 who said that it reduced the ability to monitor students when compared to the classroom environment.

7.3.4 Educational challenges (B4)

7.3.4.1 Educational issues experienced by students

Less direct interaction

In contrast to the views of students who favoured the interactivity of BL, one participant (4) found that the traditional teaching method facilitated more interaction. He did not therefore see any advantages to BL, and compared it unfavourably with traditional methods, which "*facilitate an easy and simple way to digest and research the course*

material". A similar sentiment was expressed by participant 5. This is an aspect of the traditional learning environment that can only be attained through the traditional learning environment. The aspect of **lack of direct communication** with the lecturers was perceived as an obstacle to BL. One participant (3) observed that he had seen noticeable activity with the BL method, although he did not expand on the reason for this observation, whereas conversely two participants (5, 6) had not noticed any activity.

Lack of knowledge

Three participants (1, 2, 4) expressed initial fears that blended learning would be difficult because of factors such as **not knowing how to engage** with the method, and because it was thought that the way in which to learn was being dictated to them. Participant (1) expressed difficulty as a beginner in blended learning on how to fit into the blended learning environment due to lack of knowledge of how to use devices in a blended learning environment. He said, "*I expect it to be difficult to use due to lack of knowledge of how to use it, it's true*". Participant (2) in the interview expressed fear in the **lack of full knowledge on how to use the technology** in the blended learning environment. When asked whether he considered blended learning as a part of his learning style, participant (2), said, "*Yes, because I like to study by the traditional way and electronic way at the same time, but I lack a lot of technical skills*". Participant (4) objected to blended learning at a personal level, stating that blended learning was not the best way for teaching at all. When asked whether he considered his style of learning to be blended, participant (4) said, "*Yes, but on a personal level [it] is not the best way of teaching at all*". From the standpoint of participant (3) in the interview sessions, blended learning **did not provide information in a ready and easy format** to the learner. Moreover, some students thought they lacked the necessary technical know-how to participate in blended learning.

One of the obstacles mentioned by participant (6) was the **lack of knowledge on the use of blended learning** pointing to a lack of proficiency with computers, which led to a negative perception and experience of blended learning. He said, "*Yes, not the acquisitions of other electronic devices, as well as lack of knowledge of some people about this technique*". Five participants (1, 2, 3, 4, 5) thought that their learning was blended, although one participant (2) felt hampered by his **own weak technical proficiency** when using the blended learning method.

Another participant (4) found a **lack of proficiency with the online element** of the system to be an obstacle. Participant 4 said, "*I personally find it cumbersome to use technology and- considering this lack of experience seen among my student peers – means that traditional methods still provide an overall superior method of ensuring that every student can collaborate and interact with students and lecturers independent of their technological proficiency. That is my view*". This highlights a need to retain more traditional elements alongside BL with reduced traditional elements.

Some participants preferred traditional learning due to the direct contact it provided between the lecturer and the students in the classroom environment. The **need to retain traditional elements of teaching** is best demonstrated by the response of participant (6) who stated he preferred traditional learning over other forms of learning. He said, "*[I prefer] traditional learning: because there is greater interaction in the hall with the Provider and also the possibility of giving and taking in the article of the professor and the student*". Other participants also advocated for the retention of some elements of traditional learning. For example, participant (5) preferred "*blended learning using the best methods and traditional, but depending on the nature of the subject. Some materials are good with traditional [teaching] and some not, and vice versa*". For participant (4), the traditional learning environment offered a learning environment that provided ease of access to information effortlessly with no material costs while ensuring the connection with the lecturer.

7.3.4.2 Educational issues experienced by leaders

Whereas, overall, participants 1 and 3 did find the effect of the blended method to be positive, different concerns were raised by each, which had not been raised by any other participant. It was suggested that there is a possibility that **students could get distracted**, for example, "*with online games when completing examinations*", and this would clearly have negative consequences according to participant 1.

7.4 Impact of Blended Learning on Teaching and Learning Effectiveness

This section reports on the impact of blended learning on the effectiveness of teaching and learning as experienced by the academic leaders and lecturers. Both these groups of participants expressed mixed views on how BL affects the effectiveness of their teaching.

7.4.1 Positive experiences and expectations (C1)

7.4.1.1 Positive impacts according to academic leaders

When the five leaders were asked to describe their experiences of the current blended teaching practice, four participants (1, 3, 4, 5) **provided positive answers**. Participant 5 said he "*would describe it as **very successful**, given its early stage of development*", a view echoed by participant 3 who considered that "***tremendous amounts of progress** with this format have been made*". The **combination of teaching methods** of using "*the modern online approach, and traditional learning methods*" was thought to be an effective combined approach according to participant 1. The fact that students have **prior knowledge of technology** and the **ability to search for information online** was regarded as a positive effect of the blended approach (2). The online element was said to **allow greater collaboration and communication** (5), and although this was not expanded upon, it is arguable that the online element allows a greater number of people to take part whereas the classroom environment holds a finite number of people within it. Participant 5 favoured the **flexibility of communication** in using the online environment, and presumably this includes flexibility in the time that students access the online environment, as well as the location from where they access it. However, the F2F element was thought to **allow teachers to respond to questions asked by students "in real time"** (5), and following from this, greater discussion could arise "*in real time*" as a result of that question and answer sequence, which could otherwise be hindered by trying to articulate opinions in writing if having an online discussion in written format.

Participant 4's view was that "***Personalities differ and learning preferences differ**: for the **students who are shy**, [blended learning] is a great way of accommodating them*". Participant 5 was the only person among this group who thought that, since the use of the blended method, "***some students avoid the traditional sessions** and resort to the online equivalent due to its convenience*". In the main, the five leaders thought that blended learning was appropriate for use in universities. Four participants (2, 3, 4, 5) answered this in the affirmative, with participant 5 providing the caveat of the infrastructure being there to support its use "*both technologically and economically*". One participant (2) thought that BL brings a benefit to students because it will **increase their technology skills**. Those students who are taught using the blended method were said to **complete more assignments on a consistent basis**, whereas participant 4 stated in relation to traditional practices, "*I only expected about 50% of the assigned work to be completed under fully traditional practices*".

7.4.1.2 Positive impacts according to lecturers

Six participants in the lecturer group commented on the effect of blended learning on teaching (1, 2, 3, 4, 6, 7). Three participants (2, 3, 4) were of the view that, since the emergence of the blended approach, a debate had been raised about the **efficiency of traditional teaching methods** and the **prospect of replacing the traditional method**. According to two participants (2, 4), the blended method can highlight inefficiencies in the traditional method. Participant 4 said, "*I really do feel the inefficiencies of traditional methods may even undermine the positive advantages of the online component*". Two participants (1, 7) said that the combination of methods provided a **better method of teaching for content consumption and delivery**, and a **clearer presentation of course content**, which meant that the **students were more responsive** (1). Participant 7 thought the reason for this enhanced delivery method was because "*blended learning compresses time vastly by employing incremental sections, one building on the other with much more interaction by the student in between*", whereas participant 1 thought that "*by presenting the students with a combination of the online blackboard platform and the interactive tutorials face-to-face, I feel that the content of* ***my course is presented more clearly to the students*** *than if they were taught using only one method or the other*".

Participant 4 said that his method of teaching fell more towards the online end of the spectrum, stating, "*I do feel quite excited about the potential this new blended method of teaching has to offer. Of course, there are some parts of the course I am obliged to teach using traditional methods, but I do try to use the online alternative platforms whenever I have the opportunity*".

7.4.2 Negative experiences and expectations (C2)

7.4.2.1 Negative impacts according to academic leaders

Two participants (3, 4) considered there to be some **adverse impacts on teaching effectiveness** caused by the **inadequate availability or reliability of technology** and the **physical distance between the student and the teacher**, which can cause **problems in supervision**. Whilst supporting the blended method, participant 4 stated, "*I do not agree with the direction of moving to fully online, given the difficulties in organising students and the reduced supervision capacity*". Participant 4 thought there was a limitation to the blended method in terms of students' choice of location because if students had the choice, they preferred to use libraries and sit their examinations in an examination hall. He did not expand further upon his reasons for making these observations. He also expressed concern that **teaching could not be monitored** if it was conducted online, whereas in a

traditional environment, this was easy to do. Participant 5 suggested that the above limitation could be overcome by the development of an e-learning system that **integrates biometric scanning** of fingerprints for added monitoring.

Uncertain impacts

Two participants expressed ambivalent views about blended learning and could not express a clear preference for either traditional or blended models. Participant 4 thought the combination of traditional teaching and the use of modern tools was **"*very convenient*"**. Participant 1 provided a non-committal response stating "I *feel* ***this depends****; for example, I believe that the most appropriate technological additions used in the curricula will depend on whichever amount is* ***most comfortable for the teacher****. As an example, this may mean reverting back to email if the teacher find this easier to do*". So, whilst not providing a negative response, participant 1 took into account what works best for the teacher without dismissing the method as being appropriate.

7.4.2.2 Negative impacts according to lecturers

Three participants (1, 2, 6) did not consider that students derived the same benefit from BL as with the traditional methods, with participant 1 stating that the online elements did **not provide the skill sets needed in the workplace**, and participant 6 saying "*it [BL] currently lacks maturity to provide the same richness in content and experiences that have become consolidated in traditional practices*". Two participants (3, 6) considered **psychological factors** in their consideration of preferential teaching methods. Participant 3 thought that the focus of education "*should be on elevating the potential of the student through the psychological methods we know best*", which in his view was the traditional method. Similarly, participant 6 felt the need to have a traditional element of teaching incorporated into the method because of the "***practical and psychological requirements***" of the students, which he thought **could not be met through a fully online classroom**.

Further, because of the general **inability to monitor students online**, this lack of monitoring was perceived as a difficulty for students by participant 1. One participant (3) was of the opinion that although knowledge has been improved in general, it was **dependent upon the student being willing to study** and presumably use the internet to research further and find more than just the information provided to them. The **pre-disposition and attitudes of the students** was a factor that influenced participant 3, who said, "*I feel that your question really does depend on the students I am required to lecture and the various attitudes and pre-dispositions they may have to a variety of different*

learning methods- including the blended learning option that you mention. However currently, while I have attempted blended learning in the past, I really do not feel that this results in the optimum outcome for me or the students. I prefer traditional methods."

7.4.3 Uncertain experiences and expectations (C3)

This subsection covers the uncertain experiences and expectations of lecturers. In their responses about the usefulness of blended learning, the lecturers' views were mixed because some participants based their answer on developing the **conceptual idea of blended learning** (1, 5), and how it will look in the future (1, 2, 4, 6, 7). Participant 7 said: "*I think time will tell. As the barriers of travel and distance become less and less of an issue in the future, I think we will really see whether blended learning has more to offer beyond addressing some of the practical difficulties of today*". Participant 1 said there was a perception that BL **lacked any short-term benefits** because "*Saudi universities have very much become accustomed to teaching the exact same content through familiar traditional methods, and in some cases the* ***traditional methods are more effective*** *than the online methods….I can imagine a future where the benefits of traditional elements are maintained when combined with the online system, which would hopefully eradicate these perceived difficulties that students currently face*". Three participants (1, 3, 4) provided a mixed response to the question, of which two (1, 3) preferred the traditional method.

One participant (6) said he was currently not convinced but was open to changing his view if the focus shifted towards a pedagogical view of technology, rather than simply implementing the infrastructure. Participant 3 raised the question, "*Do we really need to follow trends such as the internet, which was invented by Western countries and the younger generation? Or do we need to think about the traditional practices that have always worked for lecturers in Saudi Arabia? I think that's the question I would ask*".

7.5 Perceived Future of Blended Learning and Expectations

7.5.1 According to academic leaders (D1a)

Two participants (2, 4) considered the younger generation in their responses on the basis of their **"*passion for technology*"** (2) and of technology being **"*more relatable*" to the younger generation** (4). Participant 4 commented that BL might not appear to be acceptable to older generations, but thought that it fitted because of the need to be forward looking.

Participant 1 focused on the **female student population**, and thought that BL would benefit them. He did not expand upon his response, although **presumably the reduction in location dependency** would mean that education would be available to more female students within the Kingdom who otherwise could not attend lectures, because of the gender-segregation issue, or because of their domestic responsibilities or due to constraints on women travelling outside the home.

Two participants (4, 5) recognised the **changing times** that we are in, and the **greater reliance on science and technology** and on electronic devices. Participant 5 commented that the university was a pioneer in e-learning and had been awarded many prizes and received international attention, so being specific in his response to King Khalid University he said, "*I think with this university in particular, a promising and innovative future awaits us all*". Participant 4 considered the issue on a wider scale and hoped that BL would become a **standardised method across all universities** within the Kingdom.

7.5.2 According to lecturers (D1b)

Five participants (1, 4, 5, 6, 7) were asked what they thought about the future of blended learning at KKU. They all agreed that it did have a place in the education system, but two participants (5, 6) linked it to the **development of the internet and infrastructure**. **Government subsidies could assist** in this regard (5), as well as the **decreasing cost of using the internet** (6). However, one participant (1) questioned whether the internet will be the driving force behind education in the future, although he conceded that it would become "***the new norm***" because of the research in psychology and technology. One participant (7) thought there was a need for it to respond to the **changing demands of the education system**, although it was important to retain some elements of traditional methods (1), whereas participant 4 associated its future with the perception held by students and teachers about it.

One participant (3) was clear in his response that it does not fit and believed it **undermined values**. He said: "*I feel that with any trend that stems from the West, be it technology or education, we need to be at least open-minded enough to evaluate whether traditional methods should be disrupted only to explore a new area. I suppose some would say this is a biased standpoint, but I just feel that blended learning undermines the traditional educational values of collaboration and higher learning that has only been possible in our departments, when teaching face-to-face*". However, two participants (1,

2) were uncertain because of the changes that have occurred in society, as well as the continual changes still taking place.

7.6 Comparison of the Expectations and Experiences of Blended Learning between Academic Leaders, Lecturers and Students

The colour coding scheme used in tables in this section is as follows: purple indicates a single group mentioned; yellow indicates lecturers and students combined; green indicates leaders and lecturers combined, and blue indicates all three groups combined (students, lecturers, and leaders).

7.6.1 Advantages of blended learning

Table 14 presents comparisons of BL advantages found in this study between the three groups of participants.

Table 14: Comparison of BL advantages

Codes	Category	Leaders	Lecturers	Students
Avoid location dependence	Practical	□	□	□
Save time		□	□	
Save cost			□	□
Flexibility		□	□	□
Access to information	Educational	□	□	□
Promising outcomes			□	
Preferring BL method		□	□	□
Boosting skills		□		□
Facilitate organisation of teaching			□	
Clear presentation			□	
Keep up with the times		□		□
Teachers answering questions		□	□	
Recognise students' ability			□	□
Students searching for information		□		
Students complete assignments		□		
Relieve boredom	Affective	□		□

In all three research groups, academic leaders, lecturers' and students' perceptions of the effect of BL learning on teaching were explored in the current study. From the academic leaders' viewpoint, both positive and negative effects were noted. On the positive side, students complete assignments, they can search for information, and teachers can answer their questions. From the viewpoint of lecturers, positive and negative effects and unsure responses were noted. On the positive side were teachers answering questions, promising outcomes, facilitating organisation of teaching, and clear presentation. Teachers

answering questions was perceived as a main advantage by both groups of participants, and it will be discussed further at a later stage in the next chapter.

In all three research groups, avoiding location dependence was mentioned as one of the prominent practical benefits of the blended learning environment. Learners were able to free time that would otherwise be spent transiting to classrooms to undertake other activities as they continued in their learning processes. The reduction of location dependence was associated with greater collaboration among students in blended learning environments compared to traditional classroom-based learning where students are normally required to commute on a daily basis. From the perspective of academic leaders, the location advantage ensured there was flexibility for lecturers, which can improve access to course content as well as attendance. Students can gain time to participate in learning due to the flexibility that is offered in BL. The advantages of avoiding location dependence and flexibility were also linked to saving time and cost. Academic leaders and lecturers identified saving time as a practical advantage of blended learning, while lecturers and students viewed cost-saving as a practical benefit of blended learning. Overall, avoiding location dependence and flexibility were the key practical benefits highlighted by all three participating groups.

On the category of educational merits of blended learning, the shared perspectives of academic leaders, lecturers and students were that they preferred blended learning, and it improved access to information. According to academic leaders and students, blended learning boosts students' skills and is in tandem with trends in higher education practices across the world. The lecturers only shared one perspective with the students on the educational advantage of BL where it was associated with the recognition of students' abilities. For the academic leaders and students, the shared perspective was in the affective advantage of BL as both groups recognised the mode of learning as offering relief from boredom, since different approaches that are interesting and enjoyable to the students are applied in learning.

7.6.2 Barriers of blended learning

Table 15 presents comparisons of BL barriers found in this study between the three groups of participants.

Table 15: Comparison of BL barriers

Codes	Category	Leaders	Lecturers	Students
Poor internet connectivity	Technological	☐	☐	☐
Access to technology		☐	☐	☐
Poor reliability/quality		☐	☐	☐
High cost		☐	☐	☐
Negative social attitudes	Social/cultural	☐		
Students getting distracted	Educational	☐		
User proficiency	Personal	☐	☐	☐
Lack of confidence		☐	☐	☐
Lack of student commitment		☐		

All three sample groups identified common technological barriers to blended learning in their university. These included poor internet connectivity, access to technology, and poor reliability of the internet service, as well as its high cost. However, only academic leaders recognised a sociocultural barrier to blended learning, namely, the negative social attitudes towards new technology in Saudi Arabia's highly conservative society. Academic leaders also identified an educational barrier of blended learning in that they thought BL distracts students from actively engaging in learning when compared to traditional F2F learning. Personal barriers identified in all three research groups include users' lack of proficiency with BL devices including computers, and their low level of confidence when using them. The lack of familiarity with BL devices was a key barrier to students' engagement in BL. Academic leaders also mentioned students' lack of commitment as a personal barrier towards the uptake of BL in their university.

The students did not mention any negative cultural attitudes, although the risk of getting distracted and lack of student commitment were mentioned elsewhere as limitations in blended learning. Generally, leaders mentioned more limitations and problems than the other two groups. The lecturers were mainly concerned with technical and personal matters instead.

7.6.3 Social benefits of blended learning

Table 16 presents comparisons of social benefits of BL found in this study between the three groups of participants.

Table 16: Comparison of social benefits of BL

Codes	Category	Leaders	Lecturers	Students
Interaction	sociocultural	☐	☐	☐
Communication		☐		☐
Access for women		☐	☐	
Help shy students		☐		
Compatible with culture		☐		
Education 'ubiquity'		☐	☐	

The main social benefit that was associated with blended learning from all three research groups' perspective was increased interaction, both among students and between lecturers and their students. These interactions are thought to facilitate enhanced communication and increased access to course content, which led to blended learning being viewed favourably as the preferred mode of learning compared to traditional F2F learning approaches. For a gender-segregated society, as is Saudi Arabia, it is notable that blended learning also accrued the benefit of extending the reach of education to women, a perspective that was shared by both academic leaders and lecturers. Academic leaders and lecturers opined that blended learning made access to education ubiquitous and more widely accessible in the Saudi gender-segregated society. Generally, it is evident that social benefits were seen more by leaders, and not so much by students. The students experienced more affective benefits of blended learning instead, and lecturers were more concerned than other groups with practical matters in the BL environment.

7.7 Summary

Table 17 presents a comparison between the three groups of participants, namely students, leaders and lecturers, and a summary of the similarities and differences found between the aforementioned groups with respect to perceived benefits and challenges. The subsequent Table 18 presents a comparison of the interview findings on the perceptions and expectations of leaders and lecturers separately since the students were not asked the same.

Table 17: Comparison of interview findings on perceived benefits and challenges of BL

Emergent Theme		
Students	**Leaders**	**Lecturers**
(A1) Practical Benefits		
- Time saving - Cost saving - Ease of acquiring information	- Time saving - Cost saving - Reduces need for location dependency, as learning is not constrained to the physical environment - Students have less frequent need to travel - Time to attend classes - Flexibility for female students	- Reduces location dependency and need to travel - Attendance and class delivery are not dependent on the teacher/student being in a particular location - Shorter time for learning outcomes to be achieved - Flexibility and cost-saving effect - Makes education ubiquitous and accessible

Emergent Theme		
Students	**Leaders**	**Lecturers**
(A2) Social Benefits		
- Higher level interaction with lecturers - Eased and enhanced communication with teachers - Reassuring informal approach	- Allows interaction for students who are too shy or lack confidence - Facilitates more effective communication between students and with teachers - Greater flexibility - Compatible with Saudi culture and religion	- Students and lecturers can interact - Enhanced interaction with students - Compatible with values in society - Flexibility for females
(A3) Affective/Emotional Benefits		
- More enjoyable content - Reduced boredom and monotony - More interesting	- Relieves boredom	-
(A4) Educational Benefits		
- Better organised and compact course material - Improved access to information (ease and timely) - Improvement in technical proficiency - Enhanced research skills - Greater independence in learning	- Easier access to information - Content can be stored electronically for future use and thus save time in preparing lessons - Content is accessible by other staff	- Graduate students have access to a reliable internet connection - Ease with which course material can be accessed - Increased competition between education providers - Easier measurement of students' abilities - Ability to identify engaged and motivated students - Ease of access to information - Can impart knowledge efficiently and cost effectively
(B1) Technological Challenges		
- Poor internet connectivity - Lack of technical expertise - Lack of access to devices - Poor quality of available devices	- Need to keep up-to-date with technology - Lack of internet connectivity - Slow speed - Some parts of the university not so technically equipped - Difficulty in assigning tasks to students - Access to the internet, especially in rural areas - Poorly maintained hardware	- Poor internet connectivity - Limited access to a reliable connection - Equipment is not up to the required standard - Cost of maintaining and setting up equipment - Lack of training teachers in using technology

Emergent Theme		
Students	**Leaders**	**Lecturers**
	- Expensive cost of internet use - Technical errors faced by students - Need to further develop infrastructure	
(B2) Sociocultural Challenges		
-	- Cultural acceptance of the internet - Negative connotations associated with internet use	
(B3) Personal Challenges		
-	- Teachers' beliefs, attitudes and experiences - Lack of teachers with suitable technological experience - Lack of self-confidence in using technology -Resistance to the blended approach - Out-of-date material - Over-assuming technical proficiency of students - Inadequate knowledge/training of teachers - Some students don't have the commitment or motivation to complete the online element	- Lack of confidence among staff in using the technology - Reluctance to engage with training - Reluctance of teachers to use the online element
(B4) Educational Challenges		
- Lack of knowledge on how to use the technology and engage - Less direct interaction/communication - Need to retain traditional elements	- Students can get distracted	-

Table 18: Comparison of interview findings on perceptions and expectations of leaders and lecturers

Leaders	**Lecturers**
(C1) Positive perceptions and expectations of the impacts of BL on teaching effectiveness	
- An effective combined approach - Aided by prior knowledge of technology and ability to search for information - Allows greater collaboration and communication - Flexibility of communication - Allows teachers to respond to students' questions in real time - Accommodates shy students - Increases technological skills of students - Students complete more assignments consistently	- Better method of teaching for content consumption and delivery - Clearer presentation of course content - Students are more responsive
(C2) Negative perceptions and expectations of the impacts of BL on teaching effectiveness	
- Inadequate availability or reliability of technology - Problems in supervision due to increased physical distance - Teaching cannot be monitored online	- Online elements do not provide the skill sets needed in the workplace - Psychological needs of students may not be met - Inability to monitor students online - Depends on the student being willing to study
(C3) Uncertain perceptions and expectations of the impacts of BL on teaching effectiveness	
- Depends on what works best for the teacher	- BL lacks short-term benefits whereas traditional methods are more effective
(D1) Perceived future of BL	
- Passion for technology among younger generation - Ideal for female students due to reduce location dependency - Changing times, as greater reliance on technology - Will become standardised method throughout the Kingdom	- Related to development of the internet and infrastructure - Government subsidies may assist - Decreasing cost of the internet - A new norm due to changing demands of the education system - Undermines values

The chapter has analysed the qualitative interview data collected from a sample of academic leaders, lecturers and students at King Khalid University. The interviews focused on their experiences and perceptions of blended learning. In addition, the perceived benefits and barriers were also analysed. Students' perceptions of blended

learning were influenced by their computer proficiency. Students expressed fears that BL was difficult, and they were not familiar enough with the methods used in BL in order to be engaged in this method effectively. They thought that improvement in technical proficiency could serve as a solution and enable them to become more engaged in BL. Students pointed out several benefits of BL, including its practical, social and affective benefits. With regard to practical benefits, BL saved time and cost by allowing improved access to information. The social benefits of BL include fostering interaction as well as enhancing communication between students and their lecturers. Students consider blended learning as enjoyable and interesting, and these benefits constitute the affective sub-theme. Blended learning is said to improve access to information, and also to enable students to engage in independent learning, which they said led to improvement in learning skills. Some of the limitations mentioned by students included poor internet connectivity and lack of access to BL devices. Students also perceived BL based on their teacher's attitude.

According to academic leaders, BL improves the effectiveness of teaching since it fosters a greater collaboration and enhanced communication between the lecturers and their students. Apart from flexibility, academic leaders concurred with students' observations that BL has practical benefits, since it avoids location dependency in learning. However, academic leaders raised a concern that with BL, teaching and learning cannot be monitored effectively compared to the traditional F2F learning environment. Access to the internet and poor infrastructure to facilitate BL were also factors that academic leaders identified as barriers to BL.

The lecturers perceived BL as leading to increased efficiency in the presentation of course content. Some lecturers however, did not see BL as granting the same benefits as traditional teaching, since it does not provide the skill sets needed in the workplace. Lecturers also mentioned the inability to monitor students online as one of the drawbacks of blended learning. However, they thought BL allowed lecturers to have geographical independence and that it eases access to course material, which were relevant factors in improving students' learning outcomes.

In general, technological factors were seen as the prominent barriers to engagement in BL for the three sample groups. Academic leaders, lecturers and students mentioned a poor and unreliable internet as a major impediment to effective execution of blended learning at their university. They thought training and improvement in internet infrastructure can

lead to the learning community at their university gaining from the benefits of blended learning.

The next chapter takes the qualitative findings from this chapter and the quantitative results from the previous chapter to discuss the results and findings from two different research methods, namely survey questionnaire for quantitative data and interviews for qualitative data, on order to double-check or triangulate both sets of findings of the current study in lights of the study's aim and objectives. This brings together the extant findings from the literature regarding the experience of blended learning and pedagogical trends to form conclusions and ultimately recommendations for research and for the policy-makers working to improve the Saudi higher education system.

Chapter 8: Discussion

8.1 Overview

This chapter provides an in-depth discussion on the quantitative and qualitative research findings of the current study in meeting the study's aim and objectives. The sub-headings of the chapter are based on the predefined objectives and the need to address the research questions. The first sub-heading addresses the experiences of students on the impact of blended learning in Saudi universities based on the data from interviews conducted with male students (Objective 1). The sections in the sub-heading are based on the themes and sub-themes that emerged from the content analysis of the interview scripts. The second sub-heading addresses the perception and experiences of academic leaders and lecturers (Objective 2) while section 7.6 seeks to compare the views of the three research groups, namely academic leaders, lecturers and students (Objective 3).

The discussion thus first explores the viewpoints and experiences of the students who participated in this study before progressing on to understand the experiences of lecturers. These are the research groups that typically interact directly within a blended learning environment at universities. The discussion then focuses on academics who provide an enabling environment for blended learning in their capacity as policymakers. Lastly, the chapter makes a comparison of all the research groups in order to identify consensuses that may have been reached or arisen, and to highlight any divergent perspectives and experiences. The sections and sub-sections that address each specific objective and research question is outlined in Table 19 below.

Table 19: Sections that address specific objectives and ESQ's

Obj.	ESQ	Re.	(In using BL at KKU)	Sec.
1	1	Experiences and perceptions of impact of BL on students at KKU	Factors that influence student perceptions	204
			Student perceptions on computer proficiency	207
2	2	Experiences and expectations of students, academic leaders and lecturers at KKU toward BL	Beneficial experiences of students	208
			Limitations and challenges experienced by the students	212
	3		Impact on teaching/learning effectiveness	215
			Perceived advantages	219
			Perceived barriers/challenges	223
			Social benefits	231
3	4	Comparison of the experiences and expectations of the three selected stakeholders	Experience of effect on learning	232
			Advantages	234
			Obstacles/limitations	234

The modern era is characterised by rapid changes propelled by scientific and technological advances including changes in information and communication technologies. These changes have become necessary in the education system due to the need to cope with various challenges arising in this sector both nationally and globally, and for devising ways of benefiting from information technology for learning purposes. The demand for higher education has resulted in an increased number of learners coupled with the problem of teacher shortages. These changes have ushered in different ways of applying new teaching and learning methods including blended learning and e-learning.

This chapter discusses the findings of the experiences of academic leaders, lecturers and students at King Khalid University on the impact of blended learning. Blended learning encompasses different learning environments in a way that combines traditional learning with e-learning, and this study seeks to explore the experiences of the aforementioned stakeholders of higher education in the context of Saudi Arabia. The chapter explores the impacts on learning based on students' experiences of blended learning, including the factors found to be influential in students' experiences as well the computer proficiency of students using blended learning. The benefits of blended learning as well as its challenges and benefits are discussed in-depth in light of the literature review and findings from the primary research. Experiences and expectations of academic leaders, lecturers

and students are also discussed, comparisons are drawn between the research groups, and the potential effectiveness of blended learning in the teaching profession is explored, especially in terms of whether BL leads to increased interaction, communication and collaboration. The social benefits of blended learning as well as its advantages and barriers to blended learning are discussed in-depth from the perspectives of the academic leaders, lecturers and students besides drawing comparisons with other similar studies.

The discussion in this chapter focuses on the views of male academic leaders, lecturers and students regarding their experiences of the impact of blended learning in Saudi universities gathered from the quantitative data from students' questionnaires combined with qualitative data from the interviews with academic leaders, lecturers and students. The results and findings from the analysis of qualitative and quantitative data have been used in triangulating the whole research data, as they could complement each other. Whilst quantitative data provides breadth to the research data, qualitative data provides in-depth or rich insight into the research phenomenon. The study thus gathered both quantitative and qualitative data, but the former type was only collected from the students. The positivist paradigm underlying quantitative approaches and the interpretivist/ constructivist paradigm underlying qualitative approaches together provide a broad and at the same time in-depth insight into the overriding issues and contextual factors that characterise higher education in the context of Saudi Arabia.

Sub-heading 8.2 discusses the quantitative data analysis while the rest of the subsections include qualitative data analysis. In this chapter, the perceptions and experiences of the three research groups are compared so as to establish similarities and differences across these groups in relation to their experiences and perspectives of blended learning. The study also sought to identify differences in the experiences and perceptions of the research groups on the future of higher education in the context of Saudi Arabia. The chapter then compares the findings from this study with similar studies examined earlier in the literature review with respect to empirical evidence and theoretical perspectives.

This chapter is divided into several sections whereby each research question has been answered in turn based on a thorough discussion of the findings from the present study across the three samples investigated (students, lecturers and academic leaders). The concluding section in this chapter provides a summary of the main findings given in accordance with the aims and objectives of the present study along with some concluding remarks and suggestions in relation to the extent to which blended learning has a place in higher education in Saudi Arabia, including at KKU in particular. In this last section,

attention has been drawn to the implications of this study, its limitations as well as future recommendations based on the reported findings.

The present study answered all four of the empirically research questions (ESQ1-4) that were set out in Chapter 1 (section 1.8), regarding the experiences of students on the impacts of blended learning in Saudi universities (ESQ1), what students at the KKU experience and expect from blended learning (ESQ2), what academic leaders and lecturers at KKU experience and expect from blended learning (ESQ3), and how the expectations and experiences of blended learning compare between academic leaders, lecturers and students (ESQ4).

8.2 Students' Experiences of the Impact of Blended Learning

The demographic characteristics of the sample of students comprised of male students aged between 18 and 26 years old. According to Albalawi (2007), almost half of the population of Saudi Arabia is under 20 years, which suggests the sample could be representative of a major portion of the general Saudi population (in the 18-20 age range), or at least to other all-male universities. Although there are few previous studies that have linked age and the success of blended learning in the context of Saudi Arabia, it has been noted in a study by Collopy and Arnold (2009) that older students tend to be more successful in using a blended learning programme of study. This study provides insight into the success of blended learning programmes in a population of young students based on a case study at King Khalid University.

In the current study, most students used computers for learning purposes both at home and on campus. This suggests that the university has a high usage of computers among students based on the study's sample population. It implies that most of the students are able to use a computer to support their learning, and that computer literacy among students is not therefore a problem at KKU. This could explain why computer literacy was not mentioned as a barrier by any student during the interviews, although many students being "ignorant of technology" was mentioned, which was interpreted as 'lack of technical expertise' and is a conflicting finding. Regardless, the issue of computer proficiency is important because it affects accessibility to BL, as also highlighted by Alebaikan and Troudi (2010). Since accessibility was high at KKU, we can conclude this as a positive indication for BL at KKU.

According to the findings from the study as presented in the chapter on quantitative analysis (chapter 6), students viewed BL as a learning environment that improved

collaboration and interaction between students and their teachers. The interactions enabled lecturers in the blended learning environment to be more accessible since it facilitates learning without the need for direct physical contact between students and lecturers. Fundamentally, a blended learning environment provides temporal and spatial flexibility for both lecturers and students. It was found that even though accessibility was enhanced in the BL environment, discussion in the classroom-based environment was not enhanced. Blended learning and its e-learning component tend to focus on improving students' learning outcomes through more interaction and participation of students compared to traditional classroom-based learning alone (Shantakumari & Sajith, 2015). On the other hand, e-learning may limit teacher-student interactions leading to negative aspects arising such as communication problems, poor interactions among peers, and an insufficient sense of bonding between tutors and teachers. This kind of situation justifies the need for including opportunities for e-learning alongside classroom-based learning, which is precisely the arrangement that is described as 'blended learning'.

The above-mentioned reason may have motivated the participating students to become less receptive to a blended learning environment. That is, the students probably objected to blended learning due to their lack of knowledge in using technology effectively for learning, by which is meant applying the BL approach to support academic learning in a way that could improve learning outcomes. When asked to provide a suggestion to improve blended learning in universities generally, the students mentioned computer proficiency as a path for improving the technical proficiency of students so that they can become active participants in blended learning programmes at university.

However, despite these studies associating blended learning with positive learning outcomes among students, other studies have demonstrated blended learning to be linked to negative student learning outcomes instead (Bonk & Graham, 2012; Hwang et al., 2013). As observed in the literature review, using the benefits of online and F2F learning, the delivery of a blended learning curriculum uses these concepts to incorporate the qualified strengths of both frameworks (Graham 2013). The minimal success of blended learning in these studies is linked to the few physical interactions that students have with lecturers and their sense of isolation arising from minimal class attendance under the blended learning arrangement. One of the reasons that blended learning is linked to negative perceptions among students is that they usually have to deal with difficult concepts independently without adequate or sufficient and explicit F2F teaching (Alebaikan & Troudi, 2010). This point was made in section 7.4.3 in chapter 7 where the

students opined that a BL environment does not provide enough room for constructive dialogue to take place.

On the other hand, the positive attributes associated with blended learning environments may be due to the opportunities given to students to work independently through participation in student-centred asynchronous collaborative learning activities (Banerjee, 2011). Other possible drawbacks of blended learning were linked to the lack of devices in classrooms as well as in campuses making any attempts to improve technical proficiency in blended learning at university challenging. A positive perception of blended learning environments can be developed through the provision of devices in order to improve the technical proficiency of the students, and thus build a positive perception of blended learning among the student community at the university.

Blended learning is usually advocated to meet the challenge of modern learning environments by embracing the best attributes of both online and classroom-based learning in a blended learning arrangement (Caner, 2012). However, as BL seeks to organically integrate F2F and online learning approaches with technological advances, it faces various limitations and challenges. While the administration has shown blended learning environments to be time-consuming, most students mentioned the lack of communication and technological challenges as impediments to effective blended learning. This could be considered as making BL unnecessary and even detrimental if better learning outcomes can be achieved through applying either online or F2F learning on its own. One of the most important success ingredients or effective aspects in blended learning under any given setting therefore, is the satisfaction of students in the implementation of blended learning courses (Han, 2013).

The success of a blended learning environment thus relies strongly on the attitudes of students and on their expectations of the outcomes of blended learning. As corroborated in other studies, including the study by DeLacey & Leonard (2002), blended learning evidently improves interaction and satisfaction among students (Dziuban & Moskal, 2018). The support from the higher education community including the faculty and the students is essential in the success of arranging a blended learning environment. The support for students should include technological training in particular. As observed from the students' perspective, BL entices students to have an in-depth interest on the subject matter and encourages them to participate in the learning process. Although students have to cope with several challenges in the implementation of blended learning, they perceived blended learning as a form of learning that increases their online activities where it

enhances their interactions. Blended learning can be viewed as a form of learning that requires an intentional approach that blends a program in its design and not just in the delivery of the learning.

8.2.1 Factors influencing perceptions of students of a blended environment

The majority of the students expressed preference for blended learning because unlike online or traditional classroom-based learning, it has advantages of both conventional classroom-based learning and online courses. The traditional learning component of blended learning ensures that there is direct interaction with other students and with lecturers, whereas online learning provides flexibility in terms of time and the advantage of location. The importance of maintaining several traditional learning methods along with the various benefits of the online learning component is strongly and perhaps best supported in the form of blended learning since both forms of learning are designed to complement each other. Students who perceived blended learning positively also linked blended learning with better use of time and improved access to rich information. The above findings are consistent with previous research studies on the advantages of blended learning (Ashton & Elliott, 2007; Battye & Carter, 2009; Collopy & Arnold, 2009; Poon, 2012; Reiss & Steffens, 2010).

The perceived usefulness and the ease of use of devices in blended learning environments were critical factors that influenced students' perception of blended learning environments and ultimately their satisfaction within the learning environment. This is consistent with other studies conducted that link the design dimension of blended learning with the satisfaction of learners (Calisir et al., 2014; Chen & Tseng, 2012; Tarhini et al., 2013; Dziuban & Moskal, 2018). According to learners, the BL environment should provide useful resources or content relevant to their learning, and thus ensure there is ease by which the students could acquire the course contents served as a critical factor in influencing the students' perceptions and experiences in blended learning at their university. The ease of use served as an important antecedent for positive student perceptions of blended learning. Consequently, it is evident for planners and policymakers in the higher education field to emphasise or prioritise the design dimensions of blended learning as a critical factor in ensuring its penetration and application in the Saudi higher education system. Designs that attempt to capture and ensure ease of use may lead to more satisfied students, thereby encouraging young learners to embrace blended learning.

The perceptions of students are also shaped by the activities related to blended learning environments including the course content that are mentioned in chapter 7 in section 7.2 on the practical benefits of blended learning, which include time saving and its social and affective benefits that make it enjoyable and interesting. Factors that affect the perception of students have a significant role in impacting on student satisfaction in blended learning. The quality of ease of use can enhance the potential application of blended learning among young learners leading them to have a more improved self-regulation system in their learning (Woltering et al., 2009).

The students had better impressions of being in a position to benefit from the positive impact of blended learning when they were familiar with the devices and techniques used in the blended learning environment. This is reflected in being familiar with the devices used in blended learning, which suggest that technological challenges are not a barrier to students learning in blended learning environments. Students familiar with the techniques and devices present in a BL environment would have seamless access to the course content due to ease of use of the technology in place and the ability to engage in more active and in-depth learning. In this context, blended learning is a pedagogical approach that combines online delivery of content with some aspect of student control such that it increases the effectiveness and efficiency of learning due to the enhanced learning outcomes, as well as student satisfaction, ease of access to course content for students, and greater flexibility in gaining access to higher levels of information and learning skills (Shurville & Rospigliosi, 2009).

The support of lecturers is another aspect that shapes students' perceptions towards blended learning environments. For example, in a study by Mohandes et al. (2006), the importance of lecturer support has reinforced the perspective of students on the need for lecturer support in blended learning. However, the need for lecturer support was not among the findings of this present study. A possible explanation for this is that lecturer support for students in BL programmes at KKU is not an issue; rather, it may be adequate as perceived by students in spite of the conflicting finding based on the responses of lecturers themselves that they face challenges such as lack of confidence, reluctance and lack of training.

The familiarity and experience of students in the use of digital tools may shape their perceptions towards blended learning as well. As technological advancement and computing becomes ubiquitous, the digital culture and environment will likely continue growing in society leading to an embrace of blended learning by university students.

Those students who spend most of their time using computers and other digital tools tend to have high levels of experiences and exposure, and they have a high level of familiarity with current technologies. Familiarity with current technological learning tools has a strong impact on students' attitude towards the use of new ICT tools available (Mahmood, 2009; Kennedy et al., 2008). This provides the rationale for educators (both lecturers and academic leaders) to know the level of students' digital skills so that they can accommodate students' learning needs in a BL environment. The educators can thereby acquire appropriate ICT infrastructure and provide appropriate technical support not only to learners but also their lecturers who serve as facilitators in a BL environment.

An emphasis on several advantages of blended learning in terms of having a positive effect on learning was corroborated by both students and academic leaders, especially in terms of better use of time, flexibility, and an improvement in technological skills. On a more negative perspective however, concerns over BL from both groups of participants have been identified as a potential lack of training, internet and technological barriers, and also to some extent the impact of a low level of proficiency in eLearning with respect to the effective use of blended learning. Reiss & Steffens (2010) also observed that BL allows students to benefit from an accelerated rate of independent learning in accordance with their own ability as also determined by their willingness to study. This could also explain why blended learning could offer a better experience for high achievers than for low achievers, as the former are usually equipped to make the best use of their study time (including via online learning) independently. Reiss & Steffens (2010) also drew attention to the issue of students interpreting this freedom differently as a result of differences in learning preferences, and hence not reach the same intended learning outcome.

Educators play a significant role in the implementation of blended learning courses since a strong educator presence results in a quality of course elements (Garrison & Kanuka, 2004). The presence of educators online has thus been demonstrated to successfully facilitate blended learning. Through regular communication with students and by means of consistent feedback, students feel connected to the lecturer and the course content (Garrison & Kanuka, 2004). In contrast with traditional classroom-based learning alone, blended learning offers a platform for creating learning communities that help to create a feeling of connectedness among students. This can assist in establishing trust with other students, ultimately acting as a resource for knowledge construction and knowledge growth. Blended learning offers an opportunity for human-human interactions, which are important in cultivating an online learning community, and which acts as a key factor in

student engagement (Cho & Tobias, 2016). The lecturer plays an essential role in scaffolding students to successfully participate in asynchronous online discussion that facilitates learning in a blended learning environment. A study by Sidebotham et al. (2014) found that blended courses that involve few face-to-face classes and online classroom discussions involve interaction that can contribute positively to students' affective connectedness to blended learning and connection to their fellow peers and with the educators.

8.2.2 Students perceived computer proficiency and blended learning

In terms of students' perceived proficiency in their general use of computers, a positive opinion about their computing proficiency across all items was recorded, although for blended learning, lower perceived proficiency was reported. In fact, it has been recognised by past researchers that it can certainly be very challenging to integrate the Internet and technology in developing countries, as they are often plagued by the issue of computer illiteracy, which consequently makes it difficult to have access to Higher Education. This implies that blended learning is the only type of learning that can be an economically feasible option under certain circumstances (Alebaikan & Troudi, 2010). With this in mind, it has been further argued that higher education incorporating some form of blended learning is not accessible to all students, especially if those students are expected to possess an adequate level of proficiency in the use of computers.

As noted by Graham et al. (2013), for teachers and students who interact only over the Internet (e.g., in the case of BL learning's e-learning component), the know-how to use technology is crucial. Further support comes from the current study itself, whereby it was found that the more participants rated themselves as proficient, the more likely they were to favour BL methods of course delivery. It is worth noting that in this study, the students seemed to have a positive opinion of their computing proficiency, with the only issue being specifically about proficiency in blended learning.

As observed by McCarthy (2010), a blended learning environment works effectively if students experience ease-of-use and have access to the technology and interfaces, and more importantly, also have some form of prior training and familiarity to make the maximum use of blended learning. Similarly, a study by Yudko et al. (2008) also found that students who scored highly on computer literacy displayed the most positive attitude toward blended learning courses. Further support comes from studies that highlight a lack of support for students in relation to the use of relevant technology tools results in low

digital proficiency, which ultimately hinders the growth potential for blended learning since students are not equipped to develop and progress in line with these technological advances (Alebaikan & Troudi, 2010). It is therefore, submitted that for an optimum blended learning practice to take place, there needs to be a good understanding of the available tools and skills that most people possess and use in order to achieve a more efficient learning outcome. Therefore, all the above seems to suggest that a low proficiency in blended learning, as reported by the participants in the current study, could be a barrier to the successful implementation of this form of learning, mostly from a technological perspective.

8.2.3 Benefits of students' experiences of using blended learning

When asked about **blended learning-based methods of delivery**, students strongly agreed that BL enables them to gain access to lessons whilst they are absent, provides greater flexibility than F2F learning alone, allows for revisions to be made, and that it also extends the learning process beyond the classroom setting. Having the chance to learn in a traditional classroom setting as well as in the comfort of one's own home is one of the main benefits that blended learning provides, as also acknowledged in previous literature (Morgan, 2002; Young, 2002; Wu et al., 2010). That is, the students' learning process is enhanced by the opportunity to make the most of online learning in addition to the benefits gained from implementing traditional learning methods, the two being constructively combined with one another in the form of blended learning.

With specific reference to the Saudi educational setting, practical benefits of blended learning have been observed, whereby it can be made a form of learning that has the potential to address the issue of the Kingdom's deteriorating student-to-teacher ratio. This issue of teacher shortages was highlighted in section 1, as supported by this study's findings, especially in terms of teachers able to use technology effectively, and also by Alebaikan (2012). Perhaps this is also one of the reasons accounting for the positive response of the student sample in this study regarding their broader view on the learning process. That is, they expressed a preference for retaining the F2F element alongside online learning outside of the classroom environment. Blended learning also has the potential to promote independent working abilities in HE students (Stacey & Gerbic, 2008), which is perhaps also the case for the students in the current study, as they clearly appreciated engaging in a learning process that is extended by nature in terms of the setting in which it occurs.

Furthermore, blended learning approaches were also perceived by some students to have a positive impact on their learning whereby they felt that they **improved in respect of their technical proficiency level**, developed better research skills, had easier access to information, had better communication with peers/lecturers, engaged in a more interesting and less mundane learning experience, and they also became more independent as learners. This substantiates the findings of Tamim et al. (2011) and Ramos et al. (2015) on technology facilitating the research process for students. Graham (2013) advocated for the main role played by blended learning in not compromising traditional learning, but this format rather provides a good opportunity to combine the benefits of online learning with traditional methods constructively in an attempt to improve the learning experience for students. Similarly, it was also reported by the students in section 7.2.4 in chapter 7 that blended learning is the key to providing a better education experience since the use of a mixed approach as part of blended learning reduces boredom and monotony.

There is a general tendency for students to prefer attending tutorials in a F2F setting rather than in an online format (Battye & Carter, 2009). However, in this study, the majority of the students recognised that blended learning was useful in situations where they were not able to attend lessons, which perhaps also implies that they did not have a predisposed preference for learning in a traditional classroom environment over online learning. Moreover, blended courses have been found to be quite appealing to high-achieving students as well, since the format allows them to use their time more effectively, as they can also engage in academic work even when they are not attending classes on-campus.

The **students' experience of having more flexibility** with BL finds support from previous research reporting that indeed this form of learning is more applicable to the individual with added flexibility in the sense that it is quite successful in altering learning and development according to the needs of individuals with the integration of both online learning and face-to-face traditional learning (Graham, 2013). Similarly, Horn & Staker (2011) also stated that with blended learning, the student is also in a position to fit this interactive element around his own schedule, which further reinforces the element of flexibility that this type of advanced learning format is able to provide, as also experienced by the students in the current study.

From a cross-cultural perspective, this finding based on a sample of Saudi students is very significant, as it contributes to the wide array of empirical evidence from UK samples according to a review of 300 studies of blended learning (Sharpe et al., 2006), thus

highlighting the flexibility of blended learning in different educational settings and contexts. Moreover, with specific reference to the increasing pressures faced by Higher Education institutions in Saudi Arabia such as KKU, as a result of a drastic rise in the number of students attending universities, the flexibility of this learning model is certainly valued for the smooth functioning of blended learning in a Saudi context.

As far as **the interaction element of a blended learning environment** is concerned based on the students' opinions, on one hand, blended learning is said to have a positive impact in terms of providing more access to instructors online while also facilitating physical contact in the F2F learning environment. On the other hand, BL is not perceived to enhance discussion with lecturers and students. As highlighted previously, collaborative work is highly valuable in constructing knowledge whereby students may benefit from their interaction and collaboration with peers and teachers to enhance their previous knowledge (Murphy & Greenwood, 1998). In this respect, it could be suggested that the opportunity to engage in discussions could be more accessible in a traditional learning setting relative to an online setting. Nevertheless, some other research findings suggest otherwise. For instance, Zygouris-Coe (2012) reported that online collaboration has the potential to assist learners and teachers in collaborative work, which contributes towards developing learners' critical thinking skills and facilitates the construction of new knowledge. Comparing the current findings with the literature, there seems to be mixed findings in this area.

However, given that both e-learning and face-to-face learning have been shown to promote collaboration between students and teachers, blended learning can then be considered as the best alternative encompassing both elements, and subsequently the benefits that each provides. Nearly two decades ago, the National Centre for Education Statistics (NCES) (1999) expressed concerns about teachers not being able to have access to laptops and PCs for instructional purposes. Nevertheless, and given that the students in the current study acknowledged they had better access to instructors online, access to technology does not seem to be an issue nowadays. Hence, this is no longer a barrier for the successful implementation of BL in Saudi universities.

As regards BL facilitating revision for students, not much research seems to have been conducted in this area, although some existing studies have found that blended learning does help in simplifying the revision process (Graham et al., 2005; Osguthorpe & Graham, 2003). Therefore, it could be suggested that this area should be given more attention and be explored further in new studies.

On the other hand, students in this study raised concerns in relation to the ability of BL to enable them to achieve their goals, promote efforts to study, provide a better understanding of content and assist them to progress in their learning. It has been argued mostly from a theoretical perspective, such as constructivist theory, that students determine their objectives by setting their own goals in collaboration with peers or teachers (Murphy & Greenwood, 1998). The teacher often acts as a facilitator and/or mentor. With this in consideration, it could perhaps be argued that the online component of blended learning is perhaps perceived as a barrier to the students achieving their goals, since having access to peers and teachers at their convenience in a traditional learning environment becomes more limited, as they are less exposed to it under BL. Although collaboration between students and lecturers is important in ensuring success in the learning outcome, as emphasised in the work of Dillenboug et al. (1997), several studies have argued that students are in a better position to excel academically when they engage in studies independently while pacing their participation in online education (Lin & Wang, 2012; Mitchell & Honore, 2007; Poon, 2012; Smyth et al., 2012).

Although Graham et al. (2005) and Osguthorpe & Graham (2003) found that blended learning can improve students' performance, this perception was not shared by the sample of students in this study. Al-Jarf's (2005) study, which was also conducted in a Saudi Arabian university, concluded that in learning environments in which technology is not an option for EFL students and lecturers, the use of online activities from home as a supplement to in-class techniques had a positive effect on EFL students' learning and their mastery of English grammar. Although the latter study and the present one were both conducted in a higher education institution in Saudi Arabia, the findings conflict with each other, which indicates that more research is needed in this area. Perhaps the students' low agreement on blended learning helping them to improve their performance could be explained based on the importance of clear and effective feedback from the lecturer, which has been shown to improve student performance as well as satisfaction in past research (Mandernach et al., 2011). This is an aspect that tends to be less available in online learning than it is in face-to-face learning. The study of Abo-Mosa & Al-Soos (2010) investigated the effect of blended learning in an Arab Open University. It showed a positive effect of this new learning strategy on students' interaction and understanding of the contents of their course. However, such was not the case in the current study whereby students claimed to find it difficult to understand the course content using this form of learning. This contradicts research in this area in the USA, which supports a

positive association between blended learning and developing a better understanding of the course content (Allen & Seaman, 2013).

8.2.4 Limitations and challenges experienced by students using blended learning

The students in this study reported that **the internet itself seemed to be a barrier** and it did not improve in terms of information gained compared to traditional settings and hence it cannot adequately replace face-to-face interaction. Blended learning is perceived negatively where there are infrastructural weaknesses, such as poor internet connectivity and lack of access to good quality devices. This affects students' proficiency level in eLearning and ultimately affects the quality of blended learning. This observation was also corroborated by academic leaders who participated in the study. Students raised the challenges and difficulties in blended learning. For example, student 2 observed:

> *"Do you feel that there are any technical obstacles to blended learning?"*
>
> *"Yes, many students do not have full technological proficiency, and also the lack of internet access and poor internet reception in some areas is still an obstacle for some students."*
>
> *"Further, I would also consider the weak campus internet connectivity a barrier to some extent."*

In contrast, another interviewee, student 4, had a very tough criticism towards blended learning and raised further difficulties. This was his reply when asked about the suitability of BL:

> *"Do you feel that blended learning is appropriate for the University Education system? And if so, why?"*
>
> *"No I would not consider it appropriate given that the majority of students are ignorant to technology and do not necessarily have the necessary experience in using multiple modern devices such as iPads and other computing interfaces that blended learning assumes students to know. This, coupled with the issue of internet connectivity, makes for an approach that is really still un-optimised for the University setting."*
>
> *"Do you see any obstacles in implementing blended learning?"*
>
> *"Yes, I feel that the main obstacles are: the issue of internet connectivity, the lack of quality hardware and the economic issue of high subscription prices."*
>
> *"In your own view, do you perceive any other obstacles to implementing blended learning?"*

> *"Yes, I still feel there will be obstacles moving forward. For example, I personally find it cumbersome to use technology and – considering this lack of experience seen among my student peers – means that traditional methods still provide an overall superior method of ensuring that every student can collaborate and interact with student and lecturers independent of their technological proficiency. That is my view."*

Similar observations were also revealed by the students in their questionnaire responses, hence further emphasising the importance of and perceived impact of familiarity and proficiency in techniques and devices used in blended learning. The findings are similar to problems raised by students in the study by El-Mansour & Mupinga (2007) who also reported experiencing technical problems with computers and rated the internet service negatively.

Past research in a Saudi HE context on BL was conducted by Yushau (2006) on the attitudes of male students towards mathematics and computers in a blended learning course involving online learning with the help of both an intranet and the Internet. This study found that overall, the students reported positive attitudes towards mathematics and computers. Although the internet was not reported as a disadvantage in this study, which was the case in the present study to the contrary, it is still unclear as to how much contribution online learning brings in comparison to traditional F2F learning. In the study by El-Mansour and Mupinga (2007), more negative attitudes on the part of college students in the US towards online learning as part of blended learning were recorded as a result of technical problems with computers and poor internet service. Therefore, similar to this study, it could be argued that there is some evidence that the internet can be identified as a barrier and hence it may not be as effective as in F2F interaction, as far as the learning experience of students subjected to BL is concerned.

As for the relationship between the internet and the amount of information it is able to provide in comparison to learning in traditional settings, past literature points out that this differs according to the needs of each student. In other words, while some students show a preference for a higher proportion of face-to-face learning, others opt for occasional or compressed face-to-face classes (Castle & McGuire, 2010; Farley et al., 2011; Fleck, 2012; Korr et al., 2012). Therefore, it could be suggested that perhaps some students in this study perceived that they benefited most from learning in a traditional setting in accordance with their learning means and needs as learners. Interestingly, regardless of one's perception of the usefulness and accessibility of the internet, they stated that the

practical advantages of an online-only programme cannot overshadow the drawbacks of forgoing traditional learning methods (Thorne, 2003).

Nevertheless, the importance of attending classes is debatable, as there is also evidence suggesting that there is a correlation between academic achievement and the level of class attendance in the blended course (Collopy & Arnold, 2009; López-Perez et al., 2011). Hence, it is very important to establish the minimum level of attendance of a student registered in a blended learning course in the Saudi higher educational system, bearing in mind, for example, that Brazil's Law of Directives and Basis for National Education strictly requires students to have a minimum attendance of 75% in classes and that teaching must be face-to-face (Barbosa, 2016) for the learning benefit of the students themselves. Therefore, more research in this area should be carried out if Saudi Arabia strives to make its educators rely considerably more on blended learning in the near future.

8.3 Academic Leaders' and Lecturers' Perceptions and Experiences of Blended Learning

In order to appreciate the context of the perceptions of academic staff towards the implementation of blended learning, it is significant to consider the factors that affect their teaching practices. Aspects of technology and pedagogy were seen to influence the implementation of blended learning strategies by academics. According to the academic leaders interviewed in this study, the combination of online approaches and conventional teaching methods in blended learning was found to be effective in teaching, especially in terms of greater interaction and improved communication (169), both among students and between students and their lecturers.

Owston et al. (2008) determined that blended learning is a practical method for professional teacher development as it grants teachers the opportunity to learn in surroundings that directly advance and bring into line their instructional requirements and benefits. This was approved by the statement of (leader 3):

> *"What I am trying to imply here essentially is that the formation and training of how to use the system must be the responsibility of academic leaders from the top down, rather than expecting each teacher on an individual basis to learn alone. Of course, this means that a lack of department training could lead to compromises if this does not occur. ....I think the issue with implementing any technology-based education format is that teachers only appear to recognise this as a problem when the problems are felt at the department level. Additionally, I feel that many teachers are*

resistant to change and at times avoid the adoption of new technology, and so justify their preference of traditional methods accordingly."

Technological factors impacting on the approaches of academics to teaching included recognised resources or technology that have been applied for a substantial period of time and which are common and familiar to the majority of users, and also technology so unique that the interest in its originality may outweigh any possible lack of reliability or effectiveness in the context of use. Meanwhile, pedagogical factors ranged from one extreme, where methods of delivery were less thought about, through to a more strategic approach, where the teaching methods were motivated by the aspiration to attain learning objectives. Consequently, the findings in the current study revealed the existence of different types of methods used among academics. The subsequent sections discuss the experiences of the academic leaders on the impact of blended learning based on the research questions, namely, the merits and demerits of blended learning in the Saudi higher education system as well as the implication of the perceptions and experiences of academic leaders.

8.3.1 Impact of blended learning on effectiveness of teaching and learning

8.3.1.1 Effectiveness of teaching

The perceptions of both the lecturers and academic leaders of the effect of BL on teaching were explored in the current study. The flexibility offered to combine teaching methods was perceived as a main advantage by both of these aforementioned groups of participants. In addition, proficiency in using a computer and other digital devices within a blended learning environment was associated with the positive perception of both academic leaders and lecturers towards blended learning.

Wu et al. (2010) noted that the combination of both online technologies and traditional teaching methods is a major strength of blended learning given that it helps to improve students' learning experience. Using an array of delivery formats has always been seen to be an important factor in teaching to boost educational experience. These participants also felt that blended learning promotes better communication and collaboration amongst everyone involved in the teaching and learning processes in both traditional and online settings. This finding is to some extent consistent with the finding by Graham (2013) who also drew attention to the potential to derive the optimum benefits from both sources while upholding the richer benefits that F2F collaboration in a traditional setting provides.

Furthermore, according to the academic leaders, the benefits of the traditional learning environment were still retained using blended learning, such as the teacher's ability to question students F2F as part of their teaching, and to test their understanding of the subject--matter. This is somewhat in line with Friesen's (2012) perspective on blended learning, which is described as a model in which all curricula and teaching is delivered online, and in which F2F meetings are either scheduled or made available as and when required. This indicates some form of flexibility in learning and teaching.

Lecturers also point out that in blended learning, lectures tend to be better organised with the course content presented clearly and delivered more quickly. Past research showed that the quality of teaching assistants was rated significantly better by students in blended courses compared to those in a traditional F2F learning environment (Woltering et al., 2009). This perhaps reinforces the idea that teaching is more effective with the learning outcomes better achieved under blended learning than with traditional teaching methods alone. If so, this would confirm the effectiveness of BL in terms of its impact on learning as well as teaching, which is the concern in ESQ3a.

However, on the negative side, several concerns were raised by some academic leaders. These concerns pertain mostly to the negative effect of blended learning on teaching. For instance, an interesting observation made by one participant (4) was that in contrast to teaching in a traditional F2F environment, teaching is more difficult to monitor when it is conducted online. Likewise, the lecturer participants perceived it to be more difficult to monitor students online. Perhaps as a result of issues surrounding online teaching such as those reported in this study, some countries (e.g., Brazil) strongly support F2F teaching (Barbosa, 2016). Nevertheless, it should also be noted that the above difficulties can be tackled with the help of an LMS within the CD-ROM network system, since eLearning can be monitored easily. Once more, issues pertaining to internet connectivity, technology, and also cost of IT equipment were again shown as being significant barriers to effective teaching. Limited access to a reliable internet connection was also reported by the lecturer sample. Importantly, these findings add further support to the overriding significance of these issues across different perspectives by students, lecturers and academic leaders.

One may argue at this stage that there is a serious problem in the understanding of what benefits blended learning can provide to the educational system as a whole. For example, in the following statement by one lecturer, it can clearly be seen that he is totally reluctant

to apply and accept the blended learning model. When (Lecturer 3) was asked, "What effect do you think (BL) has on teaching?", his reply was:

> *"While I do disagree with the prospect of blended learning replacing traditional methods, even only partially, I do think this raises an interesting debate. Also, I think for younger generations such as yourself, the question of how technology can be implemented could to some extent be an important motivator to ensure that the same experience expected by younger generations is followed in the classroom setting.*
>
> *But again, do we really need to follow trends such as the internet that was invented by western countries and the younger generation? Or do we need to think about the traditional practices that have always worked for lecturers in Saudi Arabia? I think that's the question I would ask. In any case the outcome of my traditional teaching has always worked for me, but maybe there is a chance I am biased. I don't know.*

Location dependency in the context of teaching settings was also considered by the lecturers to be less of an issue with the help of blended learning. This finding is similar to the point made by Thorne (2003) in consideration of today's most recent advancements in technology, which also touch upon the education system.

A noteworthy finding that emerged from the interview data of the lecturers specifically was mixed views on the efficiency of traditional teaching methods and the extent to which the traditional teaching method should be replaced by its online counterpart. This may be attributed to the different educational backgrounds of the lecturers that may have influenced or shaped their experiences with digital tools and computer proficiency that are key elements in developing a positive view of blended learning. Similarly, in the study by Benson et al. (2011), participants, while showing appreciation of the usefulness and effectiveness of a blended learning approach, also emphasised that they considered F2F teaching to be a more effective way of teaching than technology-based teaching.

8.3.1.2 Effectiveness of learning through BL

Furthermore, it has been argued previously that the proportion of online and traditional methods implemented can vary drastically according to module choice and the teaching/assessment format of each module. Hence it can be implied from this that there are various factors to take into consideration when making a decision on how much online teaching and traditional teaching should be put in place to achieve the most effective learning outcomes.

This issue of the effectiveness of learning through using a BL approach is of critical importance, as was highlighted at the end of section 1.8, because ultimately BL is only

worthwhile if it can make a positive impact not only to the way students learn, but more importantly, in terms of their learning outcomes. As mentioned at the outset, this study could not specifically test for impact of BL on the academic performance of the students, which would have required conducting a correlational study under test conditions. Instead, this study looked for key indicators that could possibly lead to more effective learning by students in terms of their learning outcomes. Specifically, it sought to gather the perceptions of academic leaders and lecturers primarily, on the effectiveness of teaching and learning as a result of BL based on their own experiences (ESQ3a). Teaching effectiveness was discussed in the previous subsection (215), which highlighted, for example, better organisation of lectures, clearer presentation of content, and quicker delivery. This subsection discusses learning effectiveness, which deals with positive impacts on students.

The key indicators chosen as possible indicators of learning being considered effective were interaction, communication and collaboration, each of which are well-supported in the literature (see Table 2). For example, Allen and Seaman (2013), Owston et al. (2013) and Sein-Echaluce et al. (2016) among others have shown BL to improve interaction and communication, both among students and between students and their teachers or lecturers, Zygouris-Coe (2012) showed the same for collaboration. More direct academic benefits were reported by Cobanoglu and Yurdakul (2014), Cobanoglu and Yurdakul (2014), Sarıtepeci and Çakır (2015), and by Bernard et al. (2014) who specifically showed learning to become more effective albeit to a mild or moderate degree (see 73).

This new study has confirmed that improvements in interaction, communication and collaboration are indeed possible through blended learning. Interaction was perceived by the students to increase overall, although it was considered a lesser influence than BL providing greater access to instructors and facilitating physical contact (see 154). Increased interaction was also confirmed during the interviews with all three groups of participants; communication by students and leaders while not specifically mentioned by the lecturers, and collaboration by only the academic leaders (see Table 17). The secondary indicators, for example, of efficient use of time, BL being cost-effective and reduced boredom are also confirmed (see practical and affective benefits in the same table). In addition, various educational benefits were also reported by all three groups of interviewees that could have a more direct positive impact on student learning, such as convenient storage and easier access to information, enhanced research skills, and ability to impart knowledge efficiently and cost-effectively. In short, by confirming the above-

mentioned primary, secondary and more directly related indicators, the study lends support to the possibility of BL having a positive impact on the learning outcomes of students.

8.3.2 Advantages

The academic leaders were of the view that lecturers and students would **gain time** and will be relieved of location dependency due to the flexibility offered by blended learning, which are defining advantages of the online or internet-based component of BL since all forms of online learning are technology-dependent. These findings of time savings (Collopy & Arnold, 2009; Reiss & Steffens, 2010; Poon, 2012; Al-Qahtani & Higgins, 2013), reduced location dependency (Graham, 2013; Picciano et al., 2014; Dziuban et al., 2018), and flexibility in working (Hwang et al., 2013) are corroborated by other studies on blended learning.

The above-mentioned studies highlight the benefits accrued by blended learning, where time is freed up to help students invest more time in their studies. Blended learning is envisaged to maximise the benefits of traditional classroom-based teaching. In addition to the advantages offered by traditional F2F learning, blended learning tends to result in a greater level of effectiveness in learning and teaching where technology acts as the most important influence on how students interact with their lecturers and their peers. The increased interaction and communication (see 191 on p. 190, and 198 on p. 197) are key indications of this potential effectiveness.

Location dependency is eliminated through information and communication technology that helps in removing situational and geographical barriers between lecturers and their students. This interaction is vital in raising the quality of students' learning experiences. There is also accumulating evidence suggesting that BL helps students to have more time to invest in their studies (Ashton & Elliott, 2007; Battye & Carter, 2009; Collopy & Arnold, 2009; Poon, 2012; Reiss & Steffens, 2010). It has also been highlighted by Graham (2013) that with the implementation of blended learning institutions, there is an opportunity to train students anywhere at any time, thereby giving flexibility and saving time, while simultaneously allowing online learners to participate in online communities and interactive eLearning courses from anywhere in the world (i.e., there is no location dependency).

According to Wu et al. (2010), blended learning offers an effective platform where different pedagogical strategies can be applied, and it has the potential for maximising the

benefits of both F2F learning and online learning. The information and communication technology assists in removing geographical and situational learning barriers, which increases the opportunities for the learner and the lecturer to interact, thereby improving the quality of the learning experiences. Since blended learning involves mixing of different pedagogies and teaching strategies, lecturers are no longer the standards and teaching can involve more interactions between students and other learning activities, including presentation, student study groups and simulations as well as other learning activities (Williams et al., 2008).

Nevertheless, while there is some evidence supporting the notion that BL can help students save time, this has been corroborated in Grabinski et al.'s (2015) study, which argues that the possibility that learning can take place anywhere at any time is present, and it saves time and also lowers the cost of education. However, there seems to be a dearth of research on the teachers/lecturers gaining time by implementing a blended learning environment in higher education. Therefore, future studies should explore the potential benefit that may be accrued by lecturers regarding saving time in blended learning. Another advantage of blended learning noted by the academic leaders is the **ability to store content electronically as well as saving time** when technology is used. Interestingly, the time factor was a significant positive aspect of technology also reported by the students from the questionnaire findings.

Convenience is the core tenet of blended learning since lecturers and students do not need to commute to classes, and therefore, there is effective management of time that can be devoted to learning, thereby making it easier for teaching material to be made available and for communication as well as **enhanced interaction with the lecturer and other student peers**. In particular, it combines videos and sound making the whole experience much more interactive by nature. This delivery format has also been recognised to have the capacity to hold large quantities of information. This makes it ideally suited for distance learning, and nowadays with the help of newer technological advances, it is equally applicable to BL. Thus, it is clear that eLearning as part of BL provides a big advantage to both students and academic leaders. Interaction is perceived by academic leaders as one of the core benefits of blended learning since it incorporates the positive discussion platforms in traditional F2F classroom-based settings and in an online learning environment. The interactiveness in a blended learning environment has also been corroborated in a study by Graham (2013). In Sun et al. (2008), the opportunities for

interaction are highlighted since online learning features small groups that are effective for discussion platforms.

Online interaction offers students the opportunity to interact, who otherwise have difficulties interacting F2F with their lecturers and peers. Therefore, it can be implied that students in the blended learning environment have the potential to provide a platform for the exchange of ideas and to enhance their learning experiences. Further, a study by Smyth et al. (2012) demonstrates that a positive correlation exists between students' computer proficiency and the extent of positive interactions with their peers. This points to the aspect of technology in blended learning environments that facilitates more interactions between lecturers and students to the benefit of students' learning outcomes. Other studies have emphasised that academic leaders view traditional F2F classroom teaching as essential and a core element of teaching (Wolpert-Gawron, 2011; Alkhalaf et al., 2012; Barbosa, 2016). This corroborates the significance of social interaction and collaboration between educators and students as essential in the transfer of knowledge in teaching (Garrison & Vaughan, 2011). The component of F2F learning in blended learning has also been reinforced in similar studies on blended learning that report the satisfaction of students with interacting with their faculty (Lim & Morris, 2009; Schuhmann & Skopek, 2009; Martinez-Caro & Campuzano-Bolarin, 2011).

The **location advantage** is increasingly being recognised as a key technological advantage in contemporary society resulting from internet-based technologies. In a blended learning environment, students have greater flexibility since online courses offer a viable alternative to substitute where students can remotely take part in learning (Graham, 2013; Picciano et al., 2014; Dziuban et al., 2018). The location advantage increases access to education since educational technologies and innovations bridge the digital divide by increasing access to education to students who may otherwise only have limited access to on-campus-based higher education. As noted in a study by Aud et al. (2010), a US report shows that students with low socioeconomic status are likely to obtain higher education this way.

Therefore, blended learning, which incorporates eLearning probably contributes towards this goal whereby students studying online are not restricted to a specific location in their learning. From a theoretical perspective on learning models, Horn and Staker (2011) advocated the rotation model, also commonly known as the 'flipped classroom', where students study online at a location of their own choosing, and where they are also able to receive basic course content and instruction. Therefore, it could be suggested that the

'flipped classroom' model seems to be a practical model used as a form of blended learning, as also supported by the finding of the current study in the form of reduced location dependency.

In the unique cultural context of Middle Eastern countries, there is a positive perception of BL since it provides opportunities for interactions considering the restrictions in society placed on meetings and communication between individuals across gender, and those with different cultural and religious backgrounds (Tubaishat et al., 2006). In a study conducted involving students at Zayed University in UAE and Jordan University of Science and Technology in Jordan, peer interactions after campus hours was enhanced by the technological platform enshrined in a blended learning environment (Tubaishat et al., 2006). The online platform has been cited in numerous literature sources as supporting interaction through an online learning environment especially in the Saudi higher education system (DeLacey & Leonard, 2002; Garrison & Vaughan, 2011; Allen & Seaman, 2013). This points to the rationale for implementing BL at KKU in Saudi Arabia as well because learning could potentially be enhanced due to the gender-segregated Saudi society and the enshrined relationships with Saudi culture and traditions. From the perspective of the academic leaders, there is a positive attitude towards the integration of blended learning in the Saudi higher education system.

Academic leaders have perceived **communication** as a positive aspect of blended learning. This was also noted by the interviews conducted on academic leaders in the context of Saudi Arabia's academic leaders. In a study conducted in a contextually similar setting in the UAE, Tubaishat et al. (2006) notes that blended learning bridges the gap created by social, cultural and religious customs that limit free meeting and communication between genders. In the context of Saudi Arabia, social interaction is impeded, which is also the case in its educational environments. Therefore, the implementation of BL may facilitate more open communication between male and female students whilst still preventing them from having direct physical contact. A blended learning environment provides essential tools that can support students' generic skills including communication skills, as it enables students to simultaneously benefit from both face-to-face and online learning instruction. A blended learning arrangement provides multiple environments for supporting discussion, verbalisation and writing out, and this helps students in getting insight on ideas and concepts thereby improving their learning outcomes.

The web-based communication in BL between students and lecturers offers a reassuring informal approach by the teachers, which ensures a high-level of interactions (Geçer, 2013). Since students and their lecturers are separated, learning does not necessarily occur simultaneously. This requires enhancement of student-student and student-lecturer communication which is a significant factor that can affect student learning. Students' opinions are ascertained in BL environments where students are provided with life-long learning and who therefore, tend to experience a more satisfied learning process (Osgerby, 2013). The forum aided by an online platform in a blended learning arrangement enables students to utilise a free environment within which to share their opinions and emotions in the forum settings, which in turn has positive effects on communication with their lecturers.

8.3.3 Barriers

Several disadvantages of the BL environment were also identified by the academic leaders in this study. For instance, similar to the students' responses in the questionnaires, some concerns were raised by the leader participants about the extent to which technology, including the internet, is available and accessible to everyone; students as well as instructors. Also, the **reliability of the use of technology** as an important component of blended learning was questioned by the leaders. Similarly, Benson et al. (2011) highlighted that often any enthusiasm about the novelty of technology may reduce the amount of attention given to recognising its lack of reliability or usefulness in practice.

In spite of the benefits discussed above of implementing BL over a distance, at the same time, the physical distance it creates between the student and the teacher is also a potential drawback of BL according to the leader participants, as this could potentially cause problems in supervision. However, past literature provides a different facet of this form of learning. This suggests there is still enough opportunities for the student to be supervised at a physical workshop or lecture-theatre for some parts of the programme, while also giving the student flexibility to fit this interactive element around his or own schedule (Horn & Staker, 2011). Therefore, the extent to which physical distance between the student and the teacher remains an issue in a BL environment necessitates further empirical investigation. This lack of sufficient knowledge of technology has been mentioned by many academic staff, for example, (Lecturer 1) when asked the question, "Do you face any obstacles that are technically-caused?", replied as follows:

> *"Returning to my previous answer, despite the conceptual benefit of being able to ubiquitously distribute learning content to students through the internet, the technological barrier is still a significant issue within the Kingdom and I feel the issue is multi-faceted as well. However, again while I have noticed this with some of my students, I feel that technology is more of a benefit than a burden given the attraction of younger generations to these types of formats. Again, a difficult question to answer but I hope that helps."*

The same challenges and difficulties were mentioned by other academic staff. For example, (Lecturer 2) stated:

> *"As I mentioned previously, I think the main difficulties in the implementation of blended learning stems from the technological challenges of depending, or at least in-part, on online systems and providers and exchanging and examining important course curricula. In my own experience, again this comes down the problem of internet connectivity that I mentioned just now. However, while I am tempted to say that the difficulties are technology-driven only, I do see the issue of internet connectivity in Saudi Arabia as one that has many sides to it. I think more research into how blended be incorporated not only at the level of the University – but also as the macro-economic and social level – will be necessary if the difficulties faced by students under this format are going to be tackled from every possible angle."*

When (Lecturer 3) was asked, "Do you face any obstacles in teaching blended courses?", his reply was:

> *"While I do use them from time-to-time within the department, I feel that to go into the obstacles would take much time. And really, I have already mentioned why I feel that this is an issue. As I said, traditional methods are at least in my mind the only option, so any use of online learning – even blended -is an obstacle in itself. However, for me, as I said before: I prefer the traditional methods so this does make me reluctant to undertake the training when required. Also, I feel that my lack of training and confidence in technology may be a subconscious influence. I don't know."*

And when was asked, "Do you face any obstacles that are technically-caused?", his reply was:

> *"Again, now you ask about the technical part again, I do feel that the implementation of current training in technology as well as the ease-of-use of the software itself can be challenging to older members within the teaching community such as myself.*
>
> *If technology is a barrier, why not just stay with what has always worked?"*

Some academic leaders also explained that there is a **lack of self-confidence** with respect to the use of technology leading to a preference for the traditional method as their preferred medium of teaching. This is an interesting finding as it has been previously

documented that it is very uncommon for academics to be totally opposed to using technology, and in terms of levels of acceptance, these tend to vary quite a lot (Graham, 2013). Although academics mostly adopt a positive attitude towards developing blended learning modules, their perception of developing the technology-based aspects of blended learning is sometimes tilted towards the negative as a result of experiencing a lack of confidence that the technology would function adequately and as expected. Moreover, they are concerned about encountering serious problems if technology is relied on for crucial elements of the course, such as for assessment and assignment submission. Perhaps the above could also account for the current sample's reluctance regarding the use of technology in their teaching. In fact, lack of internet connectivity was also reported by some academic leaders in this study (see 177), which further supports the above arguments.

Taking the Saudi **social and cultural setting** into account, another disadvantage related to this and reported by the leaders was the cultural acceptance of the internet, with a negative relationship between Saudi culture and internet usage, as well as the negative connotations associated with use of the internet in Saudi Arabia. However throughout this chapter so far, the above finding does not seem to be problematic given that in general, there seems to be mostly a positive attitude towards the inclusion of eLearning in the form of BL learning along with an increasing use of technology including the internet, both in the Saudi HE university researched in this study, and based on existing literature on the use of blended learning in Saudi Arabia (Tubaishat et al., 2006; Alebaikan & Troudi, 2010).

The need to achieve an adequate **proficiency level** when using technology was again flagged concerning the leaders themselves, and in their opinion, this is also a difficulty faced by the students. Although from the questionnaires, it was gathered that most of the students rated themselves as of average or even higher proficiency in the use of technology, the same satisfaction was not noted with regard to technological skills pertaining specifically to blended learning. Therefore, lack of teacher training and other support for students who are required to be able to use these technology tools, results in a lack of competence in the use of technology. This subsequently limits the expansion of blended learning in line with ongoing technological advances. Also, the students' positive self-rating of their computer proficiency skills was not shared by the academic leaders, who in fact viewed the students as being over-confident in this area. This discrepancy in views is noteworthy and necessitates further empirical investigation with an aim to shed

more light on these differing opinions. Although past research such as the studies of Yushau (2006), Tubaishat et al. (2006) reported an increase in students' motivation as a result of blended learning, some academic leaders shared a different opinion whereby they mostly viewed a drop in student motivation in BL environments (see 172). At this stage it is difficult to comprehend this issue. Hence, it would be worth directing future research to shed more light on this matter.

Another limitation identified by the lecturers in this study was **lack of training in technology**, which could potentially result in a low proficiency level in using the online component of BL (see 181). This corroborates the same finding of Bingimlas (2009) of lack of teacher training in Saudi Arabia, in his case due to a shortage of teachers with adequate skills to train others and the prevalence of the 'delivery' style of teaching. The latter finding was made over a decade ago, but since lack of teaching training is still an issue in Saudi Arabia generally, or at least at KKU, this brings the matter of training teachers into question. The problem of lack of training is not peculiar to KKU or Saudi Arabia however, as Bower et al. (2015) also highlighted the same internationally more recently. The issue is important to address because, as was highlighted by Balanskat et al. (2006), inadequately trained teachers are less likely to use computers to support their teaching even if they recognise the pedagogical value.

Interestingly, the lecturers also revealed that there could potentially be an issue of confidence amongst teaching staff in using technology as part of their teaching, including engagement in relevant training. Interestingly, it has been previously documented that participants using the 'bolt-on' strategy, although comfortable using a blended approach, still showed some reluctance to invest time in learning how to use technological tools. In contrast, the study by Voci and Young (2001), based on the integration of e-learning and a leadership development training programme, revealed an increase in the sense of teamwork, shared contribution to knowledge, language, as well as improved efficiency in group learning in a blended learning environment. Therefore, the key role played by training in the effective implementation of blended learning is notable. The risk of some lecturers simply omitting the online component in their teaching (see 181) was also a concern raised by one lecturer participant. Notably, Dziuban and Moskal (2018) found that teaching blended learning courses gives lecturers the opportunity to use new educational technology; hence, it could be implied that this can also help to improve their skills and familiarity with the online component of this teaching format.

The **lack of sufficient knowledge of technology** was mentioned by the academic staff in section 5.4 in chapter 5. The same challenges and difficulties were mentioned by other academic staff as analysed in section 7.4 in chapter 7. Evidence for this can be found, for example, in the first quotation above of Lecturer 1 in this same section 223 on barriers when asked about obstacles that are 'technically-caused'. The same challenges and difficulties were mentioned by other academic staff, for example, Lecturer 2 stated:

> *"As I mentioned previously, I think the main difficulties in the implementation of blended learning stems from the technological challenges of depending, or at least in-part, on online systems and providers and exchanging and examining important course curricula. In my own experience, again this comes down the problem of internet connectivity that I mentioned just now. However, while I am tempted to say that the difficulties are technology-driven only, I do see the issue of internet connectivity in Saudi Arabia as one that has many sides to it. I think more research into how blended be incorporated not only at the level of the University – but also as the macro-economic and social level – will be necessary if the difficulties faced by students under this format are going to be tackled from every possible angle."*

The issue of lack of training and technical difficulties also was raised by many of the interviewees. For example, (lecturer 1) raised these difficulties as well. When asked, "Do you face any obstacles in teaching blended courses?", his reply was:

> *"Yes and No. On the one hand, there is the argument that blended learning costs more in equipment, maintenance alone than paper resources, therefore, negating the cost-benefits at least initially when incorporating a brand-new blended learning practice. I think when we compare the unique nature of the state of the Kingdom's technological development; the issue of internet connectivity is the primary short-term barrier to making the concept of blended learning practical with the realities of today's Saudi HE student. This is an issue I have experienced with my own students, who while motivated to use the online component of the course, still have difficulty accessing this efficiently due to poor or restricted internet access within their home. On the other hand however, I do feel that the higher experience of younger generations with technology may mitigate this to some extent. I think this is difficult to answer and varies according context."*

The issue of psycho-cultural traditions can be noticed clearly in the responses given by the interviewees, as they recognised the importance and the need to incorporate blended learning in their instructional methods. However, they are hesitant to do so. See for example, the response of (lecturer 7) who stated a conflicting statement when asked: "From your own perspective, what are the preferred methods of teaching: blended, fully online or traditional practices?" To this, he replied:

> *"If you were to ask me what I think is better in the short-term, then I would choose traditional methods without hesitation. However, if you were to ask me what I think would be better in the long-run, then I would choose blended learning over online methods by far. I think that we all recognise the reality that future teaching in Higher Education will be enhanced by one technology or another, but I think the current debate is whether traditional practices will be retained or fully converted to online equivalents. Personally, I think current developments have already revealed, which traditional practices will stick with us moving forward."*

It is not only necessary for teachers to change the content and their way of lecturing, it also requires a transformation in their pedagogical understanding and experience (Hansen et al., 2012). One may argue at this stage that there is a serious problem in the understanding of how blended learning can benefit the whole educational system. For example, based on what Lecturer 3 said, who was quoted earlier in section 215, it can clearly be seen that he is totally reluctant to apply and accept the blended learning model. And when the same lecturer was asked, "Do you face any obstacles that are technically-caused?", his reply was:

> *"Again, now you ask about the technical part again, I do feel that the implementation of current training in technology as well as the ease-of-use of the software itself can be challenging to older members within the teaching community such as myself.*
>
> *If technology is a barrier, why not just stay with what has always worked?"*

Furthermore, this limited pedagogical understanding and the lack of blended learning can be seen in the interview analysis (see chapter 7, section 7.4). For example, (lecturer 1):

> *"I think there are trends that come and go with every generation: a new technology comes in, and then industry after industry rushes to implement it out of excitement rather than real consideration for its short-term practicalities. For example, perhaps I am wrong, but who is to say that something such as the internet will be the driving force behind future educational approaches? It seems likely, but again something entirely different might be around the corner. I don't know. However, if the online learning component does become easier to implement, I think it will reach some sort of breaking-point where some important traditional methods will need to be retained. I think, with a combination of research in psychology and technology, an optimum combination in the form of blended learning will become the new norm."*

Instructional practices within the classroom are constantly changing. Moreover, the expectations for student achievement continue to increase. Therefore, teachers may be required to make essential changes in their instructional delivery models in order to best meet the needs of their students. It is therefore, important to bear in mind that not all

leaders and educators will support a new initiative. They may, in contrast, protect existing practices instead. As an assistant for learners within their classrooms, this conforms to what Lecturer 2 observed:

> *"While I am an avid believer in blended learning on a conceptual level, I just feel that the current limitations – perhaps culturally as well as technologically- present a particular set of barriers that are perhaps not found in other parts of the word. I think the barriers are twofold: internet connectivity and format transferability. Among at least 20% of my students, lack of internet connectivity makes the online component redundant despite its promise in the future. Additionally, I feel that the short-term requirement to continuously achieve student grades and term-based targets make it difficult for an active programme to undergo the short-term difficulties when transferring traditional content into the online format. It is a difficult area but I think these barriers will one day be overcome."*

On the other hand, (lecturer 5) favoured the introduction of blended learning models. However, he expressed the need for more support from leaders, since he stated:

> *"Personally, I really do feel that most benefits are to be found in the online alternative: the area is dynamic, constantly changing, and presents a lot of new exciting ways in which both students and lecturers can interact. I would say that blended learning therefore, at least captures some benefits that the fully online option facilitates. On the other hand, I do feel that traditional methods are only the standard due to the lack of training in technology. For example, I feel that one of my colleagues lacks the confidence to use these modern tools, and so justifies it by claiming that traditional methods are more effective- I disagree."*

Therefore, for effective transformative change to take place, leaders must allow for an appropriate amount of time for individuals to trust the recommended change. This issue was raised by (Academic Leader 4) (see section 175), as they mentioned that time is needed to change cultural beliefs and to transform from one concept to another. He was asked: "*In your view, what impact does (BL) have on the teaching process?*" His reply was:

> *"I think one impact blended learning has on Higher Education teaching is that is reveals a sort of 'limiting point' where the component of online learning is not further expanded upon: this is due to the fact that, when given the choice, students do still prefer resorting to libraries is some scenarios and sit hall-based examinations; again, I feel that the online is seen as 'complimentary' to the traditional practices rather than the other way around. Another impact, and a potentially negative one, on the teaching process is that it is difficult to tell whether an assigned faculty member is conducting the lecture scheduled online, as opposed to traditional lectures where gently monitoring other colleagues is easy to do. Because of these impacts on the teachers, students and academic leaders, I therefore, believe*

that blended learning has an impact on teaching and learning outcomes directly."

"Also, I think it is important to mention that the cultural perception of Higher Education is different here in Saudi Arabia: here for example, if an applicant were to find out that a graduate or undergraduate programme were to be online fully- this would not be considered as a serious University course."

It is important therefore, that leaders must take the 'awareness issue' into consideration, as many lecturers are still stuck with the conventional method of teaching. For example, Lecturer 3 stated:

"While bias towards the traditional methods, I suppose one advantage would be the similar flexibility enabled by online learning. However, I really think that we need to distinguish between 'advantage economically' and 'advantage educationally': given the recent pressures to accommodate increasing numbers of students, it can be easy to be attracted to a more efficient method of distribution. But like with any sector, while it is good to have back-up methods of distributing the same service at a compromise, the core quality of the service is key….To be honest I am slightly put off by the question, as in my mind, only traditional methods have the most advantages. We know that. At least, I know this based on my own experience."

It appears therefore, that leaders must put forward a plan to change the culture of change. For example, many lecturers still oppose and are not keen to use blended learning (see section 7.4 in the analysis chapter). Lecturer 6 observed:

"Well firstly I would begin by saying that online learning is absolutely not a viable solution. Even one of my colleagues who actually favour the more modern tools would agree with me on this point: the concept of a fully-online classroom breaks down the moment it is implemented against the practical and psychological requirements of students in Higher learning, and is especially true in Saudi Arabia. As for blended learning, I would be inclined to say this still falls short of traditional methods due to the barriers our department faces with training and technology."

When asked, "Are you convinced of the usefulness of blended learning?", he further added:

"Currently no, but again I can see this changing if the focus shifts towards the pedagogical value of the technology rather than simply implementing in infrastructural way. That is my current view anyway. And also when asked: Do you feel that blended learning is appropriate for university education? The answer was: "For University Education, I would say that it currently lacks the maturity to provide the same richness in content and experiences that have become consolidated into the traditional practices we know and use today."

Owston et al. (2008) concluded that blended learning is a practical method for teacher professional development, as it enables teachers to learn in surroundings that directly advance and are in line with their teaching requirements and benefits. This was approved by the statement of Leader 3 who was quoted earlier in section 214 on p. 214).

8.3.4 Social benefits of blended learning

Overall, according to most of the leader participants, Saudi HE institutions support e-learning as well as BL, which is similar to the study of Benson et al. (2011). Therefore, it could be implied that the benefits were mostly seen to outweigh the limitations of this form of learning and teaching format. Blended learning courses provide lecturers with the opportunity to use new educational technologies and study contents from institutions such as Stanford University and the University of Tennessee that have strongly supported the implementation of blended learning in contrast to using traditional methods and eLearning technology separately (Dziuban & Moskal, 2018).

As such, with accumulating evidence supporting the use of blended learning across universities around the globe, the importance and relevance of this new form of learning is more and more emphasised, including in the Middle East. Nevertheless, bearing in mind the concerns raised by the academic leaders in this study relating to internet availability, connectivity and other technological issues, including levels of computer proficiency and related skills (see 177), it is of the utmost importance to ensure that BL is implemented correctly, as was also highlighted by one of the leader participants. This would help to compensate for the shortcomings of traditional teaching and learning methods. In line with the above issues, the participants pointed to various implications, such as a need for the government to develop the necessary infrastructure that could make the implementation of blended learning more successful, improve its affordability, justify the reliance on technology in contemporary society, as well as standardise the implementation procedures of BL.

It could be argued that training in all these areas is key to the success of effective use of blended learning for both students and instructors. As stated by Bower et al. (2015), there is indeed an international lack of focus on teacher training, especially in relation to the use of online tools. It is also widely acknowledged that there is a lack of funding to invest in hardware, curriculum, teacher training and other needs for starting an online or blended learning programme in many countries (Alebaikan & Troudi, 2010). Thus, it could be suggested that the Saudi government should be aware of the importance of increasing

financial investment in BL, as only in this way could most, if not all the aforementioned issues raised by the academic participants in the current study be addressed. Subsequently, this would also reinforce the strengths while considerably limiting the drawbacks of this new form of learning.

However, the process of transition may be difficult when it is applied practically. Those individuals who believe in the change theory may lack the necessary resources or instructional materials. It is difficult also for leaders who believe a change is necessary for enhanced student academic achievement. Fullan (2007) claimed that transitional movement is a change from one position, state, stage, subject, or concept to another. Therefore, for effective transformative change to take place, leaders must allow for an appropriate extent of time for individuals to trust the recommended change. This issue was raised by Leader 4, as he mentioned that time is needed to change cultural beliefs and to transform from one concept to another (see the quotation of Academic Leader 4 in 223 on p. 223) who was asked for his view on the impact of BL on the teaching process.

8.4 Comparison of the Perception and Experiences of Blended Learning between Academic Leaders, Lecturers and Students

8.4.1 Impact of blended learning on learning

The element of interaction as a product of blended learning has been discussed previously in this chapter from the perspective of the academic leaders. In this section, the effect of blended learning on interaction is explored from the students' and lecturers' perspectives with the aim of adding further support to previously discussed arguments in this area, as well as for shedding light on any novel aspects of the relationship between blended learning and interaction in an educational environment. As previously reported from the students' interviews, the blended learning environment is conducive for better communication with peers and lecturers, although some students also perceived that more direct interaction with peers and lecturers was also possible in a classroom teaching setting (see 208 on p. 208). These mixed findings are difficult to account for in the current study, although it is also worth pointing out that based on previous research, students who reported high engagement with their course activities also reported positive interactions with their lecturers.

Moreover, students who possessed technological familiarity with the online system were also more likely to experience positive interactions with their peers (Smyth et al., 2012). In favour of blended learning from the students' perspective is existing evidence

suggesting that in comparison to fully online learning, students in blended courses are more satisfied with faculty interaction, and they benefit better from instructional guidance while studying in this manner. This in turn results in less perceived instructional difficulty and a more adaptable academic workload (Lim & Morris, 2009; Schuhmann & Skopek, 2009). Of specific relevance to the context of the current study, blended learning is also considered to be more adaptive to the unique geographical and natural challenges experienced by a country, and in the case of Saudi Arabia, whilst there is a rapid influx of students into HE, the practical efficiency of a blended learning system is significant. Furthermore, blended learning is commonly known to be able to adapt to transcultural classrooms (e.g., in the context of Saudi Arabia) in which individuals engage in interactions and transcultural communications. This is important, especially when recognising factors such as student engagement, ease-of-communication between people and also the impact of social and cultural barriers on semi-social collaborative settings such as workshops and group seminars. Likewise, some lecturer participants also emphasised the opportunity for better interaction among students, and between students and themselves in a blended learning environment, especially via an online platform given its dynamic nature.

In a similar vein, the study by Tubaishat et al. (2006) also found that university students largely benefited from interaction with their peers after campus hours with the help of an online platform. Student interaction with the help of blended learning was also indicated by some lecturers in their interviews. Along the same line, according to another lecturer, the incremental nature of delivery characterising blended learning facilitates more interaction by students between those elements. Past research in this area also found that students experienced the course content to be easier to digest given the flexibility in which information can be displayed and shared, and that this promoted more interaction between lecturers and student peers while placing more emphasis on meeting module objectives (Allen & Seaman, 2013).

In addition, So & Brush (2008) viewed interaction to be much less prevalent in most campus-based classrooms due to the number of students and outdated teaching methods. Therefore, having components of traditional teaching alongside online teaching could perhaps help to address this issue. However, one lecturer (Participant 3) had a different opinion whereby he mostly felt that there are in fact more limited opportunities to collaborate with students online compared to the classroom environment (see 232), although this contradicts the view of Participant 4 who said that BL results in greater

collaboration (see 167). In this view of collaboration being limited by BL, it is considered that the traditional teaching method facilitates more interaction compared to its counterpart. It has been documented previously that in an online-only teaching and learning environment, there is in fact limited access to teacher-student interactions, limited interaction amongst peers, and communication is also restricted. At the same time however, this equally assists lecturers in their engagement with Higher Education learners (Graham et al., 2001). Moreover, according to Owston et al. (2006), lecturers tend to have a preference for F2F contact, especially for first-year university students who need more guidance from them.

8.4.2 Advantages, obstacles and limitations of BL

This study has shown that the current pedagogy and social, cultural and economic factors in Eastern countries such as Saudi Arabia may pose greater barriers than in the Western context. This points to a need for critical investigation into how such challenges to blended learning are perceived by students and lecturers, and how they can be overcome within the context of Higher Education at KKU or in Saudi Arabia generally taking its own peculiar sociocultural environment into account. Based on the identification of deficiencies in the existing research, and building on theories already surrounding the subject, the researcher developed a methodology that would enable this study to provide insight into and elaborate on the multitude of challenges to blended learning from the unique perspective of stakeholders comprising both teaching staff and students within a Saudi Higher Education environment. The methodology offered the investigation of the perceived advantages and disadvantages of blended learning and what causes them, while exploring the different experiences of various stakeholders with the aim of understanding how blended learning may be integrated with and possibly improve current practices at KKU.

This study brought a significant contribution to the current literature on how male Saudi lecturers, academic leaders and undergraduate students experience and perceive blended learning. The implications of their perceptions and experience in Saudi higher education have also been identified and discussed in this study. The main findings of the present research are mostly positive views about the implementation of blended learning at KKU, which might also be applicable to other Saudi universities, but this is offset by perceptions of a shortage of adequate training and assistance made available to benefit from this form of learning, as well as some concerns raised about existing barriers that negatively affect

the successful and effective use of blended learning by both students and academic staff (leaders and lecturers).

In particular, most lecturers and leaders showed a preference for blended learning, although according to one lecturer its suitability is mostly for postgraduate students (see 172 and 173). These participants reported several advantages of this type of learning, such as greater flexibility, better interaction with students, time saving, improved quality of teaching, enabling to keep pace with demands on time, and reduction of location dependency. Moreover, the study found that BL was thought to result in improvement in student success and satisfaction, a finding which is consistent with previous studies, such as by Dziuban and Moskal (2004; 2011; 2012; 2018), and which demonstrates improvement in students' sense of community (Rovai & Jordan, 2004) when compared with F2F courses. This study indicated that the application of blended learning may result in significant cost reductions without diminishing student performance outcomes. This is corroborated in similar findings by Fischer et al. (2015) and Hilton et al. (2016). This study indicated benefits for the underserved student population given that Saudi Arabia is currently faced with the challenge of bridging the educational gap between their underserved student population and those communities with greater financial and technological resources at their disposal.

Chapter 9: Conclusion and Recommendations

9.1 Overview

The thesis has been structured into nine chapters with the foundational approach to the study, objectives and the significance having been introduced in Chapter One. Chapter Two, Three and Four provided a review of existing literature on blended learning with a focus on the implementation of a BL environment in the higher education sector. Subsequent chapters detailed the methodology and presented the results and findings from the primary research conducted, which were discussed in the previous chapter. This final chapter highlights the contributions of the study, contribution to theory and methods, and its practical and pedagogical implications. Limitations of the study are also pointed out, recommendations for further research are made towards the end of the chapter, and the chapter concludes with a personal reflection on the subject-matter.

9.2 Contributions of the Study

The study investigated the perceptions and experiences of academic leaders, lecturers and students on the impact of blended learning. It has contributed by providing thorough insight into these views and experiences that may be used to develop an action plan for successfully implementing blended learning at KKU in the Saudi Arabian higher education system. The study adds to the body of literature on blended learning, especially on curriculum delivery by identifying issues that affect the implementation of blended learning in the wider Saudi Arabian higher education context. The breadth of the current study includes pedagogical principles, adoption of technology and the need for social change. In this context, the blended learning approach could be seen as appropriate in providing life-long learning, as also observed in a study by Garrison & Vaughan (2011). This is the first known study that investigates blended learning in a gender-segregated learning environment, and which invites the perspective of students, lecturers as well as academic leaders.

The study has highlighted the challenges to blended learning in the context of perceived social, cultural and economic factors at KKU in Saudi Arabia. This study has built on previous studies while contributing to overcoming the gaps of knowledge in blended learning research. These deficiencies have been identified in the literature review and theories surrounding the research phenomenon as viewed by the respective stakeholders in higher education including academic leaders, lecturers and students. This study has provided an up-to-date examination of the perceptions and experiences of each of the

three research groups on the effectiveness and implications of blended learning at King Khalid University in Saudi Arabia, particularly in terms of positive impacts such as reduce location dependency, greater accessibility, improved interaction and communication, and greater collaboration. The barriers and subsequent negative perceptions on the impact of blended learning in terms of its effectiveness have been highlighted and discussed in the previous discussion chapter.

In general, a positive attitude was adopted by the participants in the current study who are either studying or teaching at King Khalid University in Saudi Arabia (i.e., students, academic leaders and lecturers) towards the inclusion of a blended learning environment in Higher Education. As discussed throughout this chapter, one should also bear in mind that although this positive view was almost unanimous, there were still several concerns raised by some participants regarding the usefulness of blended learning, as well as existing barriers pertaining to its effective implementation. Therefore, in terms of the implications of the current study's findings, it could be suggested that these findings are extremely useful as they provide a very good insight into the views of both students and academic staff, which could in turn draw the attention of the Saudi educational sector to the potential benefits of this form of learning in a university setting.

In doing so, the appropriateness of BL to the Saudi HE context can be further emphasised given that it has been previously noted in this chapter that there is rapid growth in the volume of Saudi students attending university in a traditional F2F setting. In other words, the implementation of blended learning could greatly help to address this issue with all the flexibility in the form of practical efficiencies that it offers in various ways, particularly that of non-location dependency, being less time consuming, providing increased accessibility, and so on. Furthermore, it can also be argued that the adoption of blended learning could be a major advantage for Saudi female students in particular, since it provides them with a learning environment that fits well within Saudi society and functions in accordance with its norms and religious values, given the restraints on communication and interaction imposed due to gender segregation. It was noted in the literature review that enrolment among the female population has already increased following the introduction of the BL approach in Saudi Arabia (Sajid, 2016).

It has also been pointed out in past literature that by incorporating blended learning into Higher Education, several factors such as technological advancements, pressures faced by universities in Saudi Arabia, and the threat to teaching quality could all be better managed with the help of blended learning. Moreover, this is facilitated even more since

this study showed that there is a positive perception overall among both academic staff and students towards combining online and offline learning approaches in a blended learning arrangement.

Importantly, all the issues and concerns raised by the participants in relation to the extent to which the successful implementation of blended learning is feasible at KKU in Saudi Arabia are of absolute importance, as these can help to draw attention to potential obstacles and existing barriers that the Saudi government should perhaps focus on, in an attempt to address them. This would greatly contribute towards the success of blended learning in the Saudi educational system. It is admitted that the issue of technology access still poses itself as a significant dilemma, and unlike in Western countries such as the UK and the USA, infrastructural facilities are less developed in Saudi Arabia generally and at KKU in particular. These factors consequently make online learning and teaching less accessible generally. Therefore, all the difficulties faced by the participants, as discussed throughout this chapter, are noteworthy because they point directly towards existing gaps, mostly of a technological nature. It is these in particular that the Saudi government should tackle to improve and promote the implementation of blended learning in its kingdom.

9.3 Contribution to Theory

This study has explored the implementation of a blended learning environment in a Saudi university with a focus on the experiences and perceptions of students, lecturers and academic leaders. Overall, the study identified various themes that are derived from the experiences and perceptions of the three research groups involved. As reported by the students, their level of proficiency affected their experience and perception of blended learning. This was coupled to access to technology and ease of use that are both important factors in ensuring students have maximum familiarity during their blended learning experience. Another theme contributed by the theory concerns the flexibility that comes with blended learning. In particular, it is noted that it increases interaction and communication between students and their peers, as well as between students and their lecturers.

Other themes contributed by this study include the lack of a reliable internet connection that impedes the effectiveness of blended learning as well as students' lack of self-confidence in the use of technology. Both the aforementioned prevent students from having access to using the technology, as was highlighted by McCarthy (2010), but the first impediment highlights the strongly technology dependent nature of BL. These

themes are key in formulating a blended learning framework in the context of the Saudi higher education system. The ultimate goal of the framework was to outline the factors that influence the perception and experience of stakeholders in the Saudi higher education sector in the implementation of blended learning. This framework can be considered as a theoretical contribution to the research into blended learning.

The review of literature introduced and examined a number of theories underpinning BL, namely behaviourism, cognitivism, constructivism, activity theory, situated learning theory, engagement theory, and variation theory, and then further introduced and examined a number of learning models specifically designed to explain variations of blended learning practices. In light of the case study conducted at KKU, which involved investigating the nature and impact of BL at this Saudi institution, it can be said that the students were not in a learning environment that is too dissimilar from learning environments in western institutions. Constructivism is making some inroads although there is still strong evidence of behaviourist practices lingering as well with the traditional teacher-centred arrangements and one-sided flow of information.

The environment is a significant factor in the learning process for Saudi students, especially in terms of restrictions on interaction and other cultural constraints imposed on the way students are allowed to learn, which is recognised in Activity Theory. The same theory also focuses on the use of learning instruments, which is a defining feature of all forms of learning that involve the use of computers including BL. Furthermore, Situated learning Theory could be relevant for explaining BL in so far that it considers the conditions that instructors and institutions make available for learners, although there is not the same focus on the learning tools. Engagement theory would be useful if it is established that BL at KKU or in Saudi Arabia generally places an emphasis on students engaging in specific meaningful learning endeavours, such as knowledge creation or problem-solving, assuming the social contact enhances their individual and collective experiences. Further research would be required of a more thorough theoretical nature to describe blended learning in Saudi higher education institutions as a theoretical model that could be useful for course organisers and academic leaders in arranging blended learning programmes of study.

As for the nature of BL at KKU, although not specifically examined to characterise the BL experienced by the students, it would be safe to assume that the rotation model best describes this form of BL. This is a typical approach in which the two forms of learning are guided by the instructor and undertaken according to a schedule. There is no evidence

of personalisation of the learning process, so academic leaders at KKU or Saudi Arabia generally may need to consider this possibility if they wish to pursue the goal of providing more student-centred learning programmes. If this is done, it would make it an 'individual rotation' model instead. Similarly, it does not seem that the more advanced BL models are applicable to describe BL at KKU or in Saudi Arabia generally, such as the self-blend model. However, the flipped classroom model does apply particularly in the case of the graduate students who make more thorough use of BL at the university itself, especially since they have access to better and more reliable technical infrastructure.

9.4 Practical and Pedagogical Implications

Based on the findings from the current study, several practical implications arise and recommendations can thus be made for improving the arrangement for implementing the blended learning environment at the university at which the primary research was carried out. The study recognises the need for further support in the design and implementation of blended learning, especially in respect of the devices used to support e-learning. This can be implemented by taking serious actions towards offering resources that increase students' proficiency and familiarity in the online component of blended learning. Instructors, academic leaders and students in the higher education sector need to be made aware of the importance of using the internet effectively, in a productive manner, so as to improve the quality of learning and interaction between students and their peers, as well as the interactions and communications between lecturers and students. The instructors need to be encouraged more to use online tools as a component of blended learning in order to improve their outreach to students who may be constrained by location disadvantages besides other factors that may impede their flexibility. Other practical implications of the study include equipping the students and faculty members with computers and a reliable internet connection so as to make blended learning available and attractive to the university community at large.

Students frequently complained of an unreliable internet access and connection, and lack of familiarity with devices used in a blended learning environment, as the main stumbling blocks towards their enrolment and engagement in the blended learning environment. The provision of technical support services at the universities could help in bridging the digital divide so that there is an increased uptake of blended learning at those universities. University curricula can also be structured in such a way that it becomes more accommodating and suited for delivering blended learning courses. The practical

implications that can be derived from the study are highlighted for the various stakeholders connected with the university at which this study took place, as well as for the wider Saudi Arabian higher education system. These include implications for policy-makers, academic leaders, lecturers and students.

9.4.1 Policy makers

Based on the findings from the study, the study recommends that the Ministry of Higher Education in Saudi Arabia continues to consider and promote the adoption of blended learning environments through providing increased funding, especially in terms of improving infrastructure and raising awareness on the advantages of the internet to support e-learning. Additionally, there is a need to encourage lecturers and support them with resources that can make the use of online tools available as part of their teaching strategies. It is also important to mentor students on the use of online tools in a blended learning environment, and to support their understanding of the learning processes underlying blended learning. In light of the issues raised in the quantitative and qualitative research with academic leaders, instructors and students, there is a need to equip students and faculty members with more computer labs, reliable internet access, and with technical support services at their universities in order to raise proficiency and familiarity levels with the devices commonly used in the e-learning component of blended learning. As policymakers formulate frameworks for improving blended learning in Saudi Arabia based on the experience of the stakeholders, there is also a need to highlight certain cultural considerations. Since Saudi Arabia is a gender-segregated society, it is noteworthy that the proportion of lecturers to students can easily be improved by adopting blended learning since it can aid interactions between male instructors and female students, and vice versa. Consequently, this could broaden the reach of university education in Saudi Arabia immensely.

9.4.2 Academic leaders

The study identifies specific expectations from the students and lecturers on their perceptions and experiences of blended learning that academic leaders may not have known about. As a consequence, the expectations of students and lecturers alike may be realised in practice, and better policy documents could be prepared for better managing the expectations of both students and lecturers who are either enrolled or plan to be enrolled in a blended learning course at any university in the wider Saudi higher education system. The knowledge on the perceptions and experiences of blended learning can

inform academic leaders on better ways of improving the blended learning environment within the university where more information or clarification on the format of blended learning courses are provided, so that the few reports of unsatisfactory student experiences on blended learning can be averted.

It is important to note that academic leaders, including university leaders play an influential role in the implementation of policies related to the integration of blended learning in the Saudi higher education system. These leaders are in a better position to promote and encourage the development of an educational culture that would likely embrace the possibilities of blended learning at the universities given its potential effectiveness. This is because academic leaders are particularly concerned with improving the learning process, so any procedure, method or approach that can benefit students in terms of their learning would be attractive to implement. Moreover, as Chang (2016) pointed out, student-centred education is particularly favoured nowadays, and BL offers students to take more control of their learning whilst the F2F component ensures they also maintain physical supervision by teachers and lecturers.

It is the academic leaders that play the important role of providing an enabling environment that encourages the adoption of blended learning not only by the students, but also the lecturers by providing the infrastructural capacity and training, as well as by offering technical support to streamline the blended learning environment. In this current study, many of the participants observed that a blended learning environment assisted in alleviating the challenges that they otherwise faced under a solely traditional F2F learning, especially those challenges related to location and time inflexibility. A university can be equipped with the provision of blended learning courses for its students, but they must be supported by training programmes and greater awareness of blended learning within the university community.

It is recommended that academic leaders put plans in place to improve the infrastructure at their university so as to support blended learning properly, particularly by ensuring that students have access to a reliable internet connection. There is also a need to provide good pedagogical and technical support for the lecturers. This should go hand in hand with allowing lecturers to accrue enough experience and to discover the benefits of the online learning environment at their own pace, as well as the application of various devices involved in providing a blended learning environment.

9.4.3 Lecturers

The findings from the study increases awareness of the range of students' perceptions and expectations in respect of blended learning, thereby putting the lecturers in a much better position to address the needs and expectations of their students. The lecturers viewed flexibility as one of the prominent advantages of combining different teaching methods in the blended learning environment. Educational experience can be boosted through the use of an array of delivery formats that ultimately support and promote better collaboration and communication between the lecturers and their students. The lecturers also opined that blended learning provided a platform where they could be better organised such that the course content is clearly presented and delivered swiftly to their students, which is an important aspect of the student learning experience. Some lecturer participants in this study raised the challenge of poor monitoring of online learning in blended environments, and also the lack of a reliable internet connection that could override the overall benefits of blended learning at the university.

Lecturers could benefit immensely from being aware of the several benefits and limitations identified by student participants in this study. In particular, the lecturers at King Khalid University could then be able to put into place appropriate actions that are most likely to help achieve the desired benefits and to reduce the limitations faced as well as the challenges posed in the blended learning environment. In addition, the study findings highlight the key areas in professional training of the lecturers delivering blended learning courses that could improve the quality and effectiveness of teaching and learning experiences in blended learning environments at KKU or in Saudi Arabia's higher education system in general. The effectiveness of BL is improved by such impacts as allowing clearer presentation of course material (185), reduced time to achieve learning outcomes (165 and 166), ease of access to course materials, and ease of identifying engaged and motivated students (174).

As noted from the findings in this study, the faculty requires more skills in relation to the development of pedagogical and online instructional designs so that they can implement blended learning more effectively and successfully. The lecturers concurred that blended learning enhances learning through increased interaction and that it improves communication. This corroborates findings, for example, from the study by Vaughan (2007) and Bonk & Graham (2012). However, the lecturers routinely observe that limitations such as weak internet access and lack of sufficient devices in blended learning limited students' access to and thereby gaining the benefits of blended learning.

Instructors believe that the e-learning platform in blended learning offers students better opportunities for interaction and communication. These are prerequisite elements that can positively impact the relation between students and the blended course content, leading to potentially better learning outcomes.

9.4.4 Students

The government of Saudi Arabia is gearing towards delivering more ICT capabilities throughout Saudi society, and the education sector in particular has experienced a robust implementation of contemporary standards towards transforming its society into an information competent one. Blended learning may meet the challenge of educating the youth who are faced with restrictions relating to a gender-segregated society and inadequate lecturer resources. For university students, blended learning approaches are still relatively new and opinions vary among them as to the best approach for arranging blended learning courses. Regardless, blended learning approaches are eminently suitable for improving students' learning experiences and for raising the standards of education in the Saudi higher education sector. Since blended learning environments are still relatively new in Saudi Arabia, including at KKU, there are also questions regarding its effectiveness, especially among the student community. To effectively implement blended learning, there is therefore, a need for Saudi universities to develop clear policies that takes student perspectives and experiences on blended learning environments into consideration.

In order to maintain a balance between traditional F2F learning and online learning in blended learning, there is a need to improve student training so as to improve their computer proficiency while providing adequate facilitation in terms of resources such that students have access to computers not only at university but at home as well. The students in this study viewed online learning as a supplementary instructional resource, as they have the potential to enhance course delivery by improving the flexibility of both lecturers and students. For example, students can access course content in a cost-effective manner since blended learning offers location advantages to the students. Also, accessibility of lecture materials online increases the convenience for students in their learning whilst also allowing them more time to review and understand the course material and offering them an opportunity to familiarise themselves with the lecture.

It was evident in this study that students' backgrounds on F2F traditional learning could influence their perceptions and expectations in blended learning, especially in respect of

online learning. This may have led the students to have preference for face-to-face learning over blended learning. Findings from this study imply that the lack of a reliable internet connection and low computer proficiency, as well as low familiarity with blended learning devices, lowered students' expectations of blended learning. Students may therefore, become wary of blended learning due to lack of experience in using the internet. This situation places students at a higher level of uncertainty, making them avoid blended learning altogether, which could then impact adversely on their learning. It is therefore, imperative that in implementing blended learning courses, the course providers should ensure that students are well-trained and that there is a reliable internet connection to facilitate learning, as this would increase the likelihood of students enrolling in BL courses. Also, the application of online tools in blended learning requires that lecturers scaffold tools that are adaptable to the traditional cultural norms and trends among university students at KKU.

9.5 Methodological Implications

Although this study did not break any new grounds in terms of adapting the research methodology, the conduct of this research confirmed and reaffirmed the researcher's confidence in the application of the mixed methods approach as a useful methodology in educational research. Most of the data were collected through qualitative interviews, which was considered necessary and provided insightful information for gathering the perceptions and experiences of the participants.

However, since conducting interviews can be time-consuming, it is recommended that future research on the experiences and perceptions of the impact of blended learning should be conducted with adequate provision for time allocated, so as to get students, lecturers and academic leaders to answer the interview and survey questions. The study also recommends that the data collection strategy include a survey and interviews to make the data more diversified, such as by combining an online and offline survey. The survey was useful for gathering some information quickly from the student participants, as mentioned by Evans & Mathur (2005).

As for choosing a case study design, this was appropriate to provide adequate focus of the phenomenon of blended learning to gain insight into it at one particular higher education institution. This boundary enabled the researcher to investigate perceptions and experiences in-depth. Further, the thematic analysis was successful for identifying patterns in the qualitative data, and the previous chapter made a good discussion of the

important findings in light of the literature review. Regarding generalisability, it has already been mentioned that although the study was focused on BL at KKU, and the findings are not therefore generalisable, it is possible that some findings *can* be generalised to other similar institutions in the kingdom. This could be particularly true for those which corroborate other studies, such as BL providing greater access to instructors (4.4.2), that it saves time (Grabinski et al., 2015), in improving interaction and communication (Geçer, 2013; Morgan et al., 2014; Sein-Echaluce et al., 2016), lack of adequate teaching training (Bower et al., 2015) in Saudi Arabia, and so on.

9.6 Implications for Policy Making

The study added to the body of knowledge on blended learning by examining the perceptions and experiences of students, lecturers and academic leaders on the impact of blended learning at a higher education institution and examining the factors that might influence its effectiveness. As explained previously, effectiveness was taken to mean improvements primarily in terms of interaction, communication and collaboration since these could lead to more significant improvements in terms of learning outcomes. For policy makers, any teaching and learning procedure, method or approach that would help to bring about improvements in the aforementioned indicators whilst also being in line with the trend of student-centred learning could be worth considering.

Although generalisation of the study's findings is limited due to the small sample and the fact that the study was focused on a single university, many issues were uncovered that were found to be consistent with other studies on blended learning (see 81 on p. 81). In particular, computer proficiency was a major factor that influenced students' perceptions and expectations in blended learning, as familiarity with the devices used in a blended learning environment was associated positively with perceptions and experiences of blended learning among the students. Students who had better knowledge and familiarity with digital devices were more enthusiastic about the blended learning environment. However, the glowing attributes of blended learning were not reflected in all the student participants since a weak and unreliable internet was associated with negative perceptions and experiences with a BL environment.

Even though the BL environment promises flexibility due to location advantage, the faculty was not fully trained in delivering BL, and this was evident by the discomfort they felt with the blended modality of teaching. In particular, they faced challenges in integrating the F2F and online components of blended learning. This could also have

contributed to the struggle they had in motivating students to accept the blended learning arrangement. There is therefore, a need to place appropriate procedures for implementing blended learning courses in such a way that students and lecturers as well as academic leaders have improved awareness of BL in order to maximise its potential benefits in students' learning outcomes and to address the challenges it currently faces in the Saudi higher education system. As noted in Dziuban et al. (2004), there is need to implement a well-planned and well-supported approach to blended learning so as to maximise its success through the incorporation of a high quality faculty, theory-based instructional framework, learner support, course development assistance, as well as ongoing formative and summative assessment.

Since a significant proportion of the students are not familiar with blended learning tools, it seems that the incorporation of new technologies in blended learning at Saudi Arabia's universities, including at KKU, is not largely undertaken as an explicit institutional directive, but rather as an initiative of individual lecturers. It is therefore, important for academic leaders and policymakers to present an academic policy that outlines how blended courses will be introduced, starting from the migration stage; from an entirely F2F delivery of teaching to a well-integrated blended learning environment. The policy should also outline why and how blended learning courses should be used and at what level decisions regarding the delivery of blended learning courses should be made. Specific areas that policymakers should focus on include the blended courses, program approval, resources available for blended learning environments, and the lecturers' responsibilities and workload in blended learning.

In the context of the Saudi Arabian higher education system, the findings from the current study suggest that due to the changing environment in regard to the development of new devices for blended learning, it is important to undertake reviews on existing values, protocols and norms to ensure that they promote the realisation of success in the implementation of blended learning. This calls for a rethink on the accepted protocols that are ill-suited for the educational opportunities that are brought up by the emerging technologies in blended learning environments with the need to embrace and upscale it for improved higher education outreach throughout Saudi Arabia.

9.7 Limitations of the Study

The limitations of this study are pointed out in order to direct future research and increase insight on the implementation of blended learning in the Saudi higher education sector.

The sample used for conducting the primary research in this study was limited to 76 survey participants (out of 203 questionnaires issued to all of these students) obtained randomly from among all final year students in the Faculty of Education who were given a semi-structured questionnaire, 18 interview participants obtained by systematic random sampling, comprising 6 students, 7 lecturers and 5 academic leaders.

The total number of students available to participate was delimited to the population of 203 students studying in this faculty because as mentioned in 137, KKU only granted permission for access to students in this faculty. The sample is characterised by 55.9% of the participants aged 22-23 years, 66% having access to computers both at university and at home, and 42.1% using them on a daily basis. The coverage of the instruments used is detailed in the methodology chapter, and their focus was on ascertaining the participants' perceptions and experiences.

Contextually, Saudi Arabia is a gender-segregated society, so the study was limited in its scope by not directly ascertaining the views of female students on their experiences on the impact of blended learning. Therefore, the researcher relied on inferences from the perspectives of only male students who participated to consider the likely perceptions of female students.

9.8 Recommendations for Further Research

The present study has increased understanding on the various factors that shape the perceptions and experiences of students, lecturers and academic leaders on the impact of a blended learning environment at KKU operating within the Saudi Arabian higher education system. However, the study was limited to only one university and the researcher recommends extending the present study to carry out a longitudinal study in order to trace the development of blended learning and ascertain the perceptions of individual academics over a longer period of time. This is because human belief systems are extremely complex and there are myriads of factors that have an effect on human actions. Studying blended learning over a period of time could provide in-depth insights into the various perceptions and experiences that are shaped by the development of blended learning environments in the Saudi higher education system.

The study was conducted from a male gender perspective due to the Saudi gender-segregated social system that affects the education sector as well, which did not allow for interviewing female students. Therefore, future research could be directed to understand learner perspectives and experiences of the impact of blended learning from the

perspective of female university students, given that this student population stands to benefit most from BL (see 172 and 173). Comparisons could then also be drawn with studies centered on the male perspective. The demographic characteristics of the three research groups should be examined in relation to their perceptions and experiences on the impact of blended learning since they are important variables that can shape the participants' perceptions.

Since the questionnaire devised in this study was administered only to students, future studies could extend its administration to include academic leaders and lecturers as well. This may address the issue of small sample size that prevented the study's findings from being generalised to the wider Saudi higher education system. Evaluating the questionnaire may also help in maximising the reliability of the study's findings. Extending the quantitative survey to academic leaders and lecturers in future studies could assist in triangulating the research methods and research data to obtain even more reliable, valid and useful findings.

Although blended learning is being widely applied across the globe as technology advances, best practices appear not to be a universal concept since they are based on specific sociocultural norms and standards in a particular country. Successful strategies can be explored and then validated for application specifically in KKU in the context of Saudi Arabia. There is need for more evaluative studies that can provide more evidence on the strengths and limitations of blended learning environments in the context of Saudi Arabia. Future studies could involve the views of more policymakers (academic leaders), students and lecturers in Saudi Arabia's higher education sector by increasing the sample sizes. This could be important in widening the breadth and depth of the study in order to help improve the implementation of blended learning environments in Saudi Arabia.

This research could also prompt a similar qualitative study on the three research groups in addition to a quantitative survey-based study. The assessment of the influence of the recommendations could be based on the changes in participants' views and experiences over the period of the study, i.e. prior to the implementation, during the implementation of the recommendations, and after the recommendations have come into effect. Future research can also be directed to focus on a group of lecturers where their perspectives on blended learning initiatives as well as those of the students and academic studies are explored in-depth. This group of instructors with a wider range of knowledge, experience and beliefs as well as specialities in blended learning come from different higher learning

institutions in Saudi Arabia, instead of being from one single university, as has been the case in this study.

Before commencing the study, a pilot study should be implemented where participants are provided with preparation programmes for blended learning courses. This pilot study may be linked to a reward scheme in an effort to identify online community channels that participate in blended learning courses, their features, functions as well as benefits. Students that participate in this pilot study would serve as a link with university leaders, where they share ideas and avenues for optimising their experience of blended learning at their respective universities. This future study plan may help in investigating and pursuing blended learning in Saudi Arabia as a whole since it could lead to better insight into students' needs. The participants in the pilot study could be exposed to a wider variety of technologies and styles in blended learning environments that do not restrain them within the confines of cultural and religious values in the Saudi Arabian context. The study could lead to the identification of gaps that could support the revision and further refinement of recommendations to improve blended learning in the specific Saudi Arabian context as well.

The delimitation of this current study by excluding female student participants means that further work ought to be conducted to determine the extent of applicability of generalisation of the current findings, and to further examine the manner in which blended learning systems is developing from the perspectives of female students in at KKU. In addition, conducting similar studies in other Saudi Arabian universities would be useful in expanding the generalisability of the current study's findings as well. It is also vital to widen the selection of participants to include more stakeholders from a range of programmes involved in blended learning environments, as well as staff from different areas of the kingdom. This is because academic leaders and teachers expressed concern that providing fully blended courses could affect the quality of teaching in traditional classroom-based learning. It is therefore vital to identify the differences between BL that incorporates e-learning with traditional F2F teaching methods. This could identify potential gaps that exist between the university's general strategies for quality of teaching and the practices that take place in blended learning environments. These studies might identify additional factors that influence the utilisation of e-learning and its applications in blended learning.

9.9 Final Reflections

Blended learning has the potential to improve the efficiency and effectiveness of higher education in Saudi Arabia in terms of expanding its capacity for delivering high quality BL courses, and also specifically in terms of improved interaction, communication and collaboration besides other practical benefits, such as the convenience of reduced location dependency and increased accessibility. The study has shown that these aspects of the learning process are improved under BL, as was agreed overall by all three of the participating groups (students, lecturers and leaders). That is, the approaches used in blended learning can enhance interactions and communication between students and their lecturers as well as improve collaboration, and these indicators were especially looked for as possibly showing the potential of BL to bring about improved learning outcomes in students. This supports findings from similar studies that have also shown blended learning environments to enhance teaching and learning, such as Picciano (2009), Graham (2013), and Bernard et al. (2014).

This study further concludes that blended learning may be more meaningful and appreciated by students if the infrastructural capacity was improved and if awareness of blended learning was improved among the students. Most of the challenges that affected perceptions and experiences on the impact of blended learning appeared to be resource-based. The attitudes of the students was of concern in shaping their perceptions and expectations in blended learning. Access and computer proficiency were major factors that dissuaded students from engaging in this hybrid learning model. However, it is my view that as smart devices continue to be acquired by the young Saudi population, familiarity with devices used in the blended learning environment will increase and the challenge of lack of computers at home will be surmounted. In light of the view of lecturers, they appeared to be less flexible towards adapting to change.

In the context of Saudi Arabia, two fundamental constraints will continue to challenge the adoption of blended learning programmes. These are the gender-segregated educational system, which reduces student-student and lecturer-student interactions, and attitudes towards the internet as a bridge or facilitator to learning, as it also determines the receptiveness towards a blended learning environment in the kingdom. These constraints are due to Saudi Arabia’s highly conservative Islamic society that may be reluctant to accept new technology, especially one that affects its social system of gender-segregation. It is my view that Saudi Arabia's Ministry of Higher Education and the university administration should put measures in place to accelerate the implementation of blended

learning through the provision of adequate resources, establishment of a clear policy towards blended learning, increasing awareness among students, and training of the lecturers. There should also be frequent monitoring of blended courses in order to ensure that higher education institutions have adequate standards of presenting those courses. This study demonstrates that with clear planning and implementation, blended learning environments have the potential to empower the Saudi higher education system if it is designed and implemented with careful consideration and expertise.

The description of the current research shows that blended learning needs further continuous development at King Khalid University with an emphasis on the significance of building a strategy that is adapted to the specific needs of its students and lecturers. This includes addressing teacher training concerns to prepare them better for delivering blended learning courses and improving computer proficiency in respect of the students for increased uptake of e-learning in blended learning. Consistent with previous research, this study highlights the importance of teachers and student attitudes towards blended learning in shaping their perceptions and practices at the university. The study has demonstrated that despite the undeniable value gained by instituting a well-thought-out programme in blended learning, the implementation must be undertaken carefully and thoroughly with full preparation of the students, lecturers and policy-makers in the higher education system. Where there is a rush to implement new learning techniques, the new method tends to alienate the target beneficiaries, which in this case are the students who are not yet convinced of the importance of engaging in blended learning. However, I note that it is likely that blended learning will continue to be an important platform for improving learning at King Khalid University and the Saudi higher education sector in general.

From my perspective, the current study has demonstrated the important factors that need to be considered when developing blended learning courses in order to encourage better active involvement of students and lecturers in blended learning environments. In the context of King Khalid University, further research should consider different online communication channels to bring about improvements in student-to-student and lecturer-lecturer communications. Such studies could reveal the reason for the slow uptake of blended learning among the Saudi learning community despite having an ever expanding community of online learners. It is also evident that the existing strategy for implementing blended learning needs to be improved for ensuring effective learning at Saudi universities in terms of academic learning, which means improving the required

infrastructure for BL to take place, especially improving internet access which all forms of online learning rely on.

This also calls for the university to rethink and redevelop its current approach to blended learning with a focus on building a learning environment that takes into account different aspects related to the socioeconomic and technological environment of the students. In consideration of the repeated complaints about inadequate technological infrastructure to support blended learning, investment in technology and technological training could raise the spectre of e-learning in blended learning from the perspectives of the lecturers and students. Most importantly, King Khalid University should focus on the manner in which it invests in preparing its lecturers and students to increase their awareness and knowledge on the use of e-learning tools in blended learning.

As discussed previously, this study has several strengths and benefits from an implicational viewpoint. However, this research also has some limitations that are worth highlighting with the aim of directing future studies to address them This would help to further increase our knowledge on this topic. One of the main strengths of the present study is the consideration of both students' and academic staff's (leader and lecturer) perspectives, which helped to provide a deep insight into this topic. It also contributed towards identifying discrepancies in viewpoints and experiences, as well as to reinforce commonalities in their perceptions and experiences of a blended learning environment across the three groups of participants. As emphasised in the literature review chapter, it is of particular importance to understand the perceptions of blended learning in Saudi Arabia, which is primarily a gender-segregated society, and also comprehend its relationship with this society's culture and traditions.

The use of a mixed-methods approach is also a significant strength of this research, as this is a robust methodological approach aimed at addressing all the research questions set out in Chapter 1 (see 18 on p. 18) from an objective standpoint as far as possible. In fact, as previously noted, empirical research in the field of education is not always feasible, especially in relation to the effectiveness of different learning methods, since there is a constantly changing set of variables and conditions to consider in such environments. Furthermore, the overall contribution of the findings of the current study is noteworthy, especially the need to emphasise that research in this area in Saudi Arabia is still in its infancy given the few studies available that were outlined in the literature review chapter. This also implies that there is still limited information on the perceptions

and experiences of students and academic staff exposed to blended learning environments. Future research should further expand in this important educational area.

Given the sample size limitations of the present study, future studies could expand it to involve a much larger sample. This study only focused on a single Saudi university with rather small sample sizes across all three groups of participants in the qualitative phase. Therefore, the findings cannot be claimed to be representative of all Saudi universities, and hence cannot be generalised to the wider Saudi population in the higher education sector. Further research should aim to obtain a larger sample of students, academic leaders and academic lecturers in order to boost the generalisability of these results, especially by expanding it to include other Saudi universities. With respect to gender, the student sample only comprised males, so the study does not contribute to our understanding of learner perceptions of blended learning from the perspectives of female students, although notably, staff suggested BL might especially benefit female students. Perhaps future research should aim at replicating this study by including students of both genders in order to develop a broader understanding of the emerging phenomenon of blended learning.

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APPENDICES

Appendix A: Ethical Procedures

UNIVERSITY OF Hull
Faculty of Arts, Cultures and Education

ETHICAL PROCEDURES FOR RESEARCH AND TEACHING

PERMISSION TO PROCEED WITH RESEARCH: ETHICAL APPROVAL

Name:	**Faisal Mohammad Assiri**
Programme of Study:	**PhD Education**
Research Area/Title:	**Experience of blended learning at King Khalid University (KKU) in Saudi Arabia among students, lecturers, and academic leaders: implications for educational planning**
Name of Supervisor:	**Stewart Martin**
Date Approved by Ethics Committee:	**10th November 2016**
Reference Number:	**20162017015**

Appendix B: Interview Invitation

Dear Participant,

The purpose of this letter is to invite you to participate in a research project. The aim of this project is to explore the thoughts of students about the effect of hybrid approaches on learning including the (mood of delivery, Interaction and the Barriers).

Taking part in the research is voluntary; it is up to you to decide whether to take part. If you decide to take part, you are still free to withdraw at any time and without giving a reason.

All information which is collected about you during the course of the research will be kept strictly confidential. This means that you will not be identified in the reported findings. Any views expressed will not be attributable to any individuals in the reported findings. In addition, I will be pleased to send you a summary of the questionnaire results if you desire. Please state your response carefully, honestly and freely. The completion of the questionnaire is likely to take no more than 15 minutes.

Please complete the attached questionnaire at your convenience. There is no need to write your name on this questionnaire, as this survey requires anonymous responses. This questionnaire is the first instrument to collect data in my research for a PhD degree at the Hull University, UK.

I would really appreciate it if you could return your questionnaire as soon as possible.

I will, interview some of you to identify, more closely, your points of view about the Blended Learning

If you have the desire to participate in this interview I kindly request you fill in your name and contact address below.

I want to participate.

Name: Mobile:

E-mail:

Thank you very much for your participation, cooperation and the time you allocate to complete this questionnaire.

If you have any queries, please feel free to contact me at this email address:

Faisal530@gmail.com

F.M.Assiri@2012.hull.ac.uk

Yours sincerely,

Faisal Assiri

School of Education and Social Sciences,
Faculty of Arts, Cultures and Education,
University of Hull,

Appendix C: Survey Questionnaire

A) Social Demographic — **أ) الأسئلة الاجتماعية**

Question 1: please indicate your age — **السؤال 1: يُرجى تحديد عمرك:**

a) 18 - 19
b) 20 - 21
c) 22 - 23
d) 24 - 25
e) 26 أو أكبر- 26 or more

السؤال 2: أين يمكنك استخدام جهاز الكمبيوتر؟ (يرجى وضع علامة / أمام الاختيار المناسب)

Question 2: Do you have access to a computer?

NO لا	Yes نعم	
		• في المنزل At home
		• في الجامعة At the university
		• مكان آخر (يرجى التحديد) Elsewhere (please specify) .....

السؤال 3: أين يمكنك استخدام شبكة الإنترنت؟ (يرجى وضع علامة / أمام الاختيار المناسب)

Question 3: Are you able to access to the Internet?

NO لا	Yes نعم	
		• في المنزل At home
		• في الجامعة At the university
		• مكان آخر (يرجى التحديد) Elsewhere (please specify) .....

Question 4: How often do you use a computer? **السؤال 4: ما مدى استخدامك لجهاز الكمبيوتر؟**
(يرجى وضع دائرة حول الحرف الذي ينطبق بشكل أفضل على استخدامك):

A. غالبا يوميا — Almost every day
B. عدة مرات في الأسبوع — A few times each we
C. مرة واحدة أسبوعيا — Between once a week
D. مرة واحدة في الشهر — Between once a month
E. لا أستخدمه أبدا — Never

Question 5: **السؤال 5:**

مبتدئ Novice	جيد Good	جيد جدا Very Good	ممتاز Excellent	كيف تصف درجة الإتقان (الإجادة) لديك؟ How would you describe your proficiency?
				• مستوى اجادتي في استخدام الحاسب الآلي • I possess a general level of computing proficiency
				• مستوى اجادتي لاستخدام الانترنت • Perceived Proficiency Level when use the internet
				• مستوى اجادتي لاستخدام التعلم(المدمج) • Perceived Proficiency Level when use BL (Blended Learning)

أوافق بشدة Strongly Agree	أوافق Agree	محايد Neutral	لا أوافق Disagree	لا أوافق بشدة Strongly Disagree	التوضيـــح Statements
					1. ساعدتني طريقه التعلم المدمج في الحصول على فهم افضل لمحتوى المادة الدراسية. 1. The HL Method helped me gain a better understanding of the content.
					2. ساعدتني طريقه التعلم المدمج على التقدم في مستواي الدراسي. 2. The HL method has enabled my level to progress.
					3. استمتع بدراسه المواد عن طريق التعلم المدمج. 3. I enjoyed the HL module.
					4. توفر طريقه التعلم المدمج المرونه. 4. The method of HL provides flexibility.
					5. لقد شجعتني طريقه التعلم المدمج على بذل المزيد من الجهد في دراستي. 5. The HL method has encouraged me to place more effort into my studies.
					6. يؤدي اسلوب التعلم المدمج إلى تحقيق الاهداف المحددة للمادة الدراسيه. 6. The HL method has resulted in achieving set goals.
					7. التعلم المدمج هو تعلم جذاب. 7. HL is an attractive learning method.
					8. افضل اسلوب التعلم المدمج كوسيله للدراسه. 8. I prefer the HL method as a way to study.
					9. التواصل وجها لوجه مع المعلمين يمكن استبداله ببيئات التعلم الإلكتروني. 9. F2F contact with my lecturers could certainly be replaced by an eLearning environment.
					10. توفر طريقه التعلم المدمج سهوله الوصول بشكل اكثر الى المعلومات ذات الصلة بالمواد الدراسية. 10. The HL method provides more accessibility to valuable course-related information and resources.
					11. تتيح لي طريقه التعلم المدمج الوصول إلى الدروس على شبكه الانترنت في الأيام التي أكون فيها غائبا ولم احضر في الفصول الدراسية الفعلية. 11.HL method enables me to access lessons on the internet on days when I am absent from the physical classroom.
					12. تمكنني طريقه التعلم المدمج من المشاركه في الانشطه التعليميه. 12. HL method enables me to participate in learning activities.
					13. تعمل طريقه التعلم المدمج على تمديد عمليه التعلم الخاصه بي إلى خارج الفصول الدراسية الفعلية. 13.HL method extends my learning process to outside the physical classroom.

					14. تتيح طريقه التعلم المدمج مراجعه المواد التي تمت دراستها مسبقا. 14. HL method enables me to revise previously learned material.
					15. استخدام التعلم المدمج يعمل على زيادة اهتمامي بموضوع الدرس. 15. Using the HL increases and rejuvenates my interest in the subject.
					16. تساعدني طرق التعلم المدمج على تحقيق اهدافي المحددة لإنجازها في المادة الدراسية. 16. HL courses enable me to achieve the goals I set out to achieve.
					17. أعتقد أن طريقه التعلم المدمج تساهم بشكل إيجابي في تجربه التعلم الخاصه بي. 17. I think the HL method positively contributes to my learning experience.
					18. تساعد طريقه التعلم المدمج في سهوله الوصول للمعلمين في اي وقت. 18. The HL method enables my instructor to be more accessible at other times.
					19. التعلم المدمج يعزز التعاون وتبادل الافكار. 19. The HL method promotes my collaboration and sharing of ideas.
					20. التعلم المدمج يزيد من التفاعل بيني وبين المعلمين. 20. The HL program increases the interaction between me and the lecturers.
					21. يسهل التعلم المدمج الاتصال المباشر بين الطلبه والمعلمين. 21. The HL facilitates the ability to be in direct physical contact between the students and lecturers.
					22. طريقه التعلم المدمج تزيد من الإنتاجيه داخل الفصل الدراسي. 22. The HL program increases my classroom productivity.
					23. التعلم المدمج يعمل على زيادة مناقشاتي مع الطلاب الاخرين داخل الفصل الدراسي. 23. The HL program increases my discussions in class with the other students.
					24. يعمل برنامج التعلم المدمج على زيادة مناقشاتي مع المعلم داخل الفصل الدراسي 24. The HL program increases my discussions in class with lecturers.
					25. لا افضل نمط التعلم المدمج I dislike this HL format. 25.
					26. لا يمكن ان يحل الاجتماع عبر الإنترنت محل الاجتماع وجها لوجه مع أستاذي. 26- An online meeting cannot replace face-to-face contact with my tutor.
					27- لا افضل التعلم المدمج لانه يستغرق المزيد من الوقت للتعلم اكثر من الطرق التقليدية. 27. I dislike HL courses because I am spending more time learning than with traditional methods.

					28. انخفاض سرعه الإنترنت تحول دون استخدامي لدورات التعلم المدمج الدراسية على نحو فعال. 28- My low Internet speed prevents me from using the HL course effectively.
					29-تساعد دورات التعلم المدمج الدراسيه الطالب في الحصول على معلومات أكثر من تلك التي قد يحصلون عليها في بيئة الفصول الدراسية التقليدية. 29. HL courses enable students to go beyond the information they might receive in a traditional classroom setting.
					30. لا توفر طرق التعلم المدمج المساحه الكافيه للحوار البناء. 30- The HL method did not facilitate enough rooms for constructive dialogue.
					31-افضل الطريقة التقليديه في التعليم على طريقة التعلم المدمج. 31. The traditional method of teaching is preferred over the HL platform.
					32. لدي موقفا سلبيا تجاه التعلم القائم على تكنولوجيا المعلومات والاتصالات. 32. I have a negative attitude towards learning based on ICT.
					33. هناك عجز في خدمات الحوسبه والدعم في جامعتي. 33. There is a lack of computing services and support at the University I attend.

Appendix D: Academic Leader Interview Questions

Lecturers and Academic leaders Interview

1. Do you consider your teaching format to be blended in nature?
2. Do you prefer one of the teaching formats (BL, F2F and online) over the other?
3. What are the advantages of blended learning, from your point-of-view?
4. What effect do you think (BL) has on teaching?
5. Do you face any obstacles in teaching blended courses?
6. Do you face any obstacles that are technically-caused?
7. Do your students face any difficulties in blended learning?
8. How do you describe your current blended learning practices?
9. Are you convinced of the usefulness of blended learning?
10. Do you feel that learning is built properly in university education?
11. Do you think that blended learning fits into Saudi society?
12. What is your view of the future of learning built at King Khalid University in particular and Saudi universities in general?
13. Do you have any suggestions or comments you want to add?

Appendix E: Student Interview Questions

1. Does the term ‘blended learning’ appear familiar to you?
2. Any learning methods that you prefer over the others? For example, Blended learning, traditional learning or online etc.?
3. Do you consider your style of learning to be blended?
4. From your point of view, what are the advantages of blended learning?
5. Do you feel that blended learning is suitable for the University Education system? And if so, why?
6. Do you see any obstacles in implementing blended learning?
7. In your own view, do you perceive any other obstacles?
8. Do you receive feedback from the lecturer, professor of art?
9. n your opinion, what do you think blended learning uses compared to traditional learning methods and methods that are fully online?
10. How were your initial or first impressions of the materials that were taught using blended learning?
11. When using the blended learning approach, do you feel that you are making progress academically? And if so, how?
12. In your view, what extent of activity do you see within blended learning courses?
13. Do you have any suggestions or further points?