

An Investigation of Academics' and Administrators' Perceptions of Blended Pedagogies at Saudi Universities

King Abdulaziz University as a Case Study

By: Shireen Rasheed Saifuddin

A doctoral thesis submitted to

De Montfort University

In partial fulfilment of the requirements for the

Degree of Doctor of Philosophy

March, 2019

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Certificate of Originality

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

Signed Shireen Saifuddin

Date 3rd March, 2019

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Abstract

The 2030 future vision of the Kingdom of Saudi Arabia seeks to contribute via education to economic growth and reduce dependency on oil through increasing learning outcomes. One of the objectives of this vision is to determine the optimal means of employing technologies and communication systems in the education sector. Currently, the increased use of these technology tools and software in an online environment within the education system has attracted researchers in the field of educational technology to investigate the means through which such tools can be used to enhance education outcomes.

The intent of this study was to investigate the perceptions of the academics and administrators at the King Abdulaziz University (KAU) regarding integrating online tools with traditional learning to form blended learning environments and to investigate the policy of the University in this respect. In addition, the study looks into factors that face the target participants that encourage or prevent them from using these tools alongside traditional teaching at KAU. Moreover, it is designed to develop a blended learning model for technology tools that is used at the University.

To deliver the aims of this study, a qualitative approach based on the constructivist philosophical paradigm is presented in the case study approach that was adopted. Triangulation of qualitative data resources was conducted as represented in a synthesis of qualitative questionnaires (70 academics' questionnaire and 22 administrators' questionnaire), online interviews (Nine academics' online interview and five administrators' online interview) and website content analysis. Qualitative data were collected for this study and thematically analysed.

The core findings of this study highlight the effective integration of online tools with traditional learning to form a blended learning approach through knowledge of the factors that affect this integration both positively and negatively from the perspectives of the academics and administrators at KAU. This study makes four contributions. Firstly, the research responds to calls in the literature for further investigation in the blended learning area by filling the gaps in terms of knowledge and methodological approaches. Secondly, the study investigates and provides further insights and better understanding of the relations between the administrators and academics regarding the

use of different technology tools and social sites as blended tools at KAU. In addition, the study finds the relation between the academics' technology use and their attitudes towards the blended environment. Finally, the study identifies factors that influenced acceptance or rejection of the academics and administrators in terms of the use or implementation of these technologies in the educational environment.

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Though only my name appears on the cover of this dissertation, a great many people have contributed to its production. I owe my gratitude to all those who have made this dissertation possible and because of whom my graduate experience has been one that I will cherish forever.

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Most importantly, none of this would have been possible without the love and patience of my family. My immediate family, to whom this dissertation is dedicated, has been a constant source of love, concern, inspiration, unflagging support and strength all these years. I would like to express my heart-felt gratitude to my family. My family has aided and encouraged me throughout this endeavour. In particular, my deep gratitude goes to my mother Huda who was always able to motivate me to continue when the going became difficult.

My deep appreciation and thanks go to all friends and participants who were involved in this study and who allowed me to collect the data. Additionally, many friends have helped me stay sane through these difficult years. Their support and encouragement helped me overcome setbacks and to stay focused on my study. I greatly value their friendship and I deeply appreciate their belief in me.

Finally, I appreciate the financial support from the King Abdulaziz University that funded my entire research journey.

Dedication

This thesis dedicated to:

My parents, my mother Huda and my father Rasheed, May ALLAH be generous and merciful with them at all times.

My brothers and sister: Hisham, Rasha and Abdurhman. My brother's wife Batol and nephews Yazn and Ma'an. Thanks all for your support and prayers.

Acronyms/Abbreviations

ABET	Accreditation Board for Engineering and Technology, Inc
CTLD	Centre for Teaching and Learning Development at King Abdulaziz University
DEDE	Deanship of E-learning and Distance Education at King Abdulaziz University
DGS	Deanship of Graduate Studies at King Abdulaziz University
DIT	Deanship of Information Technology at King Abdulaziz University
KAU	King Abdulaziz University
KAUST	King Abdullah University for Science and Technology
KKU	King Khalid University
KSA	Kingdom of Saudi Arabia
KSU	King Saud University
LMSs	Learning Management Systems
MoE	Ministry of Education in Saudi Arabia
UQU	Umm Al-Qura University

Key Terms

<p>Academics</p>	<p>In this study, the academics represent academics members at all KAU faculties who teach full-time programs.</p>
<p>Administrators</p>	<p>Administrators refer to members of staff who work in the university or its faculties and who are responsible for managing the tasks associated with managing, teaching, learning, research or cooperative functions. In this study, the administration participants represent King Abdulaziz University's members who are responsible for the academics in the University in terms of supervising, training and increasing their digital skills and the administrative members who are responsible for supervising and supporting the campus' technology tools such as computers and networks. Some of the administrative participants at KAU have teaching responsibilities in addition to their administrative roles.</p>
<p>Blended Learning</p>	<p>In this research, blended learning means integrating online tools in order to interact online with students who are registered in full-time programs (traditional learning) at KAU. These tools could be web tools (web 2.0) such as social sites, or learning management systems such as Blackboard, virtual classes, mobile applications or any online interactive software. However, using computers to present data such as PowerPoint slides or a projector, which are used mainly for presenting information, are not considered to be a blended learning format due to the absence of online interaction with the students.</p>
<p>Centra</p>	<p>A virtual classroom system designed to provide online lectures for students who are registered in the distance learning (fully online) programs at KAU.</p>

Distance Learning Programs	Type of program provided by the KAU wherein the learning system completely depends on fully online interactions between academics and their students. Students in this program do not attend the University and all their marks are provided through online activities and E-exams.
E-exam	A software program designed for the KAU to conduct and manage online exams and to assess students electronically and to post the results directly.
E-learning	E-learning term or distance learning at KAU relates to a fully online approach.
EMES	Electronic learning management system to manage online educational processes and to help the interaction between academics and their students who are registered in the distance learning programs at KAU.
External Learning Programs	Type of program provided by the KAU wherein students attended the University for three weeks to get knowledge about all course materials and all their marks depend on one final exam.
Full-Time Programs	Full time programs or traditional learning programs are the main type of learning program at KAU which depends completely on traditional learning (teacher-centred practice). The attendance of academics and students is compulsory at the University and the academic responsible for teaching students in a specific class and in a specific time period each week throughout the term. Student marks are provided for their homework, projects and exams. All departments at the University offer this type of program.
Jusur	A learning management system developed by the Saudi Ministry of Education through the National Centre for E-learning and Distance Education.
Learning Management	Software programs used to manage the learning process

Systems	such as Blackboard, Moodle, Jusur and Desire2Learn.
MARZ	A content management system designed especially for the KAU online website. It constitutes tools that support and help the academics to publish educational materials on the Internet and to create academic personal websites.
Moodle	A web platform used as a virtual learning environment to support the delivery of teaching and learning materials and related activities.
MyKAU	A mobile application tool designed for the KAU to provide communication directly with the University and for students to take advantage of the services provided by the University.
ODUS	A content management system designed especially for KAU. The system is designed for academics and students in full-time programs to gain access to electronic services.
QuestionMark	An international system used by the University within its E-exam system.
Thematic Analysis	A type of qualitative analysis approach. This approach is used to group and categorize the raw data into themes and patterns.

Table of Contents

Abstract	IV
Acknowledgements	VI
Dedication	VII
Acronyms/Abbreviations	VIII
Key Terms	IX
1. Introduction	1
1.1 Introduction	1
1.2 Study Background	2
1.3 Research Aims	2
1.4 Research Questions	4
1.5 Research Objectives	4
1.6 Justification for the Research	5
1.7 Thesis Structure	7
2. Literature Review	9
2.1 Introduction	9
2.2 Nature of Learning	9
2.2.1 Learning Theories and Blended Learning	10
2.3 Blended Learning Approach	13
2.3.1 Blended Learning Definitions.....	14
2.3.2 Blended Learning Impact and Importance	15
2.3.3 Blended Learning Components and Requirements.....	19
2.3.4 Blended Learning Forms	21
2.3.5 Factors Affecting Blended Learning Implementation.....	26
2.3.6 Learning Theories and Blended Learning Relationship	34
2.3.7 Blended Learning in the Global Context.....	35
2.4 Background of the Study	37
2.4.1 Kingdom of Saudi Arabia’s Higher Educational System	38
2.4.2 Saudi Educational Culture.....	39
2.4.3 E-Learning and Blended Learning in Saudi Arabia.....	42
2.4.4 Blended Learning in the Saudi Context	43
2.5 Research Gaps	46
2.6 Research Motivations	51
2.7 Conclusion	51
3. Research Methodology	53
3.1 Introduction	53
3.2 Research Design	53
3.2.1 Philosophical Worldviews (Epistemology).....	54
3.2.2 Research Methods	56
3.2.3 Strategies of Inquiry (Research Methodology)	60
3.3 Justification of Research Design	65
3.4 Choosing Data Collection Methods and Justification	68
3.4.1 Documents.....	69
3.4.2 Qualitative Questionnaires	69
3.4.3 In-Depth Interview.....	71
3.5 Sampling	74
3.5.1 Choosing Participants and Justification.....	74
3.5.2 Sampling Techniques and Justifications.....	77
3.5.3 Sample Size.....	79

3.6 Investigation before Conducting the Study.....	80
3.7 Pilot Studies	82
3.7.1 Designing the Pilot Studies	83
3.7.2 Pilot Studies Implementations and Implications.....	89
3.8 Actual Study Procedures	96
3.8.1 Actual Study (Phase One)	96
3.8.2 Actual Study (Phase Two)	98
3.8.3 Documents.....	99
3.9 Ethical Issues	100
3.10 Bias in Qualitative Research.....	101
3.11 Qualitative Research Evaluation Criteria	101
3.11.1 Research Credibility (Internal Validity)	102
3.11.2 Research Transferability (External validity/Generalizability)	104
3.11.3 Research Dependability (Reliability).....	105
3.11.4 Research Conformability (Objectivity)	105
3.12 Summary of the Research Design	105
3.13 Qualitative Data Analysis.....	108
3.13.1 Thematic Analysis.....	110
3.13.2 Applying Thematic Analysis	111
3.14 Justification of Using Thematic Analysis.....	117
3.15 Verification of Analysis.....	118
3.16 Conclusion.....	119
4. Findings and Discussion.....	120
4.1 Introduction	120
4.2 Findings from the Administrators' Responses.....	120
4.2.1 The Administrators' Demographic Variables.....	121
4.2.2 The Administrators' Roles in Developing the Academics' Digital Skills	130
4.2.3 Changes in the University Educational Culture.....	135
4.2.4 The Importance of Implementing a Blended Learning Approach	138
4.2.5 The University Policy Regarding Blended Learning Implementation	140
4.2.6 The Administrators' Perspectives Regarding the Academics' Blended Learning Practices.....	143
4.2.7 The University Future Policy Regarding Blended Learning Implementation ..	149
4.2.8 Factors Affecting Blended Learning Implementation.....	151
4.3 Findings of the Academics' Responses	160
4.3.1 The Academics' Demographic Variables	161
4.3.2 Blended Learning Forms and Practices at KAU.....	168
4.3.3 The Academics' Digital Competence Rate.....	173
4.3.4 Improve Academics' Digital Skills Methods.....	175
4.3.5 Changes in the University Educational Culture.....	177
4.3.6 The Importance of Technology Tools in Education.....	182
4.3.7 Factors that Affect Blended Teaching Practice.....	183
4.4 Findings from Documentary Resources.....	208
4.5 Discussion	213
4.5.1 King Abdulaziz University Educational System	213
4.5.2 Blended Learning in KAU	218
4.5.3 Blended Learning Definition at KAU.....	224
4.5.4 Blended Learning Impact and Importance	227
4.5.5 Saudi Higher Educational Culture.....	227
4.5.6 Blended Learning Practice	231
4.5.7 The Relationship between the Academics and Administrators	233
4.5.8 Factors Affecting Blended Learning Implementation.....	234
4.6 Summary of the Main Findings.....	236

4.7 Generalization of the Findings	241
4.8 Conclusion	242
5. Conclusion	243
5.1 Introduction	243
5.2 Summary of the Study and Main Findings	243
5.3 Study Limitation	243
5.4 Issues during the Study	244
5.5 Study Contributions and Reflections	245
5.6 Study Recommendations	247
5.7 Future Research.....	249
5.8 Conclusion	249
References	251
Appendices	274
Appendix A – Academics’ Questionnaire – First Pilot Study	275
Appendix B – Administrators’ Questionnaire – First Pilot Study	287
Appendix C – Trainers and Training Workshops’ Designers Questionnaire – First Pilot Study	295
Appendix D - Academics’ Questionnaire - Second Pilot Study.....	303
Appendix E - Administrators’ Questionnaire - Second Pilot Study	306
Appendix F – Academics’ Questionnaire – Actual Study (First Phase)	309
Appendix G – Administrators’ Questionnaire – Actual Study (First Phase)	315
Appendix H – Academics’ Online Interview Questions (Pilot Study)	320
Appendix I– Administrators’ Online Interview Questions (Pilot Study)	323
Appendix J – Online Interview Consent Form	326
Appendix K – Online Interview Consent Form (Arabic)	328
Appendix L – Online Interview Notes.....	330
Appendix M – Academics’ Online interview Questions – Actual Study.....	331
Appendix N – Administrators’ Online interview Questions – Actual Study	333
Appendix O – Example of Administrator Online Interview	335
Appendix P – Example of Administrator Online Interview (Arabic)	343
Appendix Q – Examples of Themes Generated from the Administrators’ Questionnaire Responses.....	352
Appendix R – Examples of Themes Generated from the Academics Questionnaire Responses in the NVivo	367

1. Introduction

1.1 Introduction

In this digital era, varieties of technology tools and software applications appear and impact on our daily lives in general, and more specifically within the educational system. The ability to confidently use, understand and participate in technology tools or social sites is becoming an important requirement for effective participation in the educational environment. This ability is particularly critical due to concerns about upgrading learning systems and teaching facilities in universities, which is one of the issues that has high priority in the new 2030 Saudi vision (SaudiVision2030, 2017). The new Saudi vision works to invest in the educational sector in order to increase learning outcomes and economic growth (*ibid.*). This leads to the necessity to understand the status of the learning process and how education-related staff view the integration of online technology tools in their teaching system alongside the traditional learning environment to form blended learning approach. Blended learning is one type of learning approach that combines traditional learning (face-to-face) with online learning in order to provide the advantages of both types of learning to students and increase learning outcomes. Due to the variety of online tools, multiple types of tools can be used to form this type of learning environment.

In order to explore and understand the status of blended learning and the Saudi educational culture in higher education, this study seeks to investigate the perceptions of the academics and administrators regarding blended pedagogies at King Abdulaziz University (KAU) through the use of a qualitative case study approach based on the constructivism philosophical paradigm. In addition, the study seeks to consider changes in the educational culture and factors that affect, both positively and negatively, the roles of the participants and their usage of technology in a blended environment. The study explores the perceptions of the academics and administrators at KAU through qualitative open-ended questionnaires, online interviews and analysis of official documents and the generated data were analysis through thematic analysis using Microsoft Excel and NVivo 11 software.

1.2 Study Background

Education is an increasingly important sector of the economy. In this digital era, the increase in the use of educational technology tools is obvious in the literature and in the increased level of research in educational technologies and different learning forms. The Kingdom of Saudi Arabia (KSA) is working towards a new vision that reflects investment in all sectors in order to reduce the dependency on oil (SaudiVision2030, 2017). One of the objectives of this vision is to develop information and communication systems in order to increase learning effectiveness and outcomes. The literature review showed the increased importance of educational technology tools in general across Saudi Arabia and at all grade levels. Moreover, it showed an increase of distance learning (fully online) programs at Saudi universities, which completely depend on online communication systems and online learning management systems. This issue reflects the importance of the online learning approach in the Saudi higher education environment. Although, full-time programs, which completely depend on traditional learning and teacher-centred approaches are the main type of learning programs at schools and universities in KSA, there is an obvious lack of research in terms of integrating the online education system with traditional learning.

This study therefore seeks to investigate the educational cultural environment and the status of blended learning at KAU through a determination of the perceptions of the administrators and academics regarding blended learning implementation and factors that affect its usage.

1.3 Research Aims

This study aims:

1. To gain in-depth understanding of and familiarity with blended learning practice at KAU and to investigate standards for various aspects of the blended learning process and its elements that have been used at the University from the perspectives of the administrators and academics.

Understanding the academics' practices will be achieved by identifying the technology tools, learning management systems (LMSs) or social network sites that are adopted at KAU as blended tools, and by knowing how these tools are

integrated in teaching practices.

2. To explore and understand individual participants' views, attitudes and roles as academics and administrators across KAU regarding current and future policy and the use of technology tools, social sites or LMSs as blended tools.
3. To explore the relationships and strategies between the academics and the administrators who are responsible for helping them in using technology tools in their teaching system.

The relations between the academics and administrators are identified by knowing the means through which the administrators support the academics in using technology tools in their teaching approach. In addition, this will uncover future policy for using technology tools or social sites as blended tools in education from the administrators' perspectives.

4. To investigate the implications of blended practice on the educational culture from the prospective of the academics and administrators at the University after moving from pure traditional learning to a blended learning approach.

The impact of these tools is investigation by understanding to what extent digital technology tools or LMSs are available at KAU, and their effectiveness in terms of teaching outcomes and educational culture from the perspectives of the academics and administrators at the University.

5. To identify motivational factors and incentives for using technology tools or social sites as blended tools in education from the perspectives of the administrators and academics at the University.
6. To provide and identify details regarding the attributes that administrators require in order to guide the academics at the University towards effective implementation of blended learning.
7. To provide appropriate recommendations that help in the development of a blended learning environment and its effective use at the University and the higher education system in general.

Each aim seeks to enable the target of the Saudi Ministry of Education and Saudi universities to be reached in terms of developing the learning sector and implementing technologies in this sector.

1.4 Research Questions

In order to address the research's aims the following research questions are addressed.

1. How are the academics at KAU using technology tools, LMSs or social sites in their blended teaching practices?
 - a. What forms of blended learning are the academics using in their teaching practices?
 - b. What are the motivating factors that encourage the academics to use blended tools in their teaching practices?
 - c. What are the barriers that prevent the academics at KAU from utilizing digital tools or social websites in their teaching practices?
2. How are the administrators at KAU supporting the academics in using technology tools or social sites in their blended learning teaching?
 - a. What is the current policy in terms of using technology tools as blended learning tools at KAU?
 - b. What is the future policy for embedding technology tools in the teaching practice?
 - c. What are the motivating factors that encourage the administrators to support the academics' digital skills?
 - d. What are the barriers preventing the administrators at KAU from supporting the academics in their use of digital tools or social websites in their teaching practices?
3. How does the blended learning environment impact the educational culture at KAU from the perspectives of both the academics and administrators?

1.5 Research Objectives

This research will yield an in-depth understanding of the processes involved in the educational system in relation to implementing a blended learning approach at KAU. In order to accomplish the study aims the following objectives should be met:

1. Analyse the educational system and the social educational environment in the University to understand how the blended learning system works at KAU from the perspectives of the academics and administrators.

2. Outline the administrators' perspectives concerning their roles and the policy of the University regarding blended learning implementation.
3. Outline the academics' perspectives regarding their use of technology and teaching practices in a blended learning environment.
4. Analyse factors that relate to the implementation of blended learning from the perspectives of both administrators and academics and in relation to their demographical attributes.
5. Collect the required data by applying data collection methods appropriate to the type of data required.
6. Depending on the types of data collected (qualitative), the thematic analysis method will be adopted using the Microsoft Excel and NVivo 11 software program to categorize the data.
7. Evaluate the results and define the impact of blended tools and other factors on the University's educational culture.

The study objectives are addressed using qualitative questionnaires and online interviews with the academics and administrators at KAU and documents analysis as discussed in detail in the methodology chapter.

1.6 Justification for the Research

The importance of this research derives from the importance of the blended learning approach and integrated technology tools as online tools within the traditional learning environment in order to provide an appropriate educational environment for students and to produce good learning outcomes. In addition, the importance of this study stems from two main aspects.

1. This study provides an understanding of blended learning practice, mechanisms and characteristics at KAU through investigation of the administrators' policy and academics' perspectives, as well as individual teaching techniques in a blended learning environment. This will help in identifying any gaps between these staff and the University's vision and objectives. Also, it will help in developing the teaching system and the traditional learning approach at the University to gain the advantages of the online approach and to reach the goal of the Saudi 2030 vision in education through developing the learning sector. Additionally, this will

support the operation of a good learning infrastructure and enhance training programmes for the academics at the University. In addition, the results of this study could be applied to other Saudi universities which have the same educational environment and technical infrastructure. It is, however, difficult to generalize the results of this study to all Saudi universities due to the variety of policies at Saudi universities. Nevertheless, Saudi universities could obtain benefits from the results of this study to enhance their environment in terms of the implementation of blended learning and digital training of their academic staff. Also, the research serves the education communities via increasing awareness of the challenges involved in integrating these tools into their learning environment.

2. This study is a response to the need for further research and investigation, as demonstrated in the literature review chapter. It also contributes to knowledge by filling the gap in the Saudi literature specifically, and Arabic literature in general, by providing in-depth research on the administrative policy and support an academics' usage and perceptions of technology in a blended learning environment. This opens the way for more research in the future relating to blended learning in higher education in a Saudi context. In addition, the study identifies academics and administrators interpersonal and contextual motivations and the barriers that guide blended learning implementation at the University. Also, the study highlights the future direction for the University in its effective use of technology tools or social sites in the educational system. This knowledge will facilitate better evidenced-based practice and will enlighten the University's subsequent initiatives and projects. Also, it will help to support future development of the use of technology tools as blended learning tools in the higher education system in Saudi Arabia through providing the Ministry of Education and Saudi universities' deans and administrators with relevant information which needs to be considered in addressing and taking decisions relating to future policies towards a blended learning approach before implementation of such policies.

1.7 Thesis Structure

This study comprises five chapters.

Chapter One: Introduction

The introduction chapter includes an introduction to this study with a brief study background, the study aims, research questions, objectives, research justification and thesis structure.

Chapter Two: Literature Review

The literature review chapter explains in detail the context of higher education in Saudi Arabia, higher educational policies and the systems and types of learning programs provided by the Saudi universities. The chapter focuses on the Saudi Arabia educational system and environment as a case study for this research together with policies regarding blended learning implementation. Moreover, this chapter helps the reader to gain an overview of the Saudi Arabian educational culture in general.

In addition, the literature review chapter looks to the nature of learning and learning theories, then defines the scope of the literature and study background and reviews the literature on blended learning, various definitions, importance, forms, relevant practices, and factors that affect the implementation of this type of learning environment. In addition, the chapter focuses on the blended learning approach in both the global context and within Saudi Arabia higher education. Additionally, the literature review chapter highlights research gaps to be addressed in this study and motivating factors.

Chapter Three: Research Methodology

This chapter discusses the research methodology used in this study including research paradigms, data collection methods, justification for adopting a qualitative case study and participant selection. In addition, the chapter describes the research implementation process, pilot studies conducted, data collection process and how ethics have been taken into account. Moreover, the chapter describes the process of trustworthiness and credibility to ensure the credibility and validity of the research. In addition, the chapter outlines the procedures for analysis of the qualitative data that were collected from the

qualitative questionnaires and online interviews and discusses the justification for adopting a thematic analysis approach as a technique for analysing the data.

Chapter Four: Findings and Discussion

This chapter reveals in detail all of the findings from the participants through the qualitative questionnaires and online interviews. The chapter presents the findings highlighting the attributes that affect the educational culture and blended learning approach. Also, the chapter discusses the results in light of the existing literature and shows the differences between the responses of the administrators and academics regarding blended learning. By the end of this chapter, the research questions will be answered and the generalization of the findings will be discussed.

Chapter Five: Conclusion

This chapter reflects on this study as a whole and summarizes the study process and findings. Also, the research's key contributions in terms of knowledge, study implications, limitations, recommendations and suggested future work are presented.

2. Literature Review

2.1 Introduction

As discussed in the introduction chapter, this study seeks to investigate the perceptions of the academics and administrators at the King Abdulaziz University (KAU) regarding blended learning pedagogies, employed through the use of online tools. The research questions addressed in this study highlight three main topics. Firstly, perceptions of the academics at KAU regarding the blended learning approach through consideration of their blending teaching forms, the type of blended tools used and factors that affect their use of such tools. Secondly, perceptions of the administrators at KAU regarding the blended learning approach through consideration of the current and future policies of the University regarding its implementation, the administrators' roles in terms of supporting the academics' digital skills, as well as factors that affect this support. Finally, the changes in the Saudi educational culture at KAU after shifting from a completely face-to-face approach to a blended learning approach are considered.

In order to provide information on these topics, the literature review will trace and discuss previous, relevant literature in the area of blended learning, globally and in Saudi Arabia and at the KAU in particular. Also, the literature review will take into consideration publications both in the English and Arabic languages. Accordingly, the literature will present and discuss different blended learning definitions, forms, practices and outcomes from different perspectives of the administrators, academics and students as detailed in the previous studies. This information helps the researcher to clarify the status of the research study and to find the gap that may lead to further exploration of the research questions. In addition, it helps to scope the key data collection requirements for the primary research to be conducted, and forms part of the emergent research design process.

2.2 Nature of Learning

Learning is a process of active construction which has been defined functionally as the cause of changes in behaviour as a result of experience (Peterson and Wilson, 2006; Houwer, Barnes-Holmes and Moors, 2013). As a result of developments in education, sociality and technologies, and in order to understand the learning process as a

phenomenon, different learning theories have been considered.

2.2.1 Learning Theories and Blended Learning

Learning theories attempt to explain and describe how people learn, and to help in the understanding of the complex learning process. In addition, learning theories provide a practical understanding regarding when teachers need to reconsider or change their teaching practices. On the other hand, learning theories do not reflect who, what and why something should be taught or learned in education (Scarino and Liddicoat, 2009; Picciano, 2017).

Learning theories can be classified in terms of whether they place the learner and their mental process or place the teacher and overt behaviours at their centre (Yilmaz, 2011). Within the different learning theories, there is still no agreement regarding what learning exactly is. This is because each theory seeks to advocate its own viewpoint; some theories try to merge the fields of learning into one complete theory and other focus on specific aspects of learning or places of learning or the culture, the learners or educational organizations (Qvortrup et al., 2016). Therefore, it is difficult to confirm one single definition for learning.

This study focuses on the blended learning approach which represents a combination of the traditional learning (face-to-face) approach and an online approach. Therefore, it is important to know the different types of learning theory and how these theories work in the context of this approach to learning.

2.2.1.1 Traditional Learning Theories

Behaviourism/ Instructionism theory

Behaviourism focuses on observable behaviour while learning rather than on the thinking process and in this theory memory is not typically addressed. Therefore, this theory does not consider or explore the mental process related to learning or what is going on in the learners mind. This theory describes learning as a process of reacting to external stimuli and is thus based on the interplay between stimuli and responses. Information transfer in this theory a result of generalization. In behaviourism theory the learning process is affected by changes in the

environmental conditions, the use of assessment and reinforcement, the arrangement of stimuli and consequences, positive and negative reinforcement and punishment (Scarino and Liddicoat, 2009; Yilmaz, 2011; Weegar and Pacis, 2012; Baum, 2017; Picciano, 2017). Additionally, behaviourism is based on the traditional guided model and it is described as a teacher-centred instructional framework. This theory has dominated in the educational setting and has shaped every characteristic of the curriculum and instruction where the learner is reactive in the learning environment (Yilmaz, 2011; Sidney, 2015). Behaviourism helps in understanding instructional cues, reinforcement and practice, and helps in determining outcomes and goals.

Cognitivism/Cognitive theory

Because behaviourism does not describe how the human mind works, cognitivism arose to fill this gap. Cognitivism describes learning as an active process of constructing subjective reality in which memory is a very significant attribute for the learning process. The theory focuses on what happens in between the occurrence of the environmental stimulus and the student responses. In cognitivism, information is organized in the memory in a specific way to facilitate and retrieve information. Information transfer in this theory occurs through the memory in which it is linked to other information or recalled. As a result, the learner is the main participant in the process of collecting knowledge through a mental process where learning happens by knowing both what learners know and how they gained this knowledge. Therefore, learning is built through a process of making connections or networks between knowledge and previous experiences, and new information. Learning is affected by environmental conditions, instructional explanations, which should be built on the learners' previous experiences, attitude and learner beliefs, meaningfulness, organization, elaboration and links to schematic structures (Scarino and Liddicoat, 2009; Yilmaz, 2011; Picciano, 2017). The cognitivism theory helps students to communicate effectively and efficiently through using simplification and standardization. In addition, it helps in teaching learners how to learn, problem solve and retrieve information.

Constructionism/Constructivism theory

This theory describes learning as a process of acquiring and saving information through the active construction of information and experiences in the memory. Therefore, in constructivism theory learning happens through the search for meaning and it describes elements that help in predicting what students understand at different stages of the learning process. Thus the learners construct knowledge based on personal experiences and the surrounding environment. Consequently, the learner in this theory does not recall the data but utilizes pre-existing information (Weegar and Pacis, 2012; Sidney, 2015). In this theory, both learner and the environment influence the learner. This leads to each learner having different experiences, interpretations and constructs of knowledge. Accordingly, constructionism theory changes the role of teacher to that of someone who helps and facilitates the students to construct their knowledge rather than someone who recites a series of facts to them (Khalid and Azeem, 2012). Learning in this theory is for the advanced learner who can understand complex and unstructured problems.

Sociocultural/Vygotsky's theory

This theory can be described as a bridge between the behaviourism and cognitivism. The sociocultural theory considers that learning is a social process and represents the relationships between thinking and culture, sociality, history and the institutional context in which it occurs, where culture plays the main role in the development of cognition. Therefore, memory is a key attribute in retaining and encoding information and learning happens through the continuous development of social interactions or social activities with a sharing of knowledge with others using observation, a community of practice, modelling and imitation. In addition, learning happens through effective modelling and starts with retention, reproduction, attention and motivation (Scarino and Liddicoat, 2009; Yilmaz, 2011). Sociocultural theory helps in problem-based learning, peer collaboration and learning with others and shared teaching.

2.2.1.2 Digital Age Theory

Connectivism

This theory developed as a result of the digital age and it criticizes the boundaries of more traditional learning theories. Connectivism theory is a social learning networked theory and it describes learning as an unstructured process of connecting specialized nodes of information resources through building connections in order to form online networks. Therefore, learning happens through linkage to the source of knowledge and through building and developing connections between concepts, ideas, fields and work with others. Memory in connectivism is used to identify adaptive patterns and it is descriptive of the current state of the networks. Connectivism helps in complex learning that is based on abundant information and the use of technology in complex learning environments (Siemens, 2005; Duke, Harper, and Johnston, 2013; Vriendt, 2015; Picciano, 2017). On other hand, Connectivism embedded the idea of learning without teacher (student centre learning), which represents informal learning rather than formal learning. This will represent one view of a subject and cause to isolation from communications with others in real life (Şahin, 2016)

The learning theories established through behaviourism, cognitivism, constructionism and sociocultural approaches each contribute in a specific way to the design of online materials through their ideas of how learning takes place. While behaviourism teaches facts and what is needed for an understanding of ideas, cognitivism theory describes how the process should be implemented for successful learning. On the other hand, in constructionism the learner has the opportunity to construct personal meaning from what is presented, whereas connectivism is used to develop traditional learning theories for their application to a networked and globalized world (Duke, Harper, and Johnston, 2013).

2.3 Blended Learning Approach

In this study, the research questions lead to the investigation of three main areas related to the area of study. These main components are presented in figure 2.1.

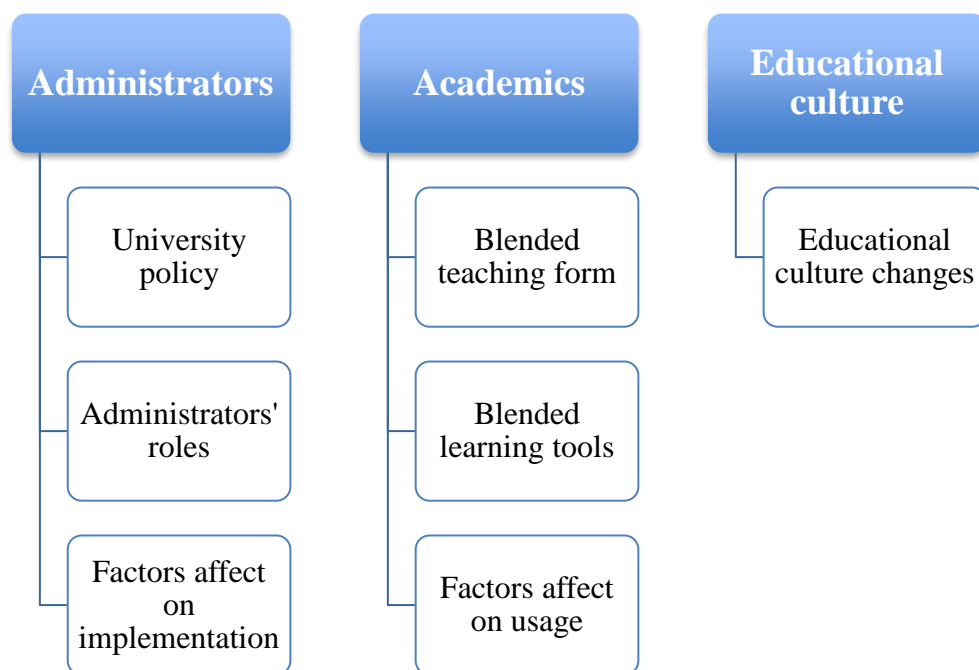


Figure 2.1: The Main Components of the Research Questions

The three main components of this study are the administrators, academics and the educational culture within a blended learning environment. Therefore, this study will look firstly into the blended learning definitions, designs, forms and components. Then, the impact of blended learning on the educational environment will be discussed. After that, academics and administrators’ perspectives towards blended learning and the factors that affect the implementation and use of blended learning will be investigated. Finally, the literature review will consider the gaps in the previously published research that require further investigation.

2.3.1 Blended Learning Definitions

Blended learning emerged in the educational environment as a popular pedagogical concept at the beginning of 2000, when the first use of the term ‘blended learning’ appeared with different forms of definitions (Ultranet and Digital Learning Branch, 2012; Güzer and Caner, 2014). Different terms are often used to define blended learning has shown in the literature including ‘mixed-mode instruction’, ‘hybrid learning’, ‘web-enhanced instruction’ and ‘technology-mediated instruction’.

Singh and Reed (2001) define blended learning as a learning approach in which more than one delivery method is used to enhance the achievement of the learning outcomes and the cost of the programs. Delivery methods need to apply the right

technologies which depend on learning style, time and personal skills. The definition of Singh and Reed (2001) gives a general picture of blended learning with several varieties of delivery method.

The literature has shown that no single definition of the blended learning approach, however, there are common themes that appear in these definitions. Three different, common blended learning definitions have been discussed by Graham (2004). The first common definition of blended learning is that it is a combination of different instructional modalities or media delivery methods. The second common definition for blended learning is that it combines different instructional or learning methods. Finally, one of the common blended learning definitions is that it is a combination of face-to-face instruction with online instruction. The first two definitions do not clearly define blended learning in cases where traditional learning or fully online learning could employ different media delivery tools or learning methods. The last definition however reflects a clear definition between the two different types of learning environment combined together.

2.3.2 Blended Learning Impact and Importance

The importance of this study is derived directly from the importance and impact of the blended learning approach itself. Developments in educational technologies and in the IT structure open up opportunities for the education system to change from a completely traditional learning style to the inclusion of online learning activities and involvement in online networks. In addition, blended learning was first developed in order to overcome the limitations of both the traditional and fully online approaches by combining the two. The literature review has demonstrated that several studies that have been carried out in different countries have highlighted the importance of blended learning and the impact of the blended learning approach on different aspects of the education system, for example on students and their learning outcomes.

2.3.2.1 The Impact of Blended Learning on Students

The blended learning approach is not just a form of combining face-to-face and online activities but it also represents the opportunity for students to expand their experiences and develop their social learning through interaction online with

others outside of the classroom, and to obtain information from different resources rather than just the course book. This also gives the students the chance to improve their digital skills and to be self-directed rather than depending on their instructors. In addition, it increases the sense of teamwork and group learning, and absent students can catch up on all of the activities they have missed. These positive effects lead to increased student satisfaction and motivation during their learning process.

The literature review supports the positive impact of blended learning on students. While other studies show no significant impact or negative impact of blended learning on students. For example, studies that were conducted from 2000 to 2009 revealed increased student demand for the use of web technologies in their learning process without eliminating face-to-face classes (Güzer and Caner, 2014). This result shows the importance of both the traditional and online approaches. In addition, López-Pérez, Pérez-López, and Rodríguez-Ariza (2011) in their study in Spain show how blended learning courses reduce student dropout from the university and improve the final exam marks. Also, Gecer and Dag (2012) and Obiedat et al. (2014) in their study showed the significant and positive impact of blended learning courses on students' outcomes. Supporting these conclusions, the study of Dinning et al. (2015) revealed the effectiveness of the blended learning approach in supporting students during their early weeks at university. Along the same lines, the study of Güzer and Caner (2014) indicated the improvements in students' satisfaction, motivation and attitude as well as their level of knowledge in a blended learning environment.

While the study of Chen and Lu (2013) shows negative impact of blended learning on students represents in increase students' cognitive load. On the other hand, the analysis of Güzer and Caner (2014) regarding the body of literature related to blended learning published from 2000 to 2009 showed that the development of technologies has encouraged teachers to apply blended learning activities but with no observable significant effect on the students' critical thinking skills in the blended learning environment.

2.3.2.2 The Impact of Blended Learning on Learning Outcomes

The majority of studies in the literature assess and measure the impact of the blended learning approach on learning outcomes. Blended learning has a positive and slightly negative impact on learning outcomes. The positive impact presenting in enhancing university performance and quality, increasing the communication between academics and students and making the learning process more flexible and accessible. Additionally, integrating the online learning component with traditional learning leaves more time for interactions and collaboration during the class time and outside of the class. Also, students gain advantages from the online environment and develop their digital skills without losing the social interactions in the class of traditional learning.

For example, studies conducted by Al-Madhoni (2010) and Alebaikan (2010) pointed to the increasing student numbers in recent years at Saudi universities and insufficient communication in the classes due to the time of the lecture or shyness or hesitation on the part of the students. However, integrating online tools with traditional learning helps to increase the communication and gives students who are shy the chance to engage and take part through online tools as showed from some studies in the literature.

The study of Almalki (2011) concluded that blended learning in Saudi universities could help improve the universities' performance in terms of efficiency and quality. In addition, he observed an improvement in the learning experience as a result of increased communications and interactions between academics and students at Umm Al-Qura University (UQU), Saudi Arabia. Additionally, Alebaikan (2012) asserted in her study the potential of implementing a blended learning in Saudi Arabia and the flexibility of this learning approach for Saudi women such that they can complete their higher education while maintaining their culture and traditions. Blended learning gives them the flexibility of accessing different learning resources, especially married students due to their many responsibilities for their families at home. At the same line, Alzahrani's (2017) study pointed to the need for a blended learning approach after the dominance of traditional learning in Saudi universities to improve the quality of learning. These

studies all demonstrate the usefulness of this form of learning in Saudi universities.

Moreover, the academics at Umm Al-Qura University (UQU), Saudi Arabia, in the study of Zeny, Alyamany and Alhebi (2015) believe in the importance and advantages of using technology in education. This agrees with the Makhdoom et al. (2013) study, which revealed that blended learning was statistically significantly better than face-to-face learning in the educational environment for medical students at Taibah University, Saudi Arabia. Supporting that, the study of Chen and Yao (2016) has shown the effectiveness of the blended learning approach as an alternative learning approach to a pure traditional learning or pure online learning approach. The results of this study are compatible with other Saudi studies conducted in different Saudi universities.

On the other hand, the study of Hamad (2017) showed the positive effect of using the Blackboard as blended tool with students except the bad access to the Internet affect negatively on using this tool and subsequently effect on the learning outcomes.

All of these positive impacts of blended learning do not remove the importance of the face-to-face approach, which is the main component of the educational system institutions that provide full-time programs at Saudi universities. The blended learning approach can support and improve the learning system without the need to change the whole education process in the university, which latter is based on the attendance of students and lecturers and academic book as the main sources of information.

On the other hand, blended learning depends on online activities that are directly affected by online resources. However, the online component of the blended learning approach can be negatively impacted by, for example, a poor Internet connection, technical problems or late feedback due to the Internet connection problems. These issues however do not reduce the importance of the blended learning approach and could be overcome by good infrastructure. Also, the lack of clarity in the blended learning framework employed results in some weaknesses which could overcome by implementing detailed and clear policies.

Moreover, the importance of implementing blended learning in Saudi universities was increased recently when all distance and external learning programs were suddenly stopped in June 2017 at the undergraduate level at all Saudi universities (Alghamdi, 2017). This issue means that full-time programs represent the only learning approach at all Saudi universities for undergraduates and these depend on the traditional learning concept. Accordingly, students who are registered in full-time programs at Saudi universities do not have the chance to access the advantages of the online approach. This issue increases the importance of blended learning through the integration of online tools within traditional learning to reduce the dependency of the students on academics and to increase the students' skills to investigate, search, analyse information in the World Wide Web environment.

2.3.3 Blended Learning Components and Requirements

From the peer-reviewed literature (Deanship of E-learning and Distance Education, 2014a, 2016a, 2016b, 2017a; Graham, 2004; Kanuka and Rourke, 2013; Lalima and Dangwal, 2017), it appears that the common definition of blended learning approach is a combination of a traditional learning approach and an online learning approach in different ways. Each of these approaches has specific components.

2.3.3.1 Traditional Learning Components in a Blended Environment

Blended learning provides the opportunity to undertake face-to-face classroom teaching where the teacher stands physically in front of his/her students in a specific classroom during a specific period of time. The role of the teacher in traditional learning is significant as the teacher has to provide information to all of the students and to interact with them in a synchronous communication approach where both academics and students can gain feedback at the same time. In addition, students interact not only with the teacher but also with others students who can work together as a group in the class in order to exchange information, ideas and experiences. In the classroom time, academics can use different technology tools to produce data through the use of a projector or smart board to connect directly to the Internet and to deliver different types of media from different resources to the students (Bath and Bourke, 2010; Olejarczuk, 2014).

2.3.3.2 Online Learning Components in a Blended Environment

The online learning environment within the blended learning approach offers synchronous and asynchronous communication between academics and their students through a number of online tools. The variety of online tools available enables the blended learning approach to employ a variety of media formats that depend on the online tool used. For example, academics could introduce different online resources to students, online tutorial videos and E-library websites to support their understanding and to extend their knowledge. Also, through online courses, students can get in touch with experts in their field outside of the educational institution and at the same time improve their communication skills (Bath and Bourke, 2010; Olejarczuk, 2014).

Other types of online tools in blended environments include the use of virtual classes, webinars or video-conferences, through which the teacher can contact their students and give them the opportunity to obtain information online at anytime and anywhere and to give students who cannot attend the physical class the chance to catch up on what they have missed. Moreover, using blogs or social websites together with traditional learning can be considered as a type of blended learning where students have the opportunity to show their creativity and to discuss topics and obtain feedback. All of these tools and programs could be employed in smart devices such as mobile phones and tablet devices. Also, these devices have other special educational programs that support the blended learning method (Bath and Bourke, 2010; Olejarczuk, 2014).

However, moving from a fully face-to-face learning approach to a blended learning approach requires several changes on several levels. Changing to a blended learning approach requires changes at the university level, as well as at the academics' and students' levels.

2.3.3.3 University Level Requirements

The university-level presents the basic unit requiring change and gives the direction and guidance to both academics and students who have to follow its policies. Accordingly, to change from a fully traditional to a blended learning approach, the university needs to form detailed and clear policies and objectives,

and budget to support the online infrastructure such as the systems or tools required for blended learning implementation. The university needs to offer and to support technology tools that have a meaningful impact on learning outcomes, and which are reliable and easy to use to effectively achieve the advantages of the online component of the blended approach (Bath and Bourke, 2010; Olejarczuk, 2014).

In addition, as a part of the effective implementation of blended learning, the university needs to consider course redesign and to decide which parts of the courses can be best achieved through the online approach. The university also needs to decide on a policy for assessment of the online activities. Additionally, it needs to provide effective training for academics in order to increase their digital skills, support their blended teaching and to help them in redesigning course content (Bath and Bourke, 2010; Olejarczuk, 2014).

2.3.3.4 Academics' Level Requirements

Academics in a blended learning environment play essential roles which include acting as traditional teachers in the classroom and working as motivators for students in using different online tools and interacting online with them. Accordingly, the academics need to have good digital skills, motivational capabilities and the ability to redesign courses around online tools that support the blended teaching approach (Bath and Bourke, 2010; Olejarczuk, 2014).

2.3.3.5 Students' Level Requirements

In the blended learning environment, students construct their own knowledge rather than sitting in front of the teachers and listening to them. This helps students to be more independent and to learn how to construct knowledge. Accordingly, students need good digital skills and access to the online tools required to support the blended approach (Bath and Bourke, 2010; Olejarczuk, 2014).

2.3.4 Blended Learning Forms

Since this study took place in relation to full-time programs at the KAU which depend on a traditional learning approach, it seeks to investigate and analyse the

process of designing blended learning courses at the University as well as blended teaching practices. Conversely, changing the full-time courses to blended courses requires the courses to be redesigned in order to implement the online materials that will lead to students' greater knowledge, higher grades and understanding compared to a purely traditional learning approach. Also, redesigned courses should ensure that the learning objectives of both the offline and online components engage the students in their studies.

However, changing from a completely face-to-face learning approach to a blended approach requires changes to pedagogies and teaching styles. None of the blended learning definitions mentioned in the literature have shown a clear percentage of online versus traditional learning. Therefore, the blended learning approach takes different forms representing a variety of technologies and pedagogical methods combining different tools and with different percentages of traditional and online approaches. For example, Skibba (2007) defines blended learning as require the following changes.

1. Changes in teaching style where students become central to their own learning and gain advantages from both face-to-face and online activities. Also, students become less dependent on the instructor as they are able to obtain information from different resources.
2. Changes in instructional design that appear when changing from a traditional course to a blended course. These changes require redesign of the course and learning activities that fit in with the blended learning approach.
3. Changes in social roles that manifest as changes to the communication environment through online interactions and communication between instructors and students and with others outside of the educational organization.
4. Changes in management such that instructors and students are required to manage both face-to-face activities and online activities.
5. Changes in technology and since there are a huge number of educational technology tools the instructor and students can rely on one or more tools to support the learning outcomes.

From another point of view, Drysdale et al. (2013) stated that different forms of media can constitute a form of blended learning combining traditional learning with one or more of the following.

1. Asynchronous communications form in which the instructor and students can communicate together in an asynchronous way (not at the same time) such as communication through email or WhatsApp chat.
2. Synchronous communications form where the instructor and students can communicate online together at the same time in a specific virtual room such as through Skype or virtual classes through the Blackboard system or other programs.
3. Combined synchronous and asynchronous tools enable communication between the instructor and students.

Due to the varieties of blended learning forms and instructions, studies in the literature have various titles which employ different terminologies for the subject (Huang and Zhou, 2006; Vrettaros et al., 2009; Kabilan, Ahmed and Abidin, 2010; Alebaikan, 2010; Almalki, 2011; Ultraset and Digital Learning Branch, 2012; Alaidarous and Madini, 2016). Some studies clearly mention the term ‘blended learning’ or ‘hybrid learning’ in the title while others studies mention tools integrated in the education environment as blended tools without mentioning the changes relating to the learning environment. This issue makes the research in the literature more difficult because blended learning definition does not state that every technology tool could be considered a blended tool. However, in this literature review, studies that mentioned any type of technology tool must be deemed to be an online tool used as a blended tool to support the traditional learning approach.

Accordingly, blended learning is a compound concept, with multiple possibilities and many options which may be used to create this approach. It is a learning approach that has different modes of delivery, modes of teaching and styles of learning within different pedagogies (Huang and Zhou, 2006). Consequently, technology tools that use a blended approach vary depending on the institutions, users, course materials and the availability of these tools. However, different types of online technology tools form different shapes of blended learning. For example, blended learning could employ Web 2.0 tools such as forums, blogs and wiki, social sites or use mobile

applications or LMSs. However, the approach is about choice in teaching and about maximizing the learning outcomes by forming convenient modes for both academics and students in both offline and online environment.

As mentioned previously, the method or technique employed when implementing blended learning is different from the perspective of each educational organisation, study or academic and these differences present clearly when reviewing the literature. For example, the study of Alebaikan (2010) that combined traditional learning with online learning to form blended courses at the King Saud University (KSU), Saudi Arabia allowed female student participants to attend one-week of classes in person followed by two weeks of online classes.

The literature has also shown different forms of blended learning through the integration of Web 2.0 tools as a type of approach to support traditional learning. These types of studies appeared after August 2007, when social network sites rose to public attention and began to be used in education. Accordingly, different studies revealed the positive effect of web 2.0 tools in education, especially where the number of students is large (Al-Moheba, 2008; Homola et al., 2009; Vrettaros et al., 2009). Supporting this, studies also indicated the importance of using social websites in the learning environment (Iead and AL-Ashqar, 2011; İşbulan, 2011; Kabilan, Ahmed and Abidin, 2010). The study of Hourigan and Murray (2010) illustrated a form of blended learning through the use of blogs to support the teaching and learning process. Also, the study conducted by Almalki (2011) focused on using academics' websites as a supportive tool to enhance traditional teaching and to support the resources used in the course delivery system at Umm Al-Qura University (UQU), Saudi Arabia. This meant in this case using academics' websites as an additional tool to support the traditional learning system (face-to-face) without any changes to the lectures hours. In addition, as a practical type of blended learning approach employing social sites, the study of Borau et al. (2009) used Twitter to teach English as a foreign language in China in addition to the physical classes. Similarly, Johnson (2011) used Twitter as a blended tool with traditional learning and revealed that sharing information through Twitter increased the credibility of the instructors. Along the same lines, the studies of Kabilan, Ahmed and Abidin (2010)

and Kolokyta et al. (2015) integrated the social site Facebook with traditional learning to support the learning system.

Additionally, the literature review has revealed several studies that integrate LMSs as blended tool. For example, the studies of Hussein (2011) and Asiri et al. (2012) used the 'Jusur' learning management system as a blended tool to support the traditional learning approach. While the study of Qu and Lu (2012) assessed the students' learning outcomes through integrating 'Moodle' to form a blended environment. Also, the study of Alaidarous and Madini (2016) used the learning management system called 'Doroob' to deliver the online part of a blended learning course in a technical education context. Along the same lines, the study of Ja'ashan (2015) used the Blackboard system to investigate the perceptions and attitudes of students attending a blended learning course in English language at the University of Bisha, Saudi Arabia. Similarly, the study of Pusuluri, Mahasneh and Alsayer (2017) used the Blackboard system as a medium for male students within the English Department at Al Jouf University, Saudi Arabia. The study revealed that the Blackboard system is an effective medium to provide a variety of instruction modes that helped in creating a motivational learning environment for students.

Moreover, the literature has also discussed a combination of traditional learning and webinars as a blended learning approach. For example, the study of Khechine et al. (2014) used webinars as a blended learning tool and assessed the effectiveness of this tool. Similarly, Yasumoto (2014) conducted a study using video conference lectures as the online component of a blended learning system. The study revealed the increased engagement of students and their more comprehensive level of understanding.

Another form of blended learning appeared in the study of Hou and Wu (2011) that discussed the behaviour patterns of students at a university in northern Taiwan when using online synchronous instant messaging (IM) tools to share information and discussions on web design courses. Adding to this, mobile learning could be considered to be a form of blended learning if combined with traditional learning. The literature review revealed that some studies discussed mobile learning as a single type of learning and others combined mobile learning with traditional learning. For

example, the study of Nassuora (2013) discussed mobile learning as a form of blended learning in Saudi Arabia.

On other hand, the study of Ghaith (2013) showed that combining the two online tools Facebook and Blackboard increased female students' achievements and satisfaction in a blended environment in Kuwait.

2.3.5 Factors Affecting Blended Learning Implementation

This study looks to demographic factors or other factors that affect the implementation of blended learning through combining technology tools with traditional learning in order to enhance the quality of learning outcomes and improve communications between academics and their students. The literature review has reported different types of factors that affect positively or negatively the implementation of blended learning. This section lists and analyses these factors which are taken into account during the actual study.

2.3.5.1 Gender

Several studies reported on gender differences in using technology in education and in blended learning implementation. In order to segregate the educational environment and social prevailing in Saudi Arabia, several studies discussed the effect of using technologies in education on gender. For example, it was observed in the study conducted by Al-Saggaf (2004) that there have been several changes in the Saudi online community, which is gaining more self-confidence and is more open minded and less inhibited about the opposite gender. Additionally, the study of Alshankity and Alshawi (2008) referred to no statistical differences between Saudi male and female academics' Internet usage in their teaching practices or their familiarity with Internet technologies. Their study was conducted in four Saudi universities in Riyadh and postulated that their results could be generalized to similar gender segregated educational environment for both academics and students. Additionally, the studies of Alhareth et al. (2013) and Alhareth and McBride (2014) referred that E-learning (online programs) open up avenue for Saudi women to get higher education with some difficulties such as lack of computers' facilities and low level of computing literacy among Saudi woman.

Similarly, Ullrich, Borau and Stepanyan (2010) noted in their study about the preferences for interactions between the participants occurred in pairs of the same gender with no significant evidence of the effect of gender in online interactions in social sites. The study was conducted in China, which has a completely different culture and religion to Saudi Arabia. Nevertheless, the results are compatible with the study of Alshankity and Alshawi (2008).

The previous studies findings are in contrast with the study of Almalki (2011) that showed academics' websites are a more useful tool for female students than male students and have a greater effect on their learning experiences, type of information gained, resources and interactions. This finding comes as a result of the lack of interactions between male instructors and female students in the Saudi educational culture. Along the same lines, Alsaleh and Rashad (2012) found that females have positive feelings towards the use of the Internet at KAU, exceeding those of their male counterparts. In addition, the study of Padilla-Meléndez, Aguila-Obra and Garrido-Moreno (2013) revealed that male students in one Spanish university showed a greater intention to use Moodle as a blended tool than the female students. Also, the study of Algamdi and Samarji (2016) mentioned that female academics perceived fewer barriers than male academics regarding implementing technology in education. Their study was conducted at one of the recently established universities in Saudi Arabia.

The results of these studies could assist in encouraging the implementation of technologies in Saudi educational organisations, in a special culture, which has separation of genders in and little contact between them. Moreover, this form of E-communication gives more freedom of contact with the opposite gender in the absence of face-to-face interaction and supports the blended learning environment.

2.3.5.2 Age

The second factor to consider that may affect the use of technologies in education and blended learning implementation is users ages. For example, the study of Alfarani (2015) revealed female academics' resistance to change as a factor that influences negatively mobile learning implementation as a form of blended

learning, especially for older and more experienced female academics at KAU. On the other hand, the study of Alghamdi and Bayaga (2016) revealed that the older generation of academics, who are above 40 years of age, tended to use LMSs for many of their teaching activities, more so than their younger colleagues. Their study recommended the design of LMS training courses tailored for the younger generation of academics.

The literature has highlighted contradictions about age as a demographic factor affecting the use of technologies in the education sector. For example, the study of Chen and Yao (2016) revealed that the younger student generation regarded learning in a blended environment positively at the Monash University Malaysia campus.

2.3.5.3 Users

In the blended learning environment, the direct users of the technology tools are academics and their students. This section reviews the literature to find out how users have an effect on the integration of technologies in the learning environment. The literature showed that some studies found academics only to be a factor affecting blended implementation while other studies mentioned that only students as a relevant factor (Fadilah et al., 2013; Wu and Liu, 2013; Hoang, 2015; Kim et al., 2015; Futch et al., 2016; Kintu, Zhu and Kagambe, 2017). This comes about because these studies focused either on academics only or students only as participants in the study.

Accordingly, different studies showed that academics are the main factor directly affecting blended learning implementation. For example, the study of Al-Jarf (2009) at KSU referred to the lack of academics' motivation in using online tools because using online tools is an optional practice in their teaching. The study of Alebaikan and Troudi (2010) showed that the success of the transition to new learning paradigms in Saudi universities needs instructor skills and experience in the digital area. Also, the study of Hussein (2011) mentioned academics' personal constraints preventing them from using LMSs at six Saudi universities such as fear of using technology, lack of awareness of the foundation or importance of the system, not being able to convince some of the faculty members or administrative

obstacles. Furthermore, the study of Zeny, Alyamany and Alhebi (2015) found that students at Umm Al-Qura University (UQU) believe that academics do not implement technology in their teaching practices effectively which affects the blended teaching practices. This confirmed the study conducted by Alghamdi and Bayaga (2016) in six Saudi universities which concluded that only a small number of academics use LMSs for their teaching activities while many others do not use them all.

On other hand, other studies mentioned that students are a direct factor in blended learning implementation. For example, the results of the Hou and Wu (2011) study showed student misuse of the technologies, where 57.8% of student participants were involved in topics irrelevant to the course while using instant messages (IM) as a blended tool in the discussion task.

2.3.5.4 Training

Several studies in the literature showed the importance of training to support academics or students' digital skills in the teaching and learning process. For example, the study of Al-Mohea (2008) mentioned the importance of training for academics in using social pedagogies in teaching. This is in line with the study of Al-Madhoni (2010) that stated the importance of academics' training in using web 2.0 tools in their teaching process.

In the Saudi context, many studies revealed the lack of training for academics to support their digital skills. For example, the study of Al-Jarf (2009) at KSU mentioned the lack of administrative support and training in demonstrating the importance of using technologies to academics, which affects negatively their use of technology in their teaching practices. Similarly, the study of Alebaikan and Troudi (2009) stated that a very limited number of Saudi universities use LMSs such as Blackboard or WebCT due to the lack of training in these systems. They advised the provision of training programs to academics and suggested ideas for designing blended courses before transition to the new way of learning.

The previous results are in line with the finding of Almalki (2011) which revealed the lack of training for academics at UQU that results in ambiguity for the blended learning policy at the University. Supporting this issue, the study of Ageel (2011)

mentioned that the majority of Saudi university's teachers do not make use of technologies in their teaching practices due to a lack of training alongside a lack of knowledge about using technology tools in teaching or of integrating technology in education. Teachers being unwilling to change traditional teaching customs were also a factor. Also, the study of Alshammari et al. (2012) confirmed the lack of academics' awareness, lack of training and use of LMSs in three Saudi universities that were investigated in their study. This agrees with the study of Zeny, Alyamany and Alhebi (2015) that discussed the absence of efficient training and educational culture awareness at UQU that affect the implementation of technologies effectively in the academics' teaching practices.

On the other hand, the study of Vrettaros et al. (2009), which was conducted in the context of Greek instructors, showed that using web 2.0 tools, such as a wiki, blogs and social networks, in the classroom environment is relatively easy, even for users who do not have many skills in using such technologies, and does not require training. Their study focused on using web 2.0 tools in the educational system to support learning but the authors did not mention other types of programs, such as LMSs, demonstrating the need for training for some academics. In addition, the results of this study could not be applied in the Saudi context as Greece has a completely different culture and educational environment from Saudi Arabia.

2.3.5.5 Educational Policy

Implementation of a blended learning approach means changes to the educational institution's policy from a traditional system to a system that supports technology tools as online interactive tools to enhance the learning environment. This section discusses the review of the literature regarding how changes in the teaching or learning policies facilitate the move to blended learning approach. For example, the study of Huang and Zhou (2006) mentioned three challenges when implementing blended learning, which are curriculum design, online resources and changing students' learning strategies. These challenges must be considered in any educational institution policy before full implementation of the blended learning approach. Along the same lines, the findings of Almalki's (2011) study revealed the lack of guidelines for managing academics' websites as online tools

which results in ambiguity of the blended learning policy at UQU. Consequently, Almalki (2011) reported that it is essential to apply a clear policy, yielding a clear understanding of the appropriate design and rationale for the blended learning approach in the Saudi universities in order to implement blended learning effectively in the educational system with complete framework implementation for blended courses.

Similarly, Tapia's (2010) study revealed the effectiveness of social network sites if there are strategy and evaluation systems that measure the expected outcomes of the educational organisation. Accordingly, regarding the preparation of academics to use technology in their teaching practice, the study of Al-Zahrani (2015) revealed a lack of effective technology integration vision in the Saudi pre-services educational curriculum. In addition, his study showed the high priority of the policymakers' mission to integrate technology in the educational system. This issue showed the gap between the policymakers and academics in the area of implementing technology in education.

Additionally, one of the main reasons preventing the use of technology in higher education not mentioned frequently in the literature is the lack of understanding regarding how and why technology should be embedded in pedagogy by academics at the universities (Lai, 2011). Accordingly, studies in the literature review showed the importance of a clear policy and the importance of an increase in academic awareness and digital skills from the administrators or policymakers in order to ensure the effectiveness of blended learning implementation.

2.3.5.6 Blended Educational Tools

As shown in detail in section 2.3.4, blended learning takes various forms and different combinations of blended learning tools may be used. Additionally, the tool used to integrate this new approach with traditional learning differs from one educational community to another. These differences in the use of tools have been shown to have different implications for blended learning outcomes. For example, the study of Madge et al. (2009) showed that undergraduate students at British universities use Facebook for social reasons and sometimes for informal learning. On the other hand, the study of Kabilan, Ahmed and Abidin (2010) revealed that

Facebook in Malaysia is used as a tool to learn foreign languages with support and planning from the learning institution.

2.3.5.7 Infrastructure

Educational institution infrastructure is an example of a factor that affects directly blended learning implementation. Several Saudi studies in the literature revealed the lack of Internet infrastructure at Saudi universities and the direct negative affect of this on blended and online learning approaches. For example, the results of Bingimlas' study (2009) indicated that instructors have a strong desire to combine technology with education, but major obstacles that prevent them from using it are: lack of access to resources, resistance to change and lack of training, time, confidence, competence or technical support. This supports the result of Alebaikan and Troudi (2010) that showed that the provision of web based learning tools is not sufficient for this transition to a new learning paradigm and that the universities must consider an efficient infrastructure for that purpose.

Additionally, the study conducted by Khan (2011) divided the barriers to using blended learning or Internet tools in the educational systems based on three sets of stakeholders: students, academics and universities. He indicated that factors preventing students from utilising online learning at UQU can be summarised as: insufficient digital infrastructure and resources, lack of appropriate encouragement to utilize websites, lack of technical support, poor computer literacy and skills, irrelevance for course completion, online access being unnecessary and no difference between forms of information as either face-to-face or digital. The second type of barrier preventing academics from utilising the internet or online learning includes lack of professional development, lack of computer skills, insufficient time to develop online courses to supplement their traditional pedagogical methods, lack of copyright for their online material and lack of motivation. Finally, the university-level barriers include ICT infrastructure and lack of computer availability, technical support and lack of commitment and reward for ICT use.

Similarly, the study of Munguatocha, Muyinda and Lubega (2011) found that the implementation of social networks in education in developing countries requires

reliable technology, self-efficacy, administrative support, infrastructure, system interactivity, adequate budgeting and accountability and a flexible organizational culture. Additionally, the study of Hussein (2011) discussed some of the physical constraints which prevent academics from using LMSs at six Saudi universities. These constraints are insufficient infrastructure to support digital equipment within these universities, lack of availability of computer equipment or Internet services, high cost of Internet connection compared to other Arab countries or lack of technical support. Along the same lines, the study of Khan et al. (2012) revealed a list of challenges faced in blended course implementation such as educational culture, technical skills and technology infrastructure, which barriers are faced in any implementation of a blended learning environment. In addition, developing academics' skills and knowledge, administration, funding, learning authority, management changes, resources and sufficient technology support are all factors that must be taken into account with the implementation of blended learning.

The study of El-Zawaidy and Zaki (2014) examined the academics' perspectives at three Saudi universities (King Saud University, King Khaled University and Taif University) regarding using the Blackboard system as a blended tool in their teaching system. The study revealed several barriers facing the academics while using the Blackboard system such as the lack of needed training, lack of technical skills, lack of encouragement and Internet connection problems. Further, the study of Obiedat et al. (2014) reported the substantive care for the technical infrastructure and availability of required resources to ensure effectiveness of the blended environment. This supports study of Zeny, Alyamany and Alhebi (2015) that mentioned that both academics and students at UQU asked for an improved University infrastructure to support the integration of technology in the educational system.

The issue of Internet infrastructure increased, especially in the recently established universities in Saudi Arabia, as mentioned in the study of Algamdi and Samarji (2016). Their study discussed the fact that Internet infrastructure, professional training, technical support and availability of hardware and software

are the main barriers mentioned by the academics in integrating technology into their teaching practices.

All previous factors could be different from one organisation to another or between different faculties or disciplines and between users themselves. Responding to several studies in the literature, this study takes all these factors into account and determines, via data collection methods, if there any other issues that could affect Saudi educational culture and blended learning implementation in KAU. In general, implementing a blended learning system in Saudi universities requires a significant change in the universities' policies, curriculums, culture, infrastructures and users' digital skills.

2.3.6 Learning Theories and Blended Learning Relationship

Administrators, policy makers and educators in the educational field focus on the best way to help students to have an effective learning experience in the digital era as a result of developments in technology and developments in the educational field. Thus, the main focus in this study is to understand how moving from a traditional learning (face-to-face) approach to a blended learning approach works under the umbrella of learning theories. In the face-to-face approach memorization is part of the students role and teachers are considered to be the centre of the learning process through delivering information directly to their students. The traditional learning approach depends on the use of specific books or curricula materials and does not involve students in creative thinking and participation in the creative part of the learning activity. Students in this approach receive information from the teacher and interact directly with teachers and students in their classes. On the other hand, blended learning is a learning approach that combines face-to-face characteristics with interaction with others outside of the class or campus and the receiving of information from different online resources. Teachers in the blended learning approach work as guides for students and students take the main role in the learning process. Thus, moving from a traditional learning to blended learning approach means moving from a completely face-to-face approach that is based on a teacher-centred approach to a type of learning that works in a students-centred manner through integrated online tools that enable the student to interact with and access different resources and different people outside of the campus.

The literature of learning theories showed that no single theory has emerged for instruction in general, either in the face-to-face learning approach or the online approach. Nevertheless, in the blended learning approach connectivism supports the use of technologies by the learner to become involved in the body of knowledge. This means that connectivism supports the blended learning environment for the online part of this learning approach. Students in a blended learning environment are able to learn within a social network and able to interpret and recognize patterns through connecting to different representative networks. In addition, students in the blended learning approach through connectivism could increase their online activities and construct new knowledge and information based on their previous experiences from different offline and online resources. The role of teachers in connectivism is to try to understand how students interpret knowledge and to guide them to enhance their understanding and to improve their learning quality and outcomes. Learning in the blended learning approach realizes on collaboration among the members of the online learning community (Al-Huneidi and Schreurs, 2012; Duke, Harper, and Johnston, 2013; Picciano, 2017).

Other learning theories also could be applied to the blended learning environment. For example, the appropriate task for the teacher from a behaviourist view in a blended environment is to provide stimulation and reinforcement in order to develop students' behavioural responses (Sidney, 2015). While, in constructivism theory students in the blended environment occupy the top position rather than teacher. This is because students from the constructivism viewpoint must construct their knowledge based on their previous experiences and interactions with the environment (Sidney, 2015).

To conclude, learning happens through the combination of cognition, social interactions, communication and the continuous construction of knowledge. This complex objective is achieved through combing the face-to-face approach with educational technologies and online resources to form a blended learning approach.

2.3.7 Blended Learning in the Global Context

Reviewing the literature has shown the early implementation of the blended learning approach for a wide range of studies in the USA, Canada, Europe and East Asia

compared to Middle Eastern countries. The literature review shows that the different topics discussed in the blended learning field were started from 2000 (Güzer and Caner, 2014).

For example, the study of Güzer and Caner (2014) that reviewed and analysed studies relating to blended learning that were published from 2000 to 2012, and pointed to the different levels of application of the approach in schools and universities. Additionally, their study confirmed the wide range of blended learning topics that were considered in that period of time. At the same line, the study of Drysdale et al. (2013) showed that 51.7% of the PhD and master theses they reviewed addressed the effects of blended learning on learners' outcomes, satisfaction, engagement and effectiveness.

Reviewing the literature in the global context showed that the field of blended learning started by the discussion of topics related to blended learning status, design and implementation (Graham, 2004; Huang and Zhou, 2006; Kerr, 2007; Gerbic and Stacey, 2008; Boticki et al., 2009; Picciano, 2009; Graham, Harrison and Woodfield, 2013; Tshabalala et al., 2014; Okaz, 2015). Then, due to the revolution in technologies and the variety of learning management systems (LMSs), social sites, virtual classes and educational programs, the literature showed increased attention to the blended learning field and the varieties of blended learning forms and combinations.

Accordingly, different topics related to blended learning studies conducted in western countries will be detailed in the literature. For example, blended learning status (Kaur, 2013), implications of blended learning (Ahmad and Karimi, 2013; Ghaith, 2013; Khan et al., 2012; Narayanan, 2017) and the assessment of the blended learning method and its acceptance (Allani and Sharafuddin, 2012; Ankit, Naaj and Nachouki, 2012; Pombo and Moreira, 2012; Qu and Lu, 2012; Şahin, 2010; Smythe, 2012; Tulaboev, 2013). Additionally, studies have shown that compared blended learning with other types of learning such as E-learning (fully online) or traditional learning (Tayebinik and Puteh, 2012), studies about enhancing traditional learning and E-learning through blended learning (Mortera-Gutierrez, 2005; McCarthy, 2010; Aboukhatwa, 2012), blended learning and digital literacies (Willem, Aiello and Bartolomé, 2007) and using blended learning to enhance specific courses, language

or skills (Tempelaar et al., 2010; Maulan and Ibrahim, 2012; Carbonell, Dailey-Hebert and Gijsselaers, 2013; So and Lee, 2013). Additionally, there are topics about the roles and perceptions of academics in blended learning (Ndon and Skibba, 2006; Hussain and Ng, 2010; Donnelly, 2011; Ndon and Ndon, 2011), the roles of administrators in the blended learning environment (Niemic and Otte, 2010), the roles or perceptions of students in blended learning environment (Brew, 2008; López-Pérez, Pérez-López and Rodríguez-Ariza, 2011) and the roles of the faculty in the blended learning environment (Skibba, 2007). Also, the literature review has shown studies that discussed the effect of blended learning on demographic variables (Khechine et al., 2014).

The literature review regarding blended learning has shown that in a global context, there are large numbers compared to studies from an Arab context in general and in the Saudi context, in particular. This confirmed the lack of blended learning support in an Arab context and the need for more studies in this area, as discussed in the next section.

2.4 Background of the Study

An increasing body of evidence has indicated the positive effects of blended learning in higher education based on various perspectives and studies that have taken place around the world. Despite the rapid developments within the sector of information technology and government support for integrating technology into education in Saudi Arabia, the use of online tools within the full-time programs at Saudi universities remains limited and there is a need for further investigation. The Saudi Ministry of Education is under pressure to gain the advantages of using technologies in education and is investing in the education sector in order to reach the goals of the Saudi 2030 vision and to move towards a globalized society with robust knowledge (SaudiVision2030, 2017). In addition, the notion that information and knowledge need to be shared has increased in this digital era, and is not currently met solely by a face-to-face learning approach, which is the main type of learning approach in the full-time programs at Saudi universities.

The literature review revealed that there has been a growing body of the literature in Saudi Arabia that relates to educational technologies in the E-learning (fully online)

approach. This is a result of the development of the educational technology sector and also the increased number of online learning programs in Saudi universities.

Additionally, the review of the literature has shown that little attention has been paid in Saudi Arabia to gaining the advantages of online tools within full-time programs which currently depend completely on a traditional learning approach. Thus, this study aims to develop traditional learning pedagogies and to obtain the advantages of an online approach in order to form a blended learning environment for full-time programs at Saudi universities.

Because, this study aims to investigate the perceptions of the academics and administrators regarding blended learning implementation at King Abdulaziz University (KAU), Saudi Arabia. The study considers KAU as a case study and this chapter aims to provide a general overview of the higher educational system, culture and policy in the Kingdom of Saudi Arabia, as well as an overview of the educational system at KAU in particular, in order to understand the context for blended learning concepts at KAU. Because this study included the administrators who are responsible for developing the digital knowledge of the academics at KAU among the participants, this chapter will deliver essential information about the different administrative units at KAU in order to define the boundaries of this case study.

2.4.1 Kingdom of Saudi Arabia's Higher Educational System

Kingdom of Saudi Arabia (KSA) is the largest Middle East Arab country and a country of Islam religion birth, and is located between the Asian, African and European continents. The official language of KSA is Arabic. The educational system in the KSA is free for all educational levels starting from pre-school up to PhD level studies for all governmental education (but excluding private institutions). Also, the Kingdom provides an equal education at all levels of education for both male and female students guide it by the Saudi Ministry of Education (Smith and Abouammoh, 2013).

In 1951, the Ministry of Knowledge was established in the Kingdom for the purpose of managing the education system at all levels. In 1975, a section of this Ministry became a separate entity and was renamed the Ministry of Higher Education, with several responsibilities related to the higher educational levels after the secondary

school degree. Then, in 2015, the Ministry of Higher Education and the Ministry of Education merged into a single entity called the Ministry of Education (MoE) (Ministry of Education, 2017a).

Currently, Saudi Arabia has 27 public universities distributed across most of the Saudi regions each of which are linked to the Ministry of Education (Ministry of Education, 2017b). All of these universities provide and depend on a traditional learning (face-to-face) culture for the main educational programs delivered to all full-time students. The Saudi Ministry of Education defines traditional learning as ‘systematic learning’ whereby the learner is immersed in a learning system the basic characteristic of which is face-to-face learning in the presence of teachers inside the institution. In the traditional learning system, the academics and textbooks constitute the main parts of the teaching and learning processes that are given to all students. The teacher instructs learners in the classroom and students ask questions based on the teacher’s instructions as information is given to them. The content and information given to a group of students in the class is individualized and the learning method depends on memorization (Alebaikan and Troudi, 2010; Deanship of Graduate Studies, 2013).

In addition, some Saudi universities provide two different types of program, namely external programs and E-learning (distance learning) programs. In external programs, students do not attend the university and must independently learn all of the required courses that will be examined at the end of each term. While the E-learning programs (distance learning) are fully online programs and the academics and students communicate in virtual classes and students are given marks for their online attendance, online projects and online exams.

2.4.2 Saudi Educational Culture

Culture, defined by Lichtman (2013), is a system where shared customs, beliefs, behaviours and values in a group of people are used to enable people to get along with each other and the community in general. In this study, the educational culture of Saudi universities is investigated which universities represent the places where all university’s members share knowledge, experiences, policies and skills in order to operate effectively and to produce effective learning outcomes.

Different perspectives on educational culture have evolved through practices and theories in the literature. For example, changes in the study programme, such as adding new material or broadening the scope of a course represent the perceptions of the educational culture of one group of people. Another perspective is to focus on classroom environment issues or teaching methods, while a different group looks to the organization and its education system and standards. Furthermore, different groups consider educational culture as manifest in changes in the education system as a part of wider community change (Gorski, 2010).

To investigate change in the educational culture from the point of view of Gorski (2010), there are three transformations involved: firstly, educator transformation through engaging the educator in a critical and continuous procedure to observe how their biases and socializations inform the teaching process and influence the students' educational experiences. Secondly, educational organization transformation which includes issues such as student-centred pedagogy, multicultural courses, inclusive educational media and resources, supportive education organization and classroom environment and frequent assessment and evaluation. Finally, society transformation, where the changes in educational organizations lead to changes in the society.

In the Kingdom of Saudi Arabia, all educational policies and practices are subject to the Ministry of Education as a government control. The Saudi educational culture present in all Saudi schools and universities is characterized by a gender-segregated environment. It is a culture that combines Islamic values and traditions. This segregated environment appears in the form of separate schools and university buildings and different classes for each gender at all educational levels (Smith and Abouammoh, 2013). Courses offer the same subject contents in both male and female sections except in some cases, such as the faculty of home economics, which is a faculty that accepts only female students and teachers, and the faculty of marine science, which accepts only male students and teachers. Other examples are the King Fahd University of Petroleum & Minerals that accepts only male academics and students, and the Princess Nora bint Abdulrahman University that accepts only female academics and students. On the other hand, recently, the King Abdullah University for Science and Technology (KAUST) became the only University in the

Kingdom that offers mixed gender in the same buildings (Smith and Abouammoh, 2013).

Owing to segregation between the genders and the lack of female instructors, male academics can teach female students via one-way circuit video at Saudi universities, a situation which results in an obvious lack of interaction and communication between the male academics and female students. Whilst male instructors have direct communication with their male students, only indirect communication occurs with female students, usually through phone during the class time or after it. Conversely, female instructors cannot teach male students at any level of education in Saudi Arabia, even through one-way circuit video.

Besides that, Saudi universities enable an educational culture in which academics in Saudi universities could work as administrators and at the same time reduce their teaching hours.

Due to the developments taking place throughout the digital era, and especially in recent years, the Saudi Ministry of Education realizes the importance of keeping up with these to achieve an information-based society. Accordingly, the Ministry carries out a number of projects to obtain the maximum advantage from digital tools in all educational institutions. For example, the Ministry works towards developing local policies to ensure the effective integration of information technology in the management of all higher education institutions. Also, the Ministry works to upgrade the infrastructure of existing universities and to build an outstanding infrastructure for the new universities in order to keep up with rapid changes in the technology field. Furthermore, academic curricula are developed and the teaching digital skills are upgraded through special courses and workshops in order to meet the Ministry aims (Ministry of Education, 2017c).

One of the goals of this study is to investigate how changing from a fully face-to-face learning approach to a blended learning approach will impact the Saudi educational culture for example lead to better equality for education from the perspectives of the academics and administrators at KAU. Thus, this study will investigate changes in the Saudi higher educational culture at the University in general, and changes in the educational culture of the separate male and female

classes and buildings in particular, after moving from a purely traditional learning approach to a blended learning approach.

Conversely, to understand the implementation of blended learning and its status at Saudi universities, the next section gives a description of the E-learning (fully online) and blended learning approaches in Saudi Arabia. The E-learning approach was implemented in some Saudi universities and has had an effect on the implementation of blended learning, as described later in the findings and discussion chapters.

2.4.3 E-Learning and Blended Learning in Saudi Arabia

The Saudi Ministry of Education defines the E-learning (distance learning or fully online) approach as a type of learning that uses only different online technology tools in learning process and management and is characterized by the separation of the learner and teacher and this separation could be outside of the learning institutions for the period of learning (Deanship of Graduate Studies, 2013). The E-learning approach becomes an option of choice in some Saudi universities for students who cannot complete his/her learning on a full-time basis (traditional learning). The distance learning (fully online) approach started in several Saudi universities, which are King Abdulaziz University (KAU), Al-Imam Mohammad Ibn Saud Islamic University and King Faisal University (General Department of Planning and Statistics, 2013). Any Saudi university that delivers a distance learning approach must contain a unit for distance learning which is directly responsible for creating a suitable online environment, employing recent technologies and developing academics' digital understanding (Deanship of Graduate Studies, 2013).

As a way of supporting the distance learning approach, the Saudi Ministry of Education has established the national centre for E-learning and distance learning (NCeL) to develop and support the E-learning approach at Saudi universities. The centre is responsible for leading, supervising and supporting E-learning (fully online) programs at the Saudi higher educational level. Additionally, the centre is responsible for providing the latest educational technologies for E-learning programs, establishing virtual universities, helping to increase awareness and to promote a technology-based educational culture with distance learning applications

as well as for developing a series of training workshops, supporting research about E-learning and conducting international conferences to develop academics in the E-learning field (Ministry of Education, 2017d; NCeL, 2016).

One of the Saudi Ministry of Education regulations states that any learning organization providing full-time programs (traditional learning) can offer online learning courses but these must not exceed 25% of the academic requirement (Deanship of Graduate Studies, 2013). Therefore, the Saudi Ministry of Education does allow the integration of an online component on all full-time programs, forming a blended learning approach. Nevertheless, culturally the E-learning (fully online) approach is not considered equivalent to full-time learning in the labour sector in Saudi Arabia.

Accordingly, in June 2017, the Ministry of Education suddenly requested that all external and E-learning (fully online) programs at all Saudi universities at an undergraduate level cease to operate (Alghamdi, 2017). This decision arose in order to increase the quality of the education system (full-time approach) for undergraduate students as stated by the Ministry.

As this study focuses on the perceptions of academics and administrators regarding the blended learning approach at KAU, the next section will provide fundamental information about KAU, the educational culture and the roles of different units at the University, which are responsible to improve the academics' digital skills in order to understand blended learning environment in the University.

2.4.4 Blended Learning in the Saudi Context

Compared to the studies conducted in foreign countries, it is noticeable in the literature review that Saudi studies relating to blended learning field are all recent studies, starting since 2010. Supporting the review in this issue is the analysis of the studies carried out on blended learning from the beginning of 2000 to 2009 conducted by Güzer and Caner (2014) that has shown that no study was conducted in Saudi Arabia during this period of time. Similarly, the study of Alebaikan (2012) showed a lack of blended learning studies in the Arab region in general and in Saudi Arabia specifically.

A number of different topics affect blended learning in the Saudi educational system such as the status of blended learning in Saudi universities (Alebaikan and Troudi, 2009; Alebaikan, 2010; Alebaikan and Troudi, 2010; Almalki, 2011), the need for blended learning in Saudi universities (Alzahrani, 2017), challenges to implementing blended learning (Al-Sarrani, 2010; Moukali, 2012; Alshathri, 2016) and blended learning implications (Sajid et al., 2016). Other topics include students' perceptions regarding blended learning (Alshahrani, 2015; Alshathri and Male, 2015; Alaidarous and Madini, 2016), academics' perceptions regarding blended learning (Alshathri and Male, 2015) and blended learning for enhancing specific courses or skills (Abanmy and Hussein, 2011; Aytakin et al., 2012; Facharzt et al., 2013; Ja'ashan, 2015). Additionally, factors that affect Saudi academics in their implementation of blended learning (Alghanmi, 2014), factors impacting students in the blended learning environment (Alzahrani and O'Toole, 2017) and the future of blended learning in Saudi universities (Alebaikan, 2012), have been researched. These various studies have shown the area of study that has been discussed in Saudi Arabia. In addition, these studies have shown that discussions about blended learning began in 2009 in Saudi Arabia, which reflects the late development in this area compared to foreign countries. Moreover, these studies have shown the degree and different forms of blended learning that have been conducted, along with the level of understanding of the concept of blended learning.

Different studies conducted in Saudi Arabia have shown the status of blended learning at different Saudi universities. For example, the results of the Al-Jarf (2009) study showed that none of the faculty of educational technology or the faculty of computer and information science at KSU used any type of online tool for the delivery of information on their websites. Her study observed 634 faculty websites and found that the teaching environment at KSU is not technology-oriented and still depends on the traditional approach. Along the same lines, the study of Alshahrani (2015) revealed that no blended learning courses existed in 2012 at Najran University, Saudi Arabia, due to the lack of an online infrastructure system, which latter is still in the early stages. Blended learning courses have however been running at the King Khalid University (KKU), Saudi Arabia, since 2009 as stated by Alshahrani (2015). Along the same lines, the study of Alzahrani and O'Toole (2017) revealed that male students in the faculty of education at the University of Jeddah,

Saudi Arabia, showed their support for the implementation of blended learning but not the fully online approach. In addition, the majority of male student participants at the University of Jeddah have home Internet access that helps them to support them in this type of learning approach.

There are several studies that examined different forms of blended learning approach in Saudi universities through the implementation of different tools such as blogs, wikis or learning management systems such as 'Jusur' and Blackboard (Alebaikan and Troudi, 2009; Al-Madhoni, 2010; Alebaikan and Troudi, 2010). Moreover, these studies have shown the degree and different forms of blended learning that have been conducted, along with the level of understanding of the concept of blended learning.

Consequently, after reviewing the literature, it seems that the higher education environment in Saudi Arabia is in the early stages of transition to meet the challenges of development and to provide for individual needs through adopting a blended learning approach with the aim of reaching the goal of a quality education for all. This transition from purely traditional learning to blended learning faces various types of challenges such as the lack of infrastructure, and the clarity of the policies relating to users. Confirming this, the study of Alblehai (2016), which revealed the limited use of blended learning in the Saudi universities, has motivated the Saudi Ministry of Education to intensify their efforts to integrate different technologies and online tools in the educational system.

On the other hand, the Saudi higher educational system based on full-time programs represents a completely traditional learning approach with lack of research funds and scientific conferences and journals (Alamri, 2011). This type of learning approach has some shortcomings such as difficulties in meeting the individual needs of all students, especially in light of the increase in student numbers in recent years. Also, traditional learning is based on academic teaching skills, which are in shortage and there is a lack of training for academics and absences from the classroom either on the part of teachers or students would have an effect on the learning system (Alamri, 2011). These shortages in traditional learning increase the importance of the blended learning approach in the Saudi universities. This is because blended learning supports the quality of traditional learning through the addition of one or more online tools without affecting traditional classes. These online tools work to increase

student interactions, provide new learning dimensions to teaching practices and open a new world for students to access new resources that can reach any place at any time (Alamri, 2011).

2.5 Research Gaps

The literature review was the guide to determine the knowledge gaps in the blended learning area and their scope. This literature review was based on reviewing previous studies and publications in both the English and Arabic languages. The difficulty in findings these studies lay in searching for different terms in English for blended learning, such as hybrid learning, flipped learning and mixed learning. Additionally, different terms in Arabic besides confuse the terms blended and E-learning in the Arabic context. This confusion leads to difficulty in deciding if a specific study is relevant to the blended learning area or not. Furthermore, there is difficulty in some studies whose titles did not mention the term ‘blended learning’ and which do mention using technology tools in education. In these cases, it was necessary to read these studies in detail to determine if using these tools could be considered blended learning or not. This is because using technology in education varies between users where some use technology such as a computer or projector only to present lectures in front of students and other use Web 2.0 tools to interact online with students through these tools either inside or outside of the classrooms. Accordingly, studies that integrate technology tools as a blended tool are considered in this literature.

Two main types of gap have been identified during the review of the literature which are the knowledge gap and methodological gap. Firstly, the knowledge gap is demonstrated in the literature in the blended learning area showing the importance of blended learning as a form of learning that supports traditional learning. In addition, the literature has shown the high number of studies in a western context starting from the year 2000 compared to the Arab world where studies started in this field from 2009. Accordingly, different studies in the Arab context ask for future studies in order to investigate further in this area because it is still in the early stages as mentioned by Sheerah and Goodwyn (2016). In addition, the study of Aljahni, Obayya and Skinner (2010) mentioned the range of studies about blended learning in a western context and the lack of those in the Arab world and asked for more studies to consider the

effectiveness of blended learning in a variety of cultural contexts which reflect the different blended learning communities. Supporting that, the study of Nassuora (2013) asked for comprehensive future studies about mobile learning as a form of blended learning in Saudi Arabia because of the lack of such studies in the Saudi context. Besides that, several studies asked for future investigation in this area (Alebaikan, 2012; Nassuora, 2013; Alzahrani, 2017). This issue confirmed the lack of blended learning practice in Arab countries in general and in Saudi Arabia in particular. Moreover, topics were discussed in the International conference of E-learning and distance education in Saudi Arabia regarding blended learning topics which recommended that more investigations be conducted in this area and that social sites be used in the teaching and learning processes (eLi, 2011, 2015). Topics discussed at the conference support the existence of the gaps demonstrated in the literature.

The literature has shown the increased number of studies globally that relate to the effectiveness of blended learning on students and learning outcomes as discussed in section 2.3.7. While, academics and administrators consider as basic stage and guide for learning process before the information deliver it to students, the literature has shown very low studies that discussed their roles and perspectives in blended environment as discussed in section 2.4. Additionally, previous studies deal with academics in blended environment with a focus on academics who have already implemented a blended learning approach and no study addresses academics who have not implemented a blended teaching approach as discussed in section 2.4.

Additionally, the literature review did not show any Saudi studies focused on the institutional policy and issues in implementing blended learning, although the focus of the Saudi Ministry of Education is to implement technologies in the learning process. Also, the review of the literature shows no strong and detailed data regarding guidance for administrators or academics in adopting blended learning approaches or their perspectives on the blended learning approach in general, which could delay future development in this area as discussed in section 2.4.

Supporting this knowledge gap, the study of Güzer and Caner (2014) encouraged studies in the future to guide teachers and administrators on how to successfully integrate technologies in education. In addition, the study of Alsaied (2016) suggested conducting a future study with a set of academics with considering their demographic

variables to show the correlation between these variables and their learning approach. Also, the study suggested conducting a parallel type of study to analyse the perceptions of the technical staff members and the faculty managers in order to enhance the effectiveness of the study, which presents the target of this study. The study of Al-Hassan and Shukri (2017) also recommended conducting future studies to examine factors and challenges that affect teachers in blended learning environment.

However, there is a significant lack of knowledge about blended learning in the Saudi context and a lack of knowledge about the perceptions and roles of academics and administrators regarding blended learning in the Kingdom. Due to this limitation of knowledge in the previous studies and in order to fill the gap in this area, this study looks to the blended learning environment at KAU through the academics and administrators' perspectives. The study looks to the academics in the University who implement the blended teaching approach as well as others who have not implemented a blended approach.

The second type of gap in this area of study is the methodological gap. The literature review has shown different methods used to investigate the blended learning approach indicating a methodological gap. There is a lack of qualitative studies in Saudi Arabia in general and in this area specifically. A qualitative approach is valuable to the researcher to investigate and understand the blended learning environment with no clear picture of the educational culture and knowledge regarding the blended learning approach at the University. In addition, a qualitative approach is valuable to gain a deep understanding of the participants' perspectives in the area of investigation through qualitative data collection tools.

Supporting this gap are Smith and Abouammoh (2013, p.10) who stated that:

Information about the higher education system in Saudi Arabia generally has been collected by different agencies at different times in different formats at different levels of details. Almost all of the data held is quantitative—there is little qualitative data collected at either the system or institutional levels. Further, there is little evidence to suggest that information has been collected in any strategic way in order to

provide insights regarding system issues or planning needs or to allow international comparisons

The literature review has identified Saudi studies about blended learning by using learning management systems or social sites that used a quantitative research approach (Abanmy and Hussein, 2011; Alfahad, 2012; Alsaleh and Rashad, 2012; Asiri et al., 2012; Aytekin et al., 2012; Alshareef, 2013; Balubaid, 2013; Nassuora, 2013; Alharbi and Drew, 2014; Alshathri and Male, 2015; Sajid et al., 2016). In addition, besides the quantitative research, some studies conducted mixed methods research in Saudi Arabia about blended learning (Al-Sarrani, 2010; Aljahni, Obayya and Skinner, 2010; Almalki, 2011; Alshammari et al., 2012; Moukali, 2012; Ahmed, Hussain and Aqil, 2013; Ja'ashan, 2015; Alaidarous and Madini, 2016). The literature has shown a few Saudi studies exist that used a qualitative research approach. For example, the study of Alebaikan (2010), who conducted her study at King Saud University with female lecturers and students only. Also, Khan's (2014) study was conducted at KAU to measure the effectiveness of the blended learning approach in teaching English as a foreign language. Additionally, the studies by Alghanmi (2014) and Alzahrani and O'Toole (2017) were qualitative studies in the blended learning field in Saudi Arabia.

Responding to these gaps in the literature review, this study aims to fill these gaps in terms of knowledge and methodological approach through investigating the academics and administrators' perspectives regarding blended learning and determining their linkage to determine if they influence each other. A qualitative approach is appropriate to gain an in-depth understanding of the blended learning mechanism at KAU, and the policies related to blended learning implementation. Accordingly, the study focuses on four main fields as presented in figure 2.2.

- First, the academics' perceptions regarding blended learning. This investigation takes place by looking to the academics' usage, experiences and attitudes in integrating online tools with traditional learning in relation with the academics' department or University policy and investigates if they affect these through the issue of confusion between the terms 'blended learning' and 'E-learning' that appears in the literature.
- Second, the administrators' roles in blended learning implementation and policy, and their roles in developing the academics' digital skills. The study

investigates the future actions to be taken by the administrators to support this type of learning.

- Thirdly, the study investigates the changes in the educational environment after moving from a completely traditional approach to a blended approach.
- Fourthly, the study puts the spotlight on the participants' demographic factors and other factors that are mentioned by the participants as encouraging or preventing administrators and academics in supporting the blended learning environment at the University.

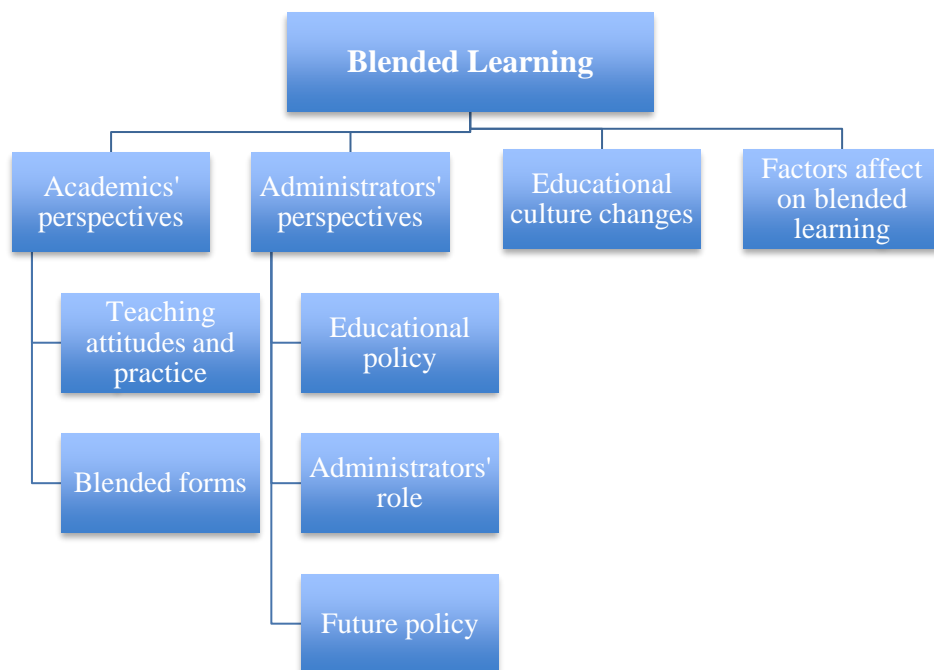


Figure 2.2: Investigation issues in this study

This will help in developing an effective blended learning environment in the University, will support the operation of a good learning infrastructure and enhance the training programmes for academics after knowing how administrators support academics' digital skills in the University, how academics integrate technology tools in their teaching practices and knowing the barriers that prevent them from using it. In addition, the results of the research will help the deans, administrators or policymakers at KAU to make decisions and help them to frame an effective blended learning model that supports traditional learning with efficient use of digital tools in teaching in the future.

2.6 Research Motivations

Motivations for this study are based on two factors

1. Lack of previous studies in the Saudi context in the field of blended learning approaches and previous studies' recommendations as mentioned in section 2.5 motivates the researcher to understand blended learning and to explore the status of this learning approach from academics' and administrators' perspectives in order to support traditional learning and to increase learning outcomes. This study is a response to the recommendations of many studies which call for the provision of opportunities to enhance understanding of blended learning in the Saudi context to raise the level of student achievement and increase the efficiency of the traditional teaching process.
2. Increasing the usage of technologies in this era requires students to collaborate and communicate effectively with people around the world. For this reason, the 2030 future vision for Saudi Arabia seeks to invest in education in order to achieve economic growth (SaudiVision2030, 2017). To reach the objectives of this vision is to employ effectively technology and communication tools in education in order to obtain the best learning outcomes. In addition, the Saudi Ministry of Education seeks to emphasize the importance of integrating technology tools and programs in the Saudi educational system (Ministry of Education, 2017c). One of the future plans for the KAU is to increase the take-up of the blended learning culture among University's members in order to support teaching practice and to develop learning outcomes (Deanship of E-learning and Distance Education, 2017a). This motivates the researcher to be a part of this development by conducting this study in order to develop the traditional learning system and to improve students' digital skills to help them to communicate with people outside of their educational environment.

2.7 Conclusion

This chapter has reviewed relevant literature on the topics of blended learning in the western and Saudi context, blended learning definitions, components, requirements, blended learning forms, design and implications. Research evidence seems to indicate that blended learning studies are increasing in number in western countries and are in

the early stages in the Arab world in general and Saudi Arabia specifically. The early implementation of the blended learning approach in Arab countries resulted in positive perceptions towards different forms of blended learning approach which carry different types of difficulties. The literature review has determined factors that affect blended learning positively or negatively and which face administrators, academics and students.

Then, the literature review showed the research gaps and research area and factors that motivate the researcher to conduct this study. Accordingly, because this study takes KAU as a case study, the literature review gives detailed information regarding the Kingdom of Saudi Arabia higher educational culture, environment and policy in order to understand the environment of this study. The next chapter discusses in detail the methodology for this study and analyses the procedures used in the fieldwork to achieve the target of this study.

3. Research Methodology

3.1 Introduction

This chapter provides an account of the philosophy behind the research design, research plan and justification for the choice of study methodologies, which answer the research questions. The chapter includes the process of collecting the required data, focusing on the reasons for choosing one particular method over another. The first section of this chapter focuses on the research paradigms and the approach utilised to address the research questions, followed by a description of the data collection tools that will be utilised in the pursuit of the study's goals and the various strengths and weaknesses of those tools. Then, the population, target participants and sampling techniques are described. After that, section describes the pilot studies, addressing how ethical issues and study credibility and trustworthiness were addressed in the chosen approach.

A qualitative case study approach was chosen as the research method, in which qualitative open-ended questionnaires, online interviews and documentary analysis were the methods used for data collection. This chapter also describes how the collected data were organized in preparation for analysis and discussion of the results. The chapter presents the process of analysis and coding of the data that were organized for the purpose of this study from the questionnaires, online interviews and documentary analysis. In addition, it provides justification for the data analysis process that was chosen in this study.

3.2 Research Design

This research focuses on investigating the perceptions regarding the blended learning approach at King Abdulaziz University (KAU) among academics who teach full-time programs and addresses how they develop their digital skills to use in their blended teaching practices. In addition to the academics, this study also engaged the administrators at KAU who are responsible for developing the academics' digital skills to see how the administrators support such learning practices and work towards developing blended learning at the University. Also, the study looks to investigate and understand the policy relating to the use of technology tools, learning management systems (LMSs) or social sites as blended learning tools for full-time students

(traditional learning) at KAU and analyses what tasks they engage in in order to develop the academics in this area. In addition, the study looks to probe issues concerning the effectiveness of the blended learning implementation to enhance traditional learning at the KAU from the administrators and academics' perspectives.

Research objectives and research questions were the guide to the choice of an appropriate research design to conduct this study in order to achieve the research aims and to answer the research questions. Accordingly, the research design chosen in this study were the guide and justification for all of the research steps.

The research design, according to Creswell (2009), has three main components, namely philosophical worldview (epistemology), research methods and strategies of inquiry (research methodology). These components of research design are fundamental points from which to start and guide the research design.

3.2.1 Philosophical Worldviews (Epistemology)

Philosophical worldviews (epistemology) are a set of ways and beliefs that guide actions in order to find the reality that the researcher searches for and to help choose a strategy of inquiry using either qualitative, quantitative or mixed methods (Creswell, 2009; Lewis and Ritchie, 2003). The common four philosophical worldviews are positivism, advocacy (participatory), pragmatism and social constructivism (Interpretivism/Naturalistic).

Firstly, the positivist philosophical worldview assumes that there is one single objective reality or truth which is independent, measurable, observable and knowable and completely detached from the researcher's voice and natural manner. Therefore, the goal of this philosophical approach is to generalize the result of a specific area of study at a specific condition by using numeric scales for measuring the observations. In addition, the positivist philosophical approach seeks to determine causes and effects of outcomes and to assess the causes that influence outcomes. However, because this study does not aim to measure specific objects, this philosophical approach does not match the aims of this research and could not be applied in this study.

Secondly, the advocacy/participatory philosophical worldview covers action research relating to politics and political agendas, which do not relate to the topic of this research and could thus not be applied.

The third type of philosophical worldview is the pragmatic philosophical worldview which is concerned with applications and solutions to problems and which tries to use different methodological approaches to solve the problems. While this research aims to investigate the status of the blended learning environment through the participants' perceptions and does not aim to solve a specific problem, pragmatism is not applicable to this study.

Fourthly, the social constructivist (Interpretivism/Naturalistic) worldview is an approach to qualitative research that focuses on understanding the phenomena through participants' experiences and perspectives. It assumes that the meaning and understanding of reality are plural and constructed from participants' interpretations and through their own experiences which lead to understanding of the subjective meanings of participants (Creswell, 2009; Lewis and Ritchie, 2003). Therefore, this approach aims to explore, describe and understand the subjective meaning of individuals' experiences towards specific objects, cultures, perceptions, explanations, beliefs or issues in which they live and work. This leads to the construction of multiple realities in which they participate, constructing the meanings of events and experiences.

Accordingly, participants' views and meaning will be varied and multiple and will constantly change through their experiences and interpretations. These perspectives construct the phenomena under study, which create multiple conclusions and represent different versions of reality. Different data collection methods in this approach foster an understanding of a culture, process or event (Lauckner, Paterson and Krupa, 2012; Rubin and Rubin, 2012). Different opinions and perspectives under specific conditions lead the researcher to understand and look into this complexity and to narrow the meaning into themes and patterns which represent the situation under study. The participants will provide their own subjective meaning of their experience towards the research subject, and it will be the goal of the researcher to look for and relay the complexity of the views instead of narrowing the meaning into a few ideas or categories.

As blended learning practice is a combination of traditional and online tools and varies from one academic to another due to differences in academics' skills, culture and teaching experiences, the social constructivist viewpoint is an appropriate philosophical approach for this study, in order to understand individuals' perspectives, meanings and experiences expressed in different words from different participants to achieve the aims of this study.

3.2.2 Research Methods

Research methods, the second component of the research design, includes the forms of data collection, analysis and interpretation that are represented by three common methods, namely quantitative, qualitative and mixed methods (Creswell, 2009). Cohen, Manion and Morrison (2000) define research methods as a range of approaches aimed at gathering data that are to be used for interpretation, prediction, explanation and inference.

Firstly, the quantitative research method targets the relationship between dependent and/or independent variables in the area of study. It seeks to confirm hypotheses about specific phenomena by using tools eliciting and categorizing responses to questions with highly structured methods such as surveys in closed-ended question format which generate numerical data (Mack et al., 2005). Because this study does not aim to measure specific attributes, the quantitative research method is not appropriate for this study.

While the qualitative research method aims to understand specific phenomena, issue or idea of social life by gaining a deep understanding of participants' perspectives and explores the individual or community experience, culture and attitudes of their targets and their meanings of this phenomena (Polkinghorne, 2005; Creswell, 2015). Accordingly, because this study has chosen a qualitative approach, the next section provides more details about the research method, followed by reasons for choosing this type of research approach.

Thirdly, a mixed research method was used combining a quantitative and qualitative research approach to explore the complex phenomena in detail (Halcomb and Hickman, 2015). A mixed research method combines the strengths and weaknesses of both research approaches. One of the main challenges is that this is time

consuming due to the complexity of combining quantitative and qualitative approaches and the several levels of research processes (Ponce and Pagán-Maldonado, 2015; Almalki, 2016).

3.2.2.1 Qualitative Research Method

The aim of qualitative research is not to measure changes but rather it seeks to explore the setting, situation, context and nature of participants' feelings, experience, histories, emotions and behaviour. Data which cannot be expressed numerically in natural situations are explored and these are difficult to measure using a quantitative approach. Thus, the researcher can collect participants' meanings, focus on a single concept, provide personal value to the study, interpret the data collected and collaborate with the participants and can capture the full set of factors that participants perceive within the area of study. In so doing they gain a depth understanding of the nature of specific phenomena under study and to develop explanations and generate ideas, theories and concepts (Lewis and Ritchie, 2003; Mack et al., 2005; *Social Research Methods*, 2006; Creswell, 2009; Dawson, 2009; Silverman, 2013). It is an appropriate method when it is unknown which variables are important to examine and which variables affect the case of study and leads to the development of a new theory, concept or evaluation of an organizational process (Mack et al., 2005; Creswell, 2009).

In addition, the qualitative research method generates words and textual data to analyse rather than generating numbers. So, qualitative research focuses on qualification more than quantity (Bazeley, 2013), emphasises subjective meaning, perceptions and behaviour in a natural setting more than objectivity, and it is a flexible methods for the process of collecting data (Silverman, 2013).

General aims of qualitative research defined by Bernard and Ryan (2010) are fourfold: exploration; description; comparison; and testing models. Through exploration qualitative research aims to discover themes and patterns to determine how complex systems work. Descriptive qualitative research aims to describe the case studies or cultural beliefs in detail and to focus on what participants share and do not share. Qualitative comparison research targets the identification of features that groups or individuals share or do not share. Finally, in testing

models, the research aims to test a hypothesis against observations. Therefore, the nature of this study is a type of explanatory qualitative research seeking to discover themes and patterns that explain the relationship between the use of different technology tools as blended tools and their effects on the Saudi educational culture in one specific case, and to discover themes and patterns in the perceptions of the academics and administrators in the blended learning environment in order to provide a depth and richness of information in this area.

Additionally, qualitative research is useful for policy and practice decisions in developing the teaching and learning field because it provides a better understanding of the nature of education and teaching problems. Moreover, it describes the implementation of policies involving developing learning and teaching which is the area of this study (Anderson, 2010).

The strength of qualitative design methods appears in providing complex textual descriptions of participants' experiences, beliefs, opinions and the relationships of individuals in depth with details in real time. Also, qualitative research is an effective research method to identify intangible factors such as social norms, gender roles, religion, socioeconomic status and ethnicity and their roles in the research (Mack et al., 2005; Anderson, 2010). In addition, interview tools which consider qualitative data collection are not restricted to a specific issue but it can be redirected by the researcher to new issues and to explore things that not discovered before (Anderson, 2010).

On the other hand, qualitative research has some limitations such as the quality of the findings depends on the researcher's skills and the effect of personal, observation bias. Also, a large amount of collected data can lead to time consuming analysis steps and repetition in addition to the issues of anonymity that can be raised during the interview (Anderson, 2010). Further, qualitative research potentially suffers from a limited sample size which affects the generalizability of the results.

The process of qualitative research is generally inductive and moves from observation of the problem or a focus on individuals, to a generalized situation (Creswell, 2009). Thus, because qualitative research is not usually a deductive

approach that starts with a hypothesis to be tested during the research, it depends on understanding how knowledge and ideas build towards construction of a tentative framework, theory or emergent themes and concepts (Lewis and Ritchie, 2003). Therefore, describing and discussing a situation or case can be done by answering the questions ‘what’, ‘why’ and ‘how’ about a specific or a set of experiences in order to establish the character of this case, which is the target of qualitative research -- to find issues that are not well understood (Patton and Cochran, 2002; Lacey and Luff, 2009; Yin, 2009; Silverman, 2013). Next, the findings that involve the cause and output of the specific situation of study lead to ‘why’ questions which can be studied by a quantitative approach. To achieve the qualitative targets, the study use flexible tools to elicit and categorize responses to questions with semi-structured methods such as observation and in-depth interview in an open-ended questions format that generate textual or visual data (Meyer, 2001; Rowley, 2002; Mack et al., 2005; Silverman, 2013).

By choosing the social constructivist viewpoint as the philosophical worldview in this study, a qualitative approach will be adopted in this study, which is compatible with this philosophical worldview and meets the requirements of the research aims. So, this study will investigate individuals’ perspectives through focusing on individuals’ particular experiences and practices which will be collected in the field to study and understand the situation of the blended learning approach at KAU. Due to the lack of knowledge in this area in Saudi Arabia, as discussed in section 2.5, a qualitative method is the appropriate method in this situation to investigate which factors affect the area of study. Accordingly, in this study, the researcher investigated how the educational culture was affected after moving from purely traditional learning to blended learning and what demographical factors affect the blended learning practice after this transition through using technology tools or social sites as blended tools in education from the perspectives of the academics and administrators at one institution. In addition, the study seeks to explore factors which prevent or encourage the academics and administrators at the University in using these tools in education from the participants’ opinion despite the existing training courses and learning management systems (LMSs) available to them.

3.2.3 Strategies of Inquiry (Research Methodology)

Strategies of inquiry or research methodologies are the plan of action or approach to knowledge which represents the types or models of study within qualitative, quantitative or mixed methods (Creswell, 2009). Cohen, Manion and Morrison (2000) define research methodology as a way to describe and analyse methods and to focus on their limitations and resources. Accordingly, choosing a research methodology will guide the researcher in conducting the research and recognizing the process and tools to use to conduct this study. Moreover, research methodology will be the guide to knowing the standard of qualified research and the evaluation process to follow and to know the strength and weakness of the research before conducting it.

The general features of all methodologies within qualitative research design were mentioned by Miles, Huberman and Saldana (2014) as research conducted with participants in a natural setting to investigate the lives of individual, groups, organizations or societies, in order to gain a complete overview of the context under study. In this process, the researcher is the main instrument in the study to capture data through deep processes.

By choosing a qualitative research approach as the research design for this study, the researcher has considered a range of relevant methodology or models. The most common of these are ethnography, grounded theory, phenomenology, narrative research, and case study design. The diversity of these approaches within qualitative research appears in that each approach answers different kinds of research questions and uses different type analytical tools. So, the type of collected data and tools used for collection vary according to philosophy of research (Polkinghorne, 2005).

The case study approach has been chosen in this study, where the researcher explores the real life experiences of the participants and gains in-depth explanations of individuals or groups of social behaviour within real life. In addition, the case study is bound by time, area, behaviour conditions and activities through the candidates' perspective by collecting information in a small geographical area or with a limited participant number using various sources of evidence and methods for collecting data within a specific time (Zainal, 2007; Creswell, 2009; Yin, 2009; Lichtman, 2013).

Case study and grounded theory approaches seek to explore process, events and activities where the case study has intensive investigations of individuals and there are no specific methods and tools for it. Case study approach is also used when there is a need to address particular practices or programmes (Eysenck, 2004; Lichtman, 2013). Yin (2009) agrees with Baxter and Jack (2008) that a qualitative case study approach provides a description of complex phenomena within their contexts for the aim of developing theory, evaluating programs or developing interventions.

Accordingly, the study does not apply the ethnographic strategy because it requires only a certain period of time in which to be conducted and it is impossible for the researcher to observe daily the participants in their classes or offices at the same time. Also, the study not considered the grounded theory approach because it does not fit with the aims of this study as it will take a long time to repeat the processes of collecting data which is difficult for the researcher to do within a specific period of time to be in the country of the research. In addition, the process of grounded theory analysis is not applicable in this study because it requires collecting and analysing data in parallel at the same time and collecting data that are grounded on a previous data analysis. Then, the researcher repeats this process until a new theory is generated. This type of analysis could not be applied in this study because the study was conducted in two phases at two different times, which makes it impossible to collect and analyse data at the same time, and this study does not aim to produce a theory. In addition, grounded theory analysis relies on theoretical analysis sampling that must be defined during data collection, whereas this study defined and determined the sample population before the data collection stage. Moreover, the study does not consider the phenomenological and narrative research because these approaches do not follow the aims of this study and the researcher must be in the environment for a long time, which is difficult to undertake in three months during the actual time of data collection.

3.2.3.1 Qualitative Case Study Approach

The case study qualitative approach is more applicable to this study, and represents the most appropriate for its aims. The main aim is to generate a deep and rich understanding of information by collecting as large a number of attributes as possible to determine how a complicated set of circumstances can influence the

area of study. Accordingly, the target of this study is to understand the area of blended learning at KAU through the perspectives of the administrators and academics from different sources of data to look at different attributes that affect this area.

The strength of the qualitative case study approach is for investigating specific phenomena in a real-life context and for environments where the boundaries are not clearly defined. Also, it is an appropriate approach for explaining complex situations by gathering different perspectives from different resources, for looking into the process of something, and answering 'How' research questions.

Additionally, the case study approach is flexible in that the researcher selects the case and its boundaries depending on the research topic. In addition, the process of data collection is flexible as there are no fixed tools for this research approach and it usually does not follow a linear process of data collection and analysis. This feature embraces and builds on uncontrolled variables, unanticipated events and allows for unexpected and not known variables appearing in the area of study. It provides insights into other similar cases and situations by producing in-depth and detailed information about the case under study. This produces the maximum number of variables that determine how a group of complicated variables affect the case of study (Cohen, Manion and Morrison 2000; Yin, 2009; Creswell, 2012; Lauckner, Paterson and Krupa, 2012). On the other hand, the weakness of this approach appears in the poor definition of the process of data analysis, although it can follow any analysis method.

3.2.3.2 Applying the Case Study Approach

The case study method is an interpretive/constructivist paradigm within the qualitative approach that aims to examine an individual case, multiple cases or a contemporary phenomenon in detail within real life in order to give an intensive and detailed analysis of a specific case (Cohen, Manion and Morrison, 2000). It is an applicable research method when integrating different perspectives or interactions within the context, and builds up a very detailed in-depth understanding of the specific phenomena under study. This means that the case study is used when no single perspective can provide a full explanation of the research issue (Lewis and Ritchie, 2003). A case study approach also is an

appropriate method for analysis and interpretation of real situations and catches group behaviour, presenting reality to give a sense of the current situation. Moreover, the case study approach copes with various sources of evidence and benefits from prior theoretical schemes to direct data collection and analysis (Yin, 2009). The case study method also allows both organisational and social issues to be examined, and can work with an embedded design, which involves various levels of analysis within a particular study. It aims to provide a description, test a theory or generate a theory; so the purpose of the case study is either to test or develop a theory (Eisenhardt, 1989; Yin, 2009). Tavallaei and Abu Talib (2010) consider that theory is less applied in some qualitative research such as grounded theory and case study research.

The research approach will guide the researcher in the process of implementing the study, collecting data and analysing the data. Thus, this study applied a single qualitative case study approach to help in promoting, understanding and focusing on one organization in detail and possibility to study more than one issue at a time, such as changes in educational culture, academics' teaching practices and the blended learning environment for both genders at KAU. Moreover, the researcher can use a variety of data collection methods during the actual research time to obtain a wealth of generated data and ensure research credibility.

Boundaries and limits or conditions of any case study must be defined by the researcher (Yin, 2009; Lichtman, 2013). The boundaries of the case study of this research are represented in the figure 3.1. Accordingly, King Abdulaziz University (KAU) has been chosen as a target case study organization for this research which was conducted at the main campus in Jeddah, KSA. Consequently, this case study is bound to the main University's administrators as a team that works to develop academics' educational use of digital tools and their digital skills. In addition, the study includes academics members who taught full-time programs at the University at the time the study took place during the first semester of the academic year 2013/2014. The case studies design is such that it looks as one organisation (KAU) with multiple units of analysis (academics and administrators), which requires studying of multiple units or attributes in a single case study (Yin, 2009). A significant pitfall of this type of case study is the focus

on small units without returning to the basic unit of analysis (Yin, 2009). To overcome this pitfall, after analysis of the academics and administrators' answers the researcher will return to the whole organization in order to connect their answers with the University's policy and roles. Moreover, the data will be analysed within or across each unit separately and between the different sub-units during the analysis stage in order to determine relationships between the different units.

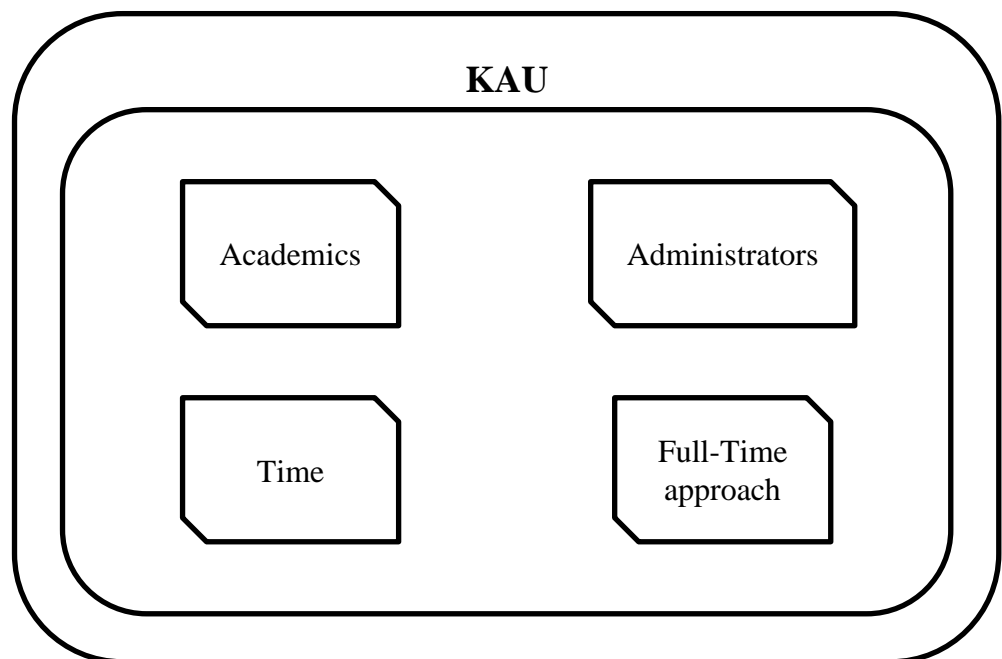


Figure 3.1: KAU case study boundaries and components

To summarize, this study has conducted explanatory qualitative case study research, to investigate the situation of the blended learning approach at KAU and the relationship of several attributes that affect the implementation of blended learning and the educational culture through using different technology tools. The evaluation of this area is not clear, as discussed in the section 2.5. In addition, the study seeks to determine factors that encourage or prevent some of the academics at the University from using these tools in teaching practices despite the existing training courses and availability of learning management systems (LMSs).

Accordingly, the case study in this research describes a single case study rather than multiple cases that provide a unique example bounded by real situations and comprised of academics and administrators as participants in this study at a specific time.

3.3 Justification of Research Design

The purpose of this section is to ensure that the type of research design and methodology are justified and appropriate for the desired outcomes of this study. The research design establishes a logical sequence of events in the research process. A detailed explication of each selected method is given as follows:

1. Choosing the social constructivist approach as a philosophical worldview seems to be the most appropriate philosophical worldview due to the nature of this study and to achieve the goals of the research. This research seeks to understand the participants' experiences and perceptions regarding the blended learning approach. Due to the variety of blended learning forms and because each participant has their own inherent values and experiences; so, this research approach helps the researcher to see the broader meaning of blended learning and its varieties in using different technology tools in education at KAU from the academics and administrators' points view. In addition, this approach helps to investigate attributes that have an effect on using digital tools in teaching and educational culture. These aims are achieved by obtaining a variety of participants' opinions and practices to look into the boarder picture of the area of the research and to categorise these different perspectives into themes and patterns which represent the situation of study.
2. Owing to the choice of the social constructivist approach as the philosophical worldview, a qualitative approach is chosen in this study as the research method. Firstly, the constructivist philosophical worldview is an approach of qualitative research. Secondly, the qualitative research method aims to understand specific phenomena, issues or ideas of the area of study by gaining a deep understanding of participants' perspectives and explores their individual or community experiences, culture and the attitudes of the targets and their understanding of these phenomena, which is meets the aims of this study. Additionally, qualitative

research is useful for policy and practice decisions in developing the teaching and learning field so this research describes the setting of implementation of policies involving development of blended learning and teaching through the administrators and provides a better understanding of the nature of education and teaching problems.

In addition, another reason for using a qualitative approach is that most studies investigating blended learning are conducted via quantitative and mixed research design approaches which focus on studying specific attributes and the generation of correlations between factors that have been measured. The reason for choosing a qualitative approach for this study is the necessity of exploring non-defined concepts in depth and considering the context and history of the existing blended learning implementation at KAU.

3. In choosing a qualitative research method for this study, the researcher has considered a methodology or models within the qualitative approach. So, the qualitative case study approach has been chosen for this study because it aims to explore the real-life experiences of the participants, their opinions, attitudes and to gain in-depth explanations of individuals and their behaviour within real life settings, which is applicable to the aims of this study. Besides this, the qualitative case study approach works for embracing and building on uncontrolled variables and unanticipated events where the research looks to the boarder meaning of blended learning in the University and find the variables that affect this approach to learning. Additionally, the case study approach will help in answering 'how', 'what' and 'why' questions which appear in the research questions of this study.
4. Due to a lack of studies in the Arabic context in general and in Saudi Arabia, in particular compared to studies in a foreign context regarding the blended learning approach the Kingdom of Saudi Arabia has been chosen as a main case in this study for two reasons. Firstly, it is easy for the researcher to access to Saudi Arabia as a Saudi citizen in order to collect data and thus conduct the study. In addition, the higher educational system at Saudi universities in familiar to the researcher, which saves on the time required to conduct the study.
5. Since the case study approach focuses on a specific environment or situation; KAU is chosen as a case study for this research due to the experience of the University in E-learning system where KAU is the first University in the Kingdom of Saudi Arabia to adopt entirely (fully) online learning courses

established by the Deanship of E-learning and distance education (DEDE). Thus, the KAU has more experience than other Saudi universities in its E-learning approach (King Abdulaziz University, 2017c). So, the rich experience in this University guides the researcher to investigate the situation about using digital tools and social network sites in the blended learning approach for all of the University's departments that do not use the entirely E-learning system and instead use these tools to support their traditional teaching (face-to-face).

In addition, KAU was the first University in Saudi Arabia to implement computer technologies in the admission system, course schedules, office work, grade reports in the Arabic language, and was one of the first universities in Saudi Arabia that applied computer technologies in the library (Alturise and Alojaiman, 2013). This position of KAU prompts the researcher to explore the situation of the blended learning environment with the main programs in the University (face-to-face) approach.

In terms of choosing one case study rather than multiple cases, the reason for this is the differences in the IT infrastructure between different universities at the Kingdom and the policy for each Saudi university which means every university has a different learning and teaching environment, policies and different digital tools which require multiple cases and presents difficulties in covering all these cases. Moreover, the reason for choosing one case study not multiple cases is the difficulty with transportation for the researcher between different universities and difficulties and time consumption in gaining permission access other universities in order to have contact directly with the participants within the limit of the study time. The final reason for choosing the one case study approach is its uniqueness, as studies in the literature review has shown no such case replication at KAU or other Saudi universities.

Furthermore, the researcher's position as administrator in the Deanship of information technology (DIT) at KAU had led the researcher to investigate the notice of lack of use of technology tools in the teaching process. This position provides to the researcher easy direct contact with the University's members during the time of the research instead of having to obtain permission to gain entry to the University's campus.

3.4 Choosing Data Collection Methods and Justification

Data collection methods refer to the tools used by the researcher to collect data from the target participants which help in answering the research questions. The collected data will provide evidence from the participants' responses in order to reach the goals of the study.

This research studies one organization and collects data from different units including different people. The data collected are in qualitative form to meet the research design approach criteria and achieve the aims of this approach that helps in describing participants' experiences, perceptions and opinions of the phenomena under study. In this study the researcher aims to collecting sufficient, rich data that clearly shows the participants' experiences of the topic of study. So, in order to answer the research questions and to increase the credibility of the collected data, different qualitative tools have been applied. Consequently, a suitable way to explore and understand the area of study is to utilize data collection tools associated with qualitative methods, for example, open-ended questionnaires, interviews, observations, documents, archival records, physical artefacts and focus groups. Qualitative data collection methods will generate data dealing with meanings expressed in text, images or sound rather than numbers and will differ depending on context and are negotiable between different observers (Dey, 1993; Mack et al., 2005; Polkinghorne, 2005; Yin, 2009).

The segregated environment between different genders in the Saudi educational environment restricts the data collection methods. Where it is difficult to the researcher to offer the equality environment in collecting data between different genders which could affect the study results. Thus, the researcher has to be aware about choosing the qualitative data collection methods in a manner to provide the same opportunities to all participants in a constrained environment where a female researcher cannot have direct or face-to-face contact with male members at the University. Therefore, the following sections describe the research instruments that were applied in this study in order to answer the research questions and reach the goals of the study.

3.4.1 Documents

Document analysis is one type of qualitative data to gain deeper meaning or to understand the content of the phenomena under study (Lewis and Ritchie, 2003). Documents could be media reports, publicity materials, government papers, formal letters, emails, dairies or photographs. There are two types of documents which are hard copy documents and electronic documents such as digital records, websites or blogs.

Instead of asking participants factual questions, documents such as emails and reports help to save time and act as a guide regarding the history and policy of events or experiences. Moreover, documents are valuable in counteracting the biases within the interview (Meyer, 2001) and help to obtain a better vision regarding the area under study.

Documents have chosen in this study to provide contributions, filling out the experiences of the participants under investigation and because it is a form of information that is natural and authentic within the environment under study. So, in this study documents relating to blended learning policy and implementation through different types of online tools will help to shape and understand the history and the process of supporting the academics' digital skills at the University. Documents in this study are collected from two main sources: hard copy documents produced from the University; and online documents available on the KAU's website. These documents include instructions, manuals, guidelines, organization policies and reports, training workshops, academics' personal websites and blogs regarding blended learning practice in the University, which help in identify the process of changes from purely traditional learning to blended learning.

3.4.2 Qualitative Questionnaires

Qualitative questionnaires are used to uncover the participants' views and the meaning of a specific situation in constructivist research. Open-ended questions are appropriate to understand the cultural and historical setting of the participants and to focus on certain contexts in which people live and work (Creswell, 2009; Creswell, 2012). An open-ended questionnaire is semi-structured or unstructured questions and

word-based questions are appropriate data collection method to grasp a specific situation and to give the respondents freedom to write (Cohen, Manion and Morrison, 2000). Open-ended questionnaires are an appropriate way to gain participants' subjective overviews, and align with a constructivist worldview (Creswell, 2009).

Moreover, the qualitative questionnaire is a useful tool in describing the characteristics of a large sample in a short time and is suitable for utilisation in explanatory and descriptive research. It provides anonymity and privacy to participants which increase the chance of participants answering honestly in the absence of the researcher. Additionally, the qualitative questionnaire enables equality for each participant in answering the same question in the same format, which represents the equality for the questions structure and trustworthiness of the method.

On the other hand, qualitative questionnaires could have some limitations such as the absence of physical interaction with the participants, misunderstanding and ambiguity of questions where it is difficult to know whether or not the participant understands the question and there is the possibility for participants to give answers that show themselves in a good light. Also, qualitative questionnaire responses are difficult in terms of gathering detailed answers, coding and classifying the answers due to varieties of responses and synonyms (Cohen, Manion and Morrison, 2000). In order to get more responses, the questionnaire must be designed in an attractive way and have the minimum number of pages, and this may affect the questionnaire's answers in terms of quality and quantity.

It was planned as a first phase of this study to conduct pilot face-to-face interviews with the target participants at KAU to get detailed responses to help in understanding the environment of blended learning at the University. Due to a lack of responses from the female participants to be involved in the pilot face-to-face interviews at the time the researcher was in Saudi Arabia, and the impossibility of contacting directly male participants due to the segregated gender environment, the researcher preferred to distribute hard copies of qualitative open-ended questionnaires instead of face-to-face interviews.

The purpose of using a qualitative questionnaire as the main data collection method in this study was mainly to obtain a general picture of the blended learning environment and to obtain a broad understanding of the academics' and administrators' perceptions and practices, in terms of the use of technological tools or social sites as blended learning tools at KAU. In addition, open-ended questionnaires were used in this study due to their flexibility in gaining detailed access to the participants' opinions and views, and to understand their attitudes and experiences in their own terms. Moreover, qualitative questionnaires will assist in fulfilling the aims of the study by providing descriptive, in-depth data on the target participants' attitudes and behaviours regarding the area of the study. In addition, because a qualitative questionnaire can reach a larger population, it is used in this study to ensure a high number of responses and to ensure the same environment for all the participants, from both genders, in answering the questionnaire.

However, the Deanship of graduate studies at KAU is the only department at the University that can distribute the questionnaires to all target participants in all units and faculties. This means that the questionnaires have the chance of reaching the highest number of participants, and both genders equally, which ensures that there will be no differences between genders on collecting the data and responses. Hard copies of the questionnaires were chosen rather than online questionnaires because this ensured all online and non-online participants were able to participate in this study. This is because the study focuses on the online teaching practice relating to the blended learning environment and focuses on collecting data from academics who both teach in a blended environment and those who do not. Moreover, because it was clear from the pilot study that some academics do not use any type of technology with their students, and the hard copy of the questionnaires ensured that academics who do not use the Internet were also reached.

3.4.3 In-Depth Interview

In-depth interview is considered to be a qualitative tool to gather qualitative data and to gain or explore new and complete comprehensive details about an individual's personal perspectives about the area of study (Lewis and Ritchie, 2003; Mack et al., 2005; Boyce and Neale, 2006). So, qualitative interviews attempt to understand the situation from the subjective viewpoint of the interviewee through accessing their

histories, experiences, norms, opinions, feelings and attitudes (Mack et al., 2005; Kvale and Brinkmann, 2009). The most important issue in conducting interview is to build trust between the interviewees and the researcher (Meyer, 2001).

Open-ended questions in interview give the participants the opportunity to respond in their own words rather than forcing them to choose from fixed responses as in closed-ended questions (Mack et al., 2005). In addition, the form of open-ended questions gives to the researcher the flexibility to ask 'how' and 'why' questions to understand the area of the study in detail (Mack et al., 2005).

Interviews could be face-to-face interview or online. Face-to-face interviews provide the opportunity to observe individual participants and write memos. On the other hand, in online interviews, the researcher is the instrument for collecting the data as the interviews are conducted by the researcher, which depends on the researcher's experience in doing interviews (Salmons, 2015). The interview could be conducted via email, telephone, mobile, Skype or any communication tool or software which leads to produce data in text or audio formats. There are two types for online interview: synchronous and asynchronous. A synchronous interview occurs where the researcher and interviewee are online at the same time and exchange dialog in real time using text chat, multichannel meeting software, videoconference, video call, multichannel meeting or virtual programs. Whereas an asynchronous interview has a time lapse between the researcher's questions and participant's responses by using blogs, emails or forums. So, participants in asynchronous interview can read the interview's questions and reflect on their responses and this gives to the interviewee time to think and respond. Also, there is the possibility with asynchronous interview to interview more than one participant at a time and offer easy accessibility for answering at any time (Salmons, 2015). This type of interview is low in cost because there is no need for transportation and transcription if it is a written discussion.

An online interview allows the researcher access to the participants individually who cannot reach or face them geographically or by phone in their familiar environment. Thus, it reduces cost of calling or travelling to meet the participants and reduces the time for transcribing if the interview occurs through text discussion. Additionally, it allows access to participants who do not or cannot express his/herself in talking and

prefers writing. On the other hand, only individuals or groups who have access to the Internet can participate in online interview and both researcher and the interviewee must know how to communicate via online tools and have the skills to do so. Also, the interview will be affected by the Internet quality and connection between the researcher and interviewee. Difficulties in online interviews appear if the interviewee is in a different time zone so that the process becomes time consuming due to participants' availability to answer. Additionally, a lack of participants' facial expressions in non-visual methods of interview, and difficulty for the researcher to identify the interviewee and make sure that he/her makes contact also pose problems.

In general, all types of interview are time consuming in data collection, transcription and analysis time. In addition, training time for the researcher to become familiar with the interview before it is adopted. Another difficulty for the interview is the difficulty of generalizing the results of the interview due to the small number of samples besides the high cost and limited access to some cases.

Regarding this study, the first stage of this study gives the researcher an understanding of the current educational environment and participants' perspectives of the blended learning approach at the University. In addition, it helps the researcher generate a set of themes and concepts regarding the use of different technology tools, LMSs and social sites as blended tools in education and types of training workshops conducted to develop the academics' digital knowledge. These themes and concepts help the researcher develop interview questions for the second phase of this study. So, after implementation and finishing of the first phase of this study through the qualitative questionnaires, some issues arose that needed more clarification and understanding. Consequently, online interviews were implemented as a second phase of this study in order to gain an in-depth understanding of some issues that were not understandable or were not clear during the first stage of this study. Moreover, this will increase the credibility of the findings by comparing the findings from the online interviews with the findings in the questionnaires.

Online interviews were chosen instead of face-to face interviews for three main reasons. Firstly, problems relating to the difficulty of the researcher at that time to be in the Kingdom of Saudi Arabia due to visa issues. Also, it ensured that all male and female participants had the same opportunity to participate in this study since it was

not possible for the female researcher to meet with male staff due to the Saudi segregated gender culture. It is also not acceptable in the Saudi culture to have contact through a camera or video link, even with individuals of the same gender. In addition, this avoided any bias resulting from the use of different data collection techniques for different genders and to understand whether gender has an effect on teaching practice or not. Thus, for Islamic and culture-related issues, several steps were taken to obtain equal access to all participants of both genders, as seen in section 3.4.2.

3.5 Sampling

Designing the sample required consideration of several issues before deciding the appropriate strategy. Consequently, in this study the researcher considered the research aims, population, what should be included and excluded from the sample, time to complete the online interviews or questionnaires, researcher's skills, type of data required and data collection tools, as important factors to choose the appropriate target sample and techniques. In addition, in this study qualitative research does not aim to generalize the findings and each phenomenon needs to appear once in the sample. As the aim of this study is to gain a deep understanding of the phenomena under study from different perspectives and experiences, non-probability sampling aligns with the aim not to produce a statistically representative sample.

3.5.1 Choosing Participants and Justification

The aim of this research is to gain understanding of the blended learning educational culture at KAU from the perspectives of the academics and administrators.

Academics and administrators are regularly asked to reform the educational system through new curricula, different assessment or new educational technology. So, this study focuses on the population at the KAU represented by the administrative and academic members. The study targets the academics who teach full-time programs at the University and the administrators who are responsible to develop the academics' digital skills and work to develop blended learning approach at the University.

Accordingly, a variety of participant types gives the study richness and diversity of data from different points of view and experiences.

To support the blended learning approach at the University, teaching staff must be supported through enhancing of their digital literacies' experiences and confidence because this will affect students' digital skills. Good learners' experiences and confidence with technology in the education environment critically depends on teachers (JISC, 2011). Accordingly, the target participant in this study is the academics at the University who are responsible for teaching in full-time programs. Two groups of academics were involved in this study, which are the academic technology users and non-users, in order to avoid bias in selecting the academic participants. The academics at KAU were chosen in this study as the main participants due to their vital roles in the learning process under the University policy for full-time programs that affect directly to their students' learning. In addition, the academics at KAU show the changes in the educational culture when moving from traditional learning (face-to-face) to blended learning. Accordingly, the current role of the academics at the University in face-to face learning is to present their own knowledge rather than focus on the process of learning whereby students construct their own knowledge and become independent learners. This is because the learning environment in traditional learning at all educational levels of the Saudi education sector depends completely on teachers transmitting information rather than helping students to be dependent learners (Gulnaz, Alfaqih and Mashhour, 2015; Hamdan, 2015).

On the other hand, other staff such as managers, students' service providers or technical staff need to be support it in the case of learning organisations (JISC, 2011). However, in this study the target administrators are administrators who are responsible for developing the academics' digital skills who teach in full-time programs in order to support blended learning practice. In addition, administrators are concerned with making optimal usage of technological tools, LMSs or social sites by conducting training workshops that aim to maximize their use and performance of digital resources to support their traditional teaching practices. Moreover, the administrators at the University share in creating and promoting the digital learning culture to meet different individuals and diverse needs of all the academics and learners, and to ensure effective practice of different technology tools and its infusion across courses. Some administrators do engage in daily teaching and are in contact directly with students. These individuals are also responsible for

learning management and successful support for learning implementation and environment through guide planning and decision making, overcoming barriers and addressing policy issues as administrative roles.

So, the target administrators work in different units at the University which are the Deanship of information technology (DIT), Deanship of E-learning and distance education (DEDE) and the centre for teaching and learning development (CTLD). So, the study seeks to identify how the administrators at the University support blended learning approach through supporting the academics' usage of digital tools in their teaching practices. Accordingly, the aim of choosing the target administrators as participants in this study is to investigate and understand the policy on using technological tools, LMSs or social sites as blended learning tools for full-time programs at KAU from their perspectives. In addition, to find what tasks they engage in to develop the academics' digital usage in their teaching approach. This information will help in developing an effective blended learning environment in the University after knowing the policy of the University regarding blended learning, and ways of technology implementation and knowing factors that affect this area.

The researcher has chosen the administrators and academics at KAU as the main participants and has excluded students as participants for two reasons. The first reason is to focus on those who develop learning, the administrators and academics, before information is delivered to students. Thus it is important to explore their roles and perspectives regarding the utilisation of technologies. The second reason is to fill the gap of lack studies about take administrators or academics as participants in blended learning environment. Where, the literature review has shown a lot of studies indicating the adoption of technology in education and blended learning approaches in higher educational systems, most of these studies focused on students as a main participants (Willem, Aiello and Bartolomé, 2007; McCarthy, 2010; Şahin, 2010; Tempelaar et al., 2010; Donnelly, 2011; López-Pérez, Pérez-López and Rodríguez-Ariza, 2011; Ankit, Naaj and Nachouki, 2012; Qu and Lu, 2012; Facharzt et al., 2013; Khechine et al. 2014; Alshahrani, 2015; Ja'ashan, 2015; Alaidarous and Madini, 2016; Sajid et al., 2016). On the other hand, very few studies have been shown in the literature that target both academics and students (Almalki, 2011; Alebaikan, 2012; Maulan and Ibrahim, 2012; Tulaboev, 2013; Khan, 2014;

Alshathri, 2016). The same issue occurs with studies that target academics only (Mortera-Gutierrez, 2005; Abanmy and Hussein, 2011; Allani and Sharafuddin, 2012; Tshabalala et al., 2014; Alzahrani and O'Toole, 2017) or studies that target administrators and students (Aljahni, Obayya and Skinner, 2010), or administrators only (Graham, Harrison and Woodfield, 2013). Accordingly, the low number of studies that target the academics and administrators has driven the researcher to focus on this target sample.

3.5.2 Sampling Techniques and Justifications

It was critical to choose a sampling technique that ensures all participants in this study have an equal chance to participate and to ensure the effect of bias in selecting participants is reduced. In addition, choosing sampling techniques depends on the purpose of the study, available resources, population, time constraints and cost.

Because this study followed qualitative case study research so, the study must follow sampling techniques that support this approach. Qualitative research uses non-probability sampling techniques to select from population of the study. Therefore, it is not intended to statistically represent the population but it reflects specific features of groups within the whole population (Lewis and Ritchie, 2003). Three common qualitative sampling techniques are purposeful sampling, quota sampling and snowball sampling (Mack et al., 2005).

In section 3.2.2.3, the case boundaries and population of this study were been identified where the study involved the academics who teach full-time programs and administrators who are responsible to develop the academics' digital skills in order to support a blended learning approach at KAU. However, the choice of sampling techniques has been made in the beginning of the research design guided by the aims of the research, budget, resources available, existing knowledge from the literature review and the size of study population. In addition, several factors have been considered in terms of sampling techniques, where the researcher ensures that the participant represent study circumstances and ensure that the participants are as diverse as possible within these circumstances of the study that have been defined earlier. These varieties of participants will help the researcher to identify a full range

of factors that affect the area of study and help in investigating the relationships between different variables.

This study was conducted in two phases. The first phase was conducted through qualitative questionnaires and the second phase through online interviews. So, appropriate sampling technique has to be chosen in each stage that meets the target of that stage.

3.5.2.1 Purposeful Sampling

Purposeful sampling is one of the common, non-probability methods in selecting a sample in a qualitative study. This technique works by pre-selecting criteria for the participants, which depend on the area of study, population, study objectives and research questions (Mack et al., 2005). The target of the purposeful sampling is to gain enough diverse data and reach the stated purpose to meet the research's goals (Koerber and McMichael, 2008; Bazeley, 2013). In purposeful sampling, the quality of the collected data is more important than quantity. However, large qualitative sample data are preferred to ensure different perspectives or opinions of the research goals and to avoid problems of small sample size which may result in bias (Oppong, 2013). The sample number in the purposeful sampling is less important than the criteria used to select the participants. The criteria chosen to select them depend on the characteristics of the individuals that reflect the diversity and breadth of the sample.

There are different types of purposeful sample technique, and each one is appropriate for different study objectives. So, for each phase of this study one type of purposeful sampling technique was selected.

3.5.2.1.1 Convenience Sampling

In convenience sampling, the researcher does not follow any sampling strategy and selects the target participants according to ease of access and who required low cost (Lewis and Ritchie, 2003). The target aim in the first stage of this study is to reach the maximum number of target participants in order to understand the blended learning environment and educational culture through maximum varieties of perspectives, opinions and experiences. Therefore,

convenience sampling is appropriate in helping the researcher to find the participants at the University who can help to get access to different individuals' experiences and perspectives, in order to reach maximum variation sampling and get deep understanding of the area of study.

Consequently, the target academics in this study are all academics who work at KAU main campus and are responsible for teaching full-time programs. In addition, the target administrators in this study are administrators who are involved in developing the academics' digital skills or supporting blended approach at the University as a part of their job. In regard to the academics and administrators, convenience sampling was chosen where the researcher defined clearly the target participants to the Deanship responsible for distributing the hard copies of questionnaires to the target participants in all target units at the University. This technique is ideal to reach a large sample representing the academics and administrators' at KAU and to ensure all participants have an equal chance to participate in the study.

3.5.2.1.2 Snowball Sampling

Snowball sampling technique is a type of purposeful sampling used when the researcher asks participants who are already involved in the study to recommend other individuals who meet the criteria of the study to be participants (Lewis and Ritchie, 2003; Mack et al., 2005; Creswell, 2012). In the second phase of this study which was conducted through the online interviews, the target was to obtain in-depth information that was not clear from the first phase. So, during the second stage of this study, the researcher asked each academic and administrator participant about other participants who could participate.

3.5.3 Sample Size

A smaller sample size is usually used in qualitative research, compared to quantitative research. This is because qualitative research does not aim to generalize the findings but aims to reflect the diversity of a specific population and to understand specific phenomena that are not clearly defined from participants' experiences and to find attributes that effect it. Also, in qualitative research any new

evidence needs to be appear once to be part of the analytical map. Finally, qualitative research requires collecting of data from different resources such as interview, focus group, observation and documents which can be difficult in terms of managing and analysing the quantity of data generated (Cohen, Manion and Morrison, 2000; Lewis and Ritchie, 2003; Rudestam and Newton, 2007). So, the sample size in the qualitative study does not depend on the population and sampling error as in quantitative research but depends on available resources, time and study's objectives (Mack et al., 2005; Lichtman, 2013).

As described by Yin (2009), in qualitative case study research, collecting data can stop when enough evidence has been collected from more than one source and this evidence can investigate the target of the study and rival explanations or hypotheses. The target of this research is not only to aim to gather a specific number of participants that represent varying perspectives and experiences but also aims to find participants who are willing to be participate in the study either by answering the questionnaires or by being interviewed. So, the aim is to select the maximum number of users and non-users of technology tools in teaching practice from relevant academics and administrators. Accordingly, the sample size depends on the participants' responses to participate in the study. Consequently, it was anticipated that there would not be fewer than 20 academic members or any fewer than six administrators in the first phase of this study. Also, it was anticipated that it would not be fewer than 7 academics and 4 administrators in the second phase of this study.

3.6 Investigation before Conducting the Study

To understand the learning educational culture in the University before conducting the actual study, the researcher conducted several informal investigations to be sure of the necessity of this study before conducting it. Firstly, as a result of the researcher's position at KAU as a trainer in the Deanship of information technology (DIT) in the female section, the main observation of the researcher was the lack of academics' computer skills, especially for older academics, and the lack of use of digital tools, personal websites or social sites from some of the academics at the University during or after class time.

To support this informal observation, the researcher posted a question in November 2011 on the KAU student Facebook page asking them if they had used any technology tools in any subject as a blended tool during their years of study. A total of 12 female students and one male student responded to the question. The results of this investigation showed that 10 out of 13 students have never use any type of technology tool or social site during the entire course of their undergraduate study and were not advised by their academics to use them. The other three students answered that they used different social sites such as blogs, Facebook and Twitter to communicate with their academics just for one course during all of their undergraduate study years. The students mentioned that their teachers did not support the integration of technologies in education and did not respond to their emails. This informal investigation revealed the low level of usage of technologies or social sites through a group of graduated students from KAU. Although the low number of student participants does not reflect the real educational community, it signals that students are spending at least four years at the University without having used any type of technology.

Additionally, to confirm this view, the researcher conducted an informal interview with the head of the application gate of the University management unit at the Deanship of information technology at KAU on April 2012. This unit is responsible for managing and conducting training workshops for academics to help them in publishing and managing their academic website contents. The interviewee revealed the low number of academics who manage their websites and update them regularly and mentioned some of the reasons preventing them from updating their websites or using technologies in teaching. These reasons are the lack of time, as Saudi women have more responsibilities at home, lack of Internet access, lack of academics' digital skills, lack of motivation and type of curriculum materials. Also, she mentioned the monthly monetary rewards for every academic who published his/her website as an encouragement from the University to integrate online tools into education. This reward encourages academics at the University to publish their websites, but because this reward continues on a monthly basis after publishing the website, the academics do not continue to update their website contents because there is nothing to encourage them to do so or not enough time to update it.

For further confirmation of this issue, the researcher observed 192 academic websites at the KAU distributed across six faculties and 59 different departments. The observation was conducted from 31 Mar 2012 to 11 April 2012. Websites were randomly chosen by selecting from each department the first two academics from each gender listed on the website (Drsites, 2017). The observation was conducted by looking at all webpages for each academic's personal website in both Arabic and English versions. This observation confirmed the responses of the head of the application gate of the University management unit, revealing the low usage of academics' websites or updating of their contents after publishing.

Since the University provides free academic blogs to all University members as a tool for communication, the researcher investigated these blogs on August 2012. A total of 332 blogs published at the time of the investigation were checked (KAU Blogs, 2017). The investigation was conducted by looking through each blog's contents to determine the type of communication and relations between the academics and their students. The observation found 332 blogs published at the time of the investigation, considered a very small number compared with the more than 82,000 students and thousands of academics and administrators at the University who can publish blogs. Also, the observation indicated that two student blogs and 17 academic blogs out of the 332 have scientific information content while the rest of the blogs are varied between empty blogs and general information not related to the scientific courses at the University. The investigation revealed the lack of online communication between the academics and their students through KAU blogs.

In summary, the previous, informal investigations signal the lack of academic usage of technology tools, websites or blogs as online communication tools in KAU as a specific case. Accordingly, the educational culture at KAU can be considered to be a traditional learning environment concentrated on exchange of information physically during the class time.

3.7 Pilot Studies

A pilot study does not aim to obtain evidence or to gather data but it aims to prepare the researcher to be familiar with the study procedures and data collection tools. So, conducting a pilot study allows the researcher to become more confident and

experienced in dealing with participants, different research methods, and to get an overview of the sample and data size, in relation to the research questions and scope. In addition, the researcher will be aware in advance of any obstacles during conducting the pilot study which could be avoided during the actual study (Thabane et al., 2010).

Prior to distributing the hard copy of the questionnaires and before conducting the online interviews, these had to be piloted in order to check that they met the study aims, alongside the respondent's credibility and trustworthiness. They also enabled the researcher to refine data collection methods and to be sure about the resources, length of questionnaire's time, steps of the study, time process, understanding of the study's questions and answers and to track the order and questions' structure. In addition, the pilot study was designed to check the questionnaire's and online interview's questions and responses if there are any ambiguous questions and to make sure that all questions could be understood easily without any ambiguity, in order to avoid collecting unimportant data and to improve the efficiency and quality of the questionnaires and online interviews' questions.

Two pilot studies have been conducted to test the participants' understanding of the questions. In addition, to get more detailed information from the participants, online interviews have been conducted in the second phase of this study and piloted before conducting the actual interviews.

3.7.1 Designing the Pilot Studies

Designing the pilot study and actual research depends on the aims of the study and environment of the area under study. As a member of KAU, the researcher can access easily the University to conduct the study. Also, the researcher chose to conduct the study during the semester to guarantee the attendance of the target participants at the University.

Because this study aims to understand a blended learning approach at KAU, the study does not focus on a specific technology or online tool as a blended learning tool. It is difficult to do that because the researcher has to enforce the academics and their students to use specific tool, which could affect their usage and teaching practice. So, to understand the natural situation of blended learning implementation

and practice, the researcher preferred to understand different tools implemented already by the academics or suggested by the administrators at the University. During the design of questionnaires and interview questions, the researcher considered demographic data. These data are essential in this study to consider how gender, age, position, field of specialisation and years of experience affect the participants' responses.

3.7.1.1 Questionnaires' Design

The first step of designing the questionnaires' is to decide what information is required. To achieve the aims of the study, the topics that need to be covered in the questionnaires' include the following.

1. Purpose and reasons for blended learning implementation and practice within full-time programs.
2. Blended learning forms and technology tools that applied with this type of education.
3. The University policy and support methods to encourage blended learning practice.
4. Changes in educational culture after moving from purely face-to-face to a blended learning approach.
5. Positive or negative issues that arise from blended learning practice.

During the design of the questionnaires, the questionnaire layout was kept simple and consistent. The font size used was clear and bold font was used for any important words to grasp the attention of the participants. Also, there was adequate space between each question, with enough space left for detailed responses for each open-ended question. The questionnaires started with demographic questions followed by general questions and then by more specific ones. Care was taken to avoid leading questions.

Great attention was paid to the question wording, since it was first developed in English and then translated to Arabic by the researcher, which is the main language in the University and because all target participants are Arabic native speakers. Translation was verified by using back-translation techniques to ensure the equivalence of the wording in translation. This was important to avoid any

colloquial speech or slang phrases, which may offend or affect understanding of questions. The backward translation was carried out using the following sequence of steps.

1. The researcher translated all questionnaires' questions into Arabic.
2. Then, the Arabic version of the questionnaires was given to two friends who are academics and specialize in Arabic language to examine the language clarity of each question. Some suggestions were made to improve Arabic wording such as adding alternative words and adding explanations for some academic phrases.
3. After applying all their suggestions, the researcher gave the original English and Arabic versions to two individuals who specialized in English as second language, in order to confirm the translation and clarity of both languages. There were no significant differences between the two versions.
4. Then, the Arabic version of the questionnaires was given to a colleague who specializes in the English linguistic field and who is a native Arabic speaker. The colleague was asked to translate back all questionnaires' questions to English.
5. Finally, the new version of English was given to one of the individuals noted in step 3, to examine for any significant differences between the English and Arabic versions. There were no significant differences between the two versions.

The first pilot study targets three different types of participants: the academics' members at KAU who teach full-time programs; the administrators who are responsible for supporting blended learning implementation and supporting academics' digital skills in their teaching activities; and the trainers or workshops' designers who work to support the academics' digital skills through the training workshops. Accordingly, three forms of qualitative questionnaires were designed that fit with the aims of the study and target each specific type of the participants as described in the next sections.

3.7.1.1.1 Academics' Qualitative Questionnaire

The primary aim of the academics' qualitative questionnaire is to explore their awareness of using technology tool or social sites as blended tool in terms of their purpose, content, existence, capabilities, teaching functions and barriers facing them. The academics' questionnaire divided into three sections. First, in relation to demographic attributes. Second, questions that aim to explore the academics' participant digital skills. Third, open-ended questions that cover all study aims (see Appendix A).

3.7.1.1.2 Administrators' Qualitative Questionnaire

The main aim of the administrators' questionnaire is to explore initial concepts that demonstrate their role and the University policy regarding the academics in terms of using different technology tools or social sites as blended tool in their teaching practices. The administrators' questionnaire consisted of two sections as shows in the Appendix B. The first section collected the administrators' demographical data. Then, open-ended questions aims to collect data that describe the role of administrators regarding developing the academics' digital skills, University policy regarding blended learning implementation, the importance of implementing technology in teaching, and factors that affect this implementation.

3.7.1.1.3 Workshops Trainers and Designers' Qualitative Questionnaire

The main aim of the workshop trainers and designers' questionnaire is to explore initial concepts that demonstrate their role, activities and University policy regarding the academics in terms of developing them to use different technology tools or social sites as blended tools in their teaching practices. The questionnaires consisted of two sections as shown in Appendix C. The first section collected demographical data, followed by open-ended questions that aimed to collect data that describe their role in developing the academics' digital skills, organizing training workshops, and other factors that affect their roles and blended learning practice.

3.7.1.2 Online Interview Design

The second phase of this study aims to get in-depth responses from participants to understand issues that emerged from the first phase of the study. In order to achieve the aims of the second stage of this study, designing of the online interviews was based on open-ended question. This type of question gives the target participants a chance to express their own opinions and experiences in detail.

In this phase, the themes and concepts generated from the questionnaires and information from the literature review helped the researcher generate a set of interview questions. The online interview questions include open-ended questions guided by the objectives and aims of the study. In this phase, the same type of participants in the first phase participated in the online interviews. Two different versions of the online interview questions were designed, one for the academics (Appendix H) and the other for the administrators at the University (Appendix I).

The researcher ensured the interviews questions were clear, that they related to the research questions, that the layout was simple and unified throughout, that language from the participants' everyday educational life and experience is used, and academic terminology, and repeated or confusing questions are avoided. In addition, during the design process, the researcher ensures that the interviews' questions seek to provide text data represented in the normal language of the participants and rich description of the area of the study, not general opinions and the researcher does not aim to quantify their responses. Accordingly, the interview questions start with general questions followed by specific, open questions. It is designed in a semi-structured way to ask the target participants the same key questions in the same sequence with varied follow-up questions and prompts. These include questions about reasons, opinions, beliefs and more explanations or details by example, if possible, to elaborate and clarify participants' answers and to give additional and in-depth information (Lewis and Ritchie, 2003). In addition, all the main questions are open-ended to give the participants a chance to express their opinions, perspectives and experiences in detail, although no personal or sensitive questions were asked.

Additionally, great attention was paid to wording since the online interview questions for the pilot and actual studies were written in English and then translated to Arabic. The translations were verified using a backward translation technique to ensure equivalence of the wording in translation as was done in the first phase of this study (section 3.6.1.1). This was important to avoid any colloquial speech or slang phrases, which may offend or affect understanding.

3.7.1.2.1 Academics' Online Interview Design

The primary aim of the academics' online interview questions is to explore their perspectives and experiences about blended learning practice at the University in more detail. Analysis of the academics' questionnaire responses in the first phase helped in designing the interview questions. For example, the academics' responses from the first stage of this study showed that some academics consider using technology tools that are used for displaying materials of the curriculum, such as using PowerPoint as a blended tool in teaching practice. To avoid misunderstanding of blended learning terminology during the academics' interview, the researcher asked the interviewee about their blended teaching practice in detail to understand how the academics use blended tools and to understand blended learning concepts from each academic's perspective.

3.7.1.2.2 Administrators' Online Interview Design

The main aim of the administrators' online interview is to explore the concepts that demonstrate their role regarding the academics at the University in terms of using blended tool in their teaching practices. Designing the administrators' interview questions was similar to designing the academics' interview questions. Data were generated from the first phase of this study as well as the literature review to help the researcher to design open-ended questions that helped in reaching the target of this phase.

3.7.2 Pilot Studies Implementations and Implications

3.7.2.1 Qualitative Questionnaires - First Pilot Study Implementation

The first pilot study was implemented through the qualitative questionnaires that are shown in the Appendices A, B and C. It was conducted on the first semester (February-March) of the 2013/2014 academic year. The pilot sample in this study consisted of a small number of participants, which were the academics, administrators and workshops' trainers or designer at KAU. Participants' answers in the pilot study were used to check the credibility and trustworthiness of the questions in this stage. Hard copies of 40 academic questionnaire were distributed to different faculties at the University. In addition, copies of 20 administrator questionnaire were distributed to three different units at the University, which were the Deanship of E-learning and distance education (DEDE), the Deanship of information technology (DIT) and the centre of teaching and learning development (CTLD).

Six academic members, four administrators and four workshop designers filled in the first pilot study questionnaires. All the participants were female and of varying age and experience. Excluding male participants is considered to be a limitation in this pilot study exacerbated by difficulties in distributing the questionnaires in a short period of time. In addition, the aim of the pilot study is to test credibility and trustworthiness without consideration of the participants' answers and demographical variables.

3.7.2.2 Qualitative Questionnaires - First Pilot Study Implications

The data collected from the first pilot study gave the researcher a pre-understanding of the blended learning environment in the University, the University policy in blended learning implementation, using technology tools or social sites, and training workshops conducted to develop the academics' digital skills. The feedback from the pilot study was used to enhance, develop and edit the clarity of the questionnaires' questions, in order to find the optimal way to obtain more responses and offer the same chance to all to participate from both genders. The implications of the first pilot study were obtained by focusing on each question and respondent's answer to the each question without analysis of

the data itself. The aim was to identify if there were any difficult questions in terms of the meaning or unclear questions or to see if there were any unexpected answers.

Accordingly, after checked the responses of the first pilot study, several issues arise.

1. There were some unexpected answers and this could be due to unclear questions or not knowing the definitions of some phrases such as social sites, blended learning and digital literacies. Also, there were some missing answers form some questions and this could be due to not understanding the question or due to the long form of the questionnaire which lead to not interesting to write too much.
2. Some participants noted the length of the questionnaire, as it was time consuming to write the answers in detail and write their comments regarding this issue.
3. Lack of detailed information was observed and this is could be due to the long form of the questionnaire.
4. In general, most of studies conducted in Saudi Arabia are quantitative studies and there are few qualitative studies, as mentioned before in section 2.5. This explains why some participants in the pilot studies asked the researcher to change the questions to a survey containing multiple-choice questions or Likert scale questions which make it easier for them to select the answer.
5. Delay in responses was noted, which will be expected during the actual study time.
6. All workshop' trainers and designers are work as an administrators at the same time.

The above issues prompted the researcher to take a decision about changing and managing the questionnaires' questions in such a way as to gain sufficient and in-depth results and solve and control any issues raised in the first pilot study. These corrections included clarification of wording, correction of typographical errors, deletion of some overlapping questions and changes to some questions content and sequences. These changes were as follows.

1. Some words which were not clear or did not lead to the target answers were changed.
2. The researcher decreased the questions to address the aims of the study.
3. The answers from the first pilot questionnaires led the researcher to change the target participants from three types of participants to two, which are the academics and administrators. This was due to the combination of the responsibilities for both administrators and workshop designers.
4. Starting the questionnaires with general questions rather than asking about their demographical data and moving the demographical data to the end of the questionnaires gave the participants more freedom to write.

3.7.2.3 Qualitative Questionnaires - Second Pilot Study Design and Implementation

The first pilot study gives the researcher a pre-understanding of the educational environment at the University and research process. The implications of the first pilot study led the researcher to change and delete some questions due to the long time taken to fill in the questionnaires. In addition, some questions were re-worded or re-phrased after seeing some unrelated answers and the misunderstanding of some questions. These feedbacks generated two new forms of questionnaire. The first form of the questionnaire targets the academics' members (Appendix D) and the second form targets the administrators at the University (Appendix E).

Both academics and administrators' questionnaires started with open-ended questions that achieve the aims of this study and help in answering the research questions. Then followed by demographic data such as gender, age group, position, field of specialization, years of experience, email and any additional comments respondents wished to add. Asking the participant's about their email is optional in order to get in touch if there are any further questions or need for clarification answers after that.

The second pilot study was conducted on the second semester of the 2013/2014 academic year in order to assess the revised questionnaires for the main study. The same numbers of copies and procedures of distributing the questionnaires in this phase have been followed as in the first pilot study.

3.7.2.4 Qualitative Questionnaires - Second Pilot Study Implications

In the second pilot study for the questionnaires, 14 administrators participated from different age groups. All administrators were female from different deanships and all specialized in computer science except one was a specialist in the public management field. In addition, all academics who responded to the second pilot questionnaire were female from different faculties, ages, teaching experience and different levels of digital skills. After investigating and studying the entire academics and administrators' questionnaires several points arose.

1. Regarding the data collection tool, some of the participants suggested a survey. This suggestion was raised in the first pilot study.
2. Some participants do not recognize the meaning of digital tools, digital literacy and social sites.
3. Some answers were missing for some questions. This could be for several reasons, such as unclear questions or because it consuming too much time to write the answer in detail.

The above issues prompted the researcher to take a decision about changing and managing in the questionnaires in such a way as to gain sufficient and in-depth results, solve and control any issues raised, as follows.

1. Writing a brief introduction page about the research aims, ethical issues and terminologies mentioned in the questionnaires.
2. As missing answers were for different questions for different participants, no changes were made based on unclear or vague questions.
3. In the academics' questionnaire, the first question asked the participant whether or not s/he had previous experience with technology tools or social sites as blended tool in his/her teaching practice. Based on the participant's response to this question, the participant was directed to complete the appropriate section in the questionnaire.

All these actions lead to the generation of two forms for the final qualitative questionnaires. The first form was for the academics participants (Appendix F) and the other form was for the administrators' participants (Appendix G).

3.7.2.5 Online Interview - Pilot Study Implementation

Like the first phase of this study, the pilot study was used to check the questions' credibility and trustworthiness, length of interview time, steps in the study, and to familiarise the researcher with the study procedures and data collection tool. In addition, it developed the researcher's confidence and experience in dealing with participants online, and enabled her to check the responses for any ambiguous questions, to avoid collecting unimportant data and to track the question order and structure. Through the pilot study process, the researcher will be aware in advance of any obstacles while conducting the study and avoid any issues that could happen during the actual study. Additionally, the researcher will be confident about the amount of information obtained, data that fit the study to answer the research questions, and understanding of the blended learning environment.

The online interview questions were designed to be conducted via audio or video software. The researcher has suggested to the participants, either academics or administrators, to participate in the interview via Skype or WhatsApp application available to them, unless other applications were suggested by the interviewee. So the generated data from the interviews will be either instant text only unless the participant wishes to record their voice.

Before implementing the pilot online interview phase, the researcher became familiar with the consent form (Appendix J and K) and interview questions, especially terminologies, by reading the questions and consent form several times. Also, the researcher prepared for any expected answers and follow-up questions from the questionnaires, or first phase of this study, which helps the researcher expect answers and prepare for follow-up questions such as 'tell me more please', 'could you explain in more detail?' 'What do you mean by this?' These questions can be used during the online interviews to get more details and understand what the interviewee means. Furthermore, the researcher recorded herself reading the interviews' questions via mobile phone several times and listened to the recording to familiarise herself with the interview questions and environment.

Before starting the interview with any participant, the researcher filled out a note guide that prepares her for each participant (see Appendix L). This note was

printed for each interviewee participating in the online interview, and it contained essential information such as individual IDs for each interviewee, the date and time of the interview and notes for each question.

The pilot sample in this phase consisted of a small number of participants. The online interview pilot study was conducted on 16-20 October 2016 in the first educational semester of the 2016/2017 academic year. All participating interviewees accepted the interview request via WhatsApp mobile application using instant text messages or recording their voice.

The researcher started the pilot interview by greeting the participants and thanking them for their participation. Then, the researcher asked each participant, through a WhatsApp message, for his/her permission to conduct the pilot interview by sending the consent agreement as an online message in Arabic text (Appendices J and K) with a request for a suitable time at which to conduct the pilot interview. Once the interviewee agreed to be interviewed by signing the informed consent form, the researcher briefly explained the aim of the study and how the interview was going to be conducted and how much time approximately it would take. Then, the researcher asked the participants if they have any questions before starting the interview.

During the pilot online interview, the researcher left enough time for the interviewee to answer each question without interruption with additional questions. The researcher also did not send more than one question at a time and took notes during the interview regarding any further questions or further explanations by using abbreviations and acronyms to write fast in the note guide (Appendix L).

By the end of each pilot online interview, the researcher asked the interviewee if s/he has anything to add, had any feedback or would like to make any comments about the type of questions that were asked and then the researcher showed her appreciation for the individual participating in the interview and adding value to the research. Then, the researcher reminded the interviewee how to get in touch with the researcher should they need to do so for any reason.

3.7.2.6 Online Interview - Pilot Study Implications

The aim of the online interview pilot study was to identify if there were any difficult or unclear questions in terms of the meaning and to see if there were any unexpected answers. The implications of this pilot study were obtained by focusing on the questions and respondents' answers to these questions without analysing the data itself.

The researcher piloted the initial interview questions with two academics and one administrator and asked them for their comments and feedback. All participants preferred to conduct the interview over text via WhatsApp, and all of them were females of varying ages and experiences. The reason for that was because it was easy for the researcher to get access to them than male participants. Excluding male participants is considered a limitation in this phase because of the difficulties contacting them because of the time limitation of the study. In addition, the aim of the pilot study was to test the interview questions, not the participants' answers, so differences in gender are not considered an important factor in this stage of the study.

The implications of the interview pilot study led the researcher to re-word and re-phrase a few words and correct typographical errors of some words after seeing some unrelated answers and misunderstandings of these questions. In addition, as a result of the pilot study, the researcher added some probe questions as a reminder when conducting the actual study. This feedback generated the final version of the online interview questions for the academics (Appendix M) and administrators (Appendix N).

The final version of the academics' online interview (Appendix M) consists of two sections. The first section contains six open-ended questions that ask the participant to describe his or her usage of different types of technology tools as blended tools, ways of blending, support from the University, motivation for blending, ways of developing a teaching process and barriers they face. The second section asks for the interviewee's demographic data such as gender, age group, position, faculty, field of specialisation, years of experience and any additional comments the respondents wished to add.

On the other hand, the final version of the administrators' online interview (Appendix N) was finalised after being piloted. The final administrators' online interview questions consisted of two sections, and the data generated will be presented as follows: The first section includes five open-ended questions describing the University policy regarding blended learning, administrators' roles regarding this policy, ways to assess academic staff, advantages of blended learning and difficulties they face. The second section of the administrators' online interview consists of demographic data such as gender, age group, position, field of specialisation, years of experience and any additional comments respondents wished to add to figure out how these elements affect their answers.

Moreover, the researcher noticed the time it took to conduct the online interview pilot study by exchanging instant text through the WhatsApp application is slightly long, between 30-40 minutes, because the participants have to wait until the researcher finishes writing the question and sends it to them. For that reason, the researcher saved all interview questions in the note application on the mobile to copy each question individually and send it to the target participant to reduce the length of time. On the other hand, for participants who prefer to exchange audio with the researcher, the researcher recorded each interview question individually to send to the target participant as a broadcast to limit the time of recording each question while conducting the interview and reducing interview's length.

3.8 Actual Study Procedures

In this study, two types of data collection tools were used as a main data source and used in two phases during this study. In addition, documents as secondary data sources were used to support the outcomes from the two main stages of the study. The next two sections will describe in detail the process of each phase.

3.8.1 Actual Study (Phase One)

The final questionnaires' questions were drawn from three main resources: the literature, previously developed questionnaires and data derived from the pilot studies. So, the first stage of this study was comprised of two forms of questionnaires

- one for academics and one for administrators - were carefully designed in terms of both content and style for the academics and administrators for the purpose of this study. The open-ended qualitative questionnaires (Appendices F and G) aim to include the largest number of participants in the study.

Each questionnaire took approximately 10 minutes to complete. It consisted of open-ended questions designed to explore the perceptions of academics towards blended learning and how administrators affect their usage. Using open-ended questions allowed the participants to emphasise or highlight their answers related to their own experience and positions. The participants were also asked for their basic demographic data such as gender, age group, position, field of specialisation and years of experience. The first page of each questionnaire is an introduction with the title of the study, research aims, consent form, terminology definitions and the researcher's contact information.

Before conducting the actual study and distributing the questionnaires, the researcher visited the KAU campus and gained permission from KAU to distribute paper copies of the questionnaires to the target participants in both the male and female units through the Deanship of graduate studies. The researcher had arranged in advance that the actual study would be conducted during the second semester of the academic year 2013/2014, from 31st August 2013 until 15th January 2014, including the Hajj holiday, which occurred on 9–21 October 2013. Hard copies of both the academics' and administrators' questionnaires were distributed to all faculties and target Deanships at the University in both the male and female sections through the Deanship of graduate studies.

All completed questionnaires were returned to the Deanship and collected by the researcher. Because the researcher did not receive any responses from the male sections, although several notices were sent through the Deanship during the period of data collection, the actual time for this phase was extended to the end of February 2014, and several personal notices via male family members were sent to encourage the male participants to complete the questionnaires.

3.8.1.1 Academics' Questionnaire

Two hundred hard copies of the academics' qualitative questionnaire (Appendix F) were sent to all faculties at the University to distribute to their academic members in both the male and female sections. The copies of the academics' questionnaire were collected by the Deanship of graduate studies and give to the researcher. Seventy usable copies of the academics' questionnaire were returned and accepted in the study.

3.8.1.2 Administrators' Questionnaire

One hundred hard copies of the administrators' questionnaire (Appendix G) were distributed via the Deanship of graduate studies to three main units: the Deanship of E-learning and distance education (DEDE), the Deanship of information technology (DIT) and the centre of teaching and learning development (CTLD) at KAU for both male and female sections equally.

After collecting the responses from the Deanship of graduate studies, the researcher received a total of 26 copies of the administrators' questionnaire, with 22 copies accepted in the study. The other four questionnaires were omitted because the participants did not have any role in developing the academics' digital skills at the University, which was the main requirement for administrators to participate in this study.

3.8.2 Actual Study (Phase Two)

After acquiring broad perspectives about adopting a blended learning approach from both academics and administrators, as well as their roles and usage regarding different technology tools in the first phase of this study, it is necessary to obtain a detailed understanding of different issues regarding blended learning. These issues are based on the analysis of data obtained from the academics' and administrators' qualitative questionnaires as well as the findings from the literature review. However, the final versions of the online interview questions were developed and refined during and after the pilot study as described in section 3.7.2.

After piloting both the academics and administrators' online interviews questions, the final online interviews were generated to be implemented in the actual study (see appendices M and N). The same procedures that were conducted in the online interviews pilot study mentioned in section 3.7.2.5 were also implemented in this phase for the actual study.

The online interviews for the actual study were conducted from 5 December 2016 to 13 January 2017. A total of nine academics participated in the academics' online interview with differing ranges of values for each demographic attribute, which was advantageous because it discussed a wide range of participants' experiences and perceptions from different academics' levels and majors. In addition, a total of five administrators participated in the administrators' online interview and also had different ranges of values for each demographic attribute (see appendices O and P).

After completing each online interview, the researcher read or listened immediately to the interview conversation, transcribed and expanded the abbreviations and notes taken with ideas and insights so anyone could easily read it. Then, the researcher collected the participants' responses in one Word file to prepare for translation to English. A back-translation technique was used again to ensure the equivalence of the wording in translation. Then, all translated data were separately stored for each participant in tables in Microsoft Excel and in internal folders in Nvivo11 software. Each participant's responses are stored and assigned a unique ID to protect the participants' identities.

3.8.3 Documents

As mentioned in section 3.4.1, this study considers documents as a secondary data collection method, used to support findings that come from the actual study phases. All documents used in this study are online documents available at the KAU official website. These documents are related to the topic of this study and the researcher considered both Arabic and English versions of the documents accepted since the last update of the website. Consequently, after reading and analysing all available online documents, the analysis stage of these documents took place as discussed later in section 4.4.

3.9 Ethical Issues

This study involved gathering information from human beings and organisations, so the researcher must comply with human ethics. Great attention was paid to the wording and clarity of the consent form (see appendices J and K). Accordingly, ethical clearance was obtained prior to the study, so this was carefully considered from the beginning of the study, when the research was planned and approved by the De Montfort University Faculty of Technology Research Ethics Committee.

In addition, the DGS at KAU would not accept any study until it had ethical approval and permission because of differences between European and Arabic cultures. Before conducting the actual study, the researcher directly contacted the DGS and got their permission and ethical approval to conduct the study. Then, the DGS sent all hard copies of the questionnaires to both male and female target participants with letters of authority asking them to cooperate with the researcher by completing the questionnaire. Additionally, before the online interviews, the researcher attached a consent statement and waited for participants' agreement before conducting the interview.

Participation in this study was voluntary. For ethical issues, besides the consent form, every participant was thanked for his or her participation and informed about the study's title, aims, purpose and the expected duration of their participation. In addition, the consent form tells the participants that their identity will be withheld, that the participant has the choice to participate and has a right to withdraw from the study at any time. Further, it asks participants to assist the researcher by answering the questions honestly and in detail to ensure credibility. The consent form also informed participants that all collected data would be used for this study only, and it lists all researchers' contact information in case any questions arise.

Furthermore, data confidentiality was assured and will be maintained, which means that all of the participants' information and responses are confidential because the researcher assigns participants' answers to unique identification numbers that do not identify them. In addition, to keep the data confidential, no names, emails or other information that could identify any participant appears in this study. The file that contains the original data is confidential and will be destroyed after completion of the study.

3.10 Bias in Qualitative Research

Different factors lead to bias in qualitative research (Cohen, Manion and Morrison, 2000). These factors include the researcher's opinions, and the subjectivity of respondents including their perspectives and attitudes. Bias can happen in collecting data, sampling or when pressuring participants to give specific answers (Yeasmin and Rahman, 2012). Bias could also happen as a result of a researcher's lack of experience, background, expectations, approach to questions (e.g. leading), selection of specific participants and lack of analysis.

In this study, the researcher worked to reduce the impact of bias as much as possible. For example, it would be easy to send the online questionnaires to all academics and administrators at the University through official University email. However, the researcher prefers to distribute hard copies of the questionnaires to increase the response rate and avoid bias in collecting data if only academics who use the Internet could complete the questionnaire. Distributing hard copies of the questionnaire gives all academics, whether or not they use technology in teaching, an equal chance to participate in this study. Moreover, the researcher preferred online interviews in the second phase of this study to provide the same chance to all participants of both genders to participate in the study. It increases the value of the study when both genders can participate in a gender-segregated environment.

In addition to that, bias can happen during the analysis of qualitative data. However, the researcher can work to reduce the effect of the bias during the analysis stage through a variety of steps, as discussed in section 3.15.

As mentioned before, the researcher works at KAU, so the researcher shares the characteristics and experiences of the organisational environment and research phenomena. However, to reduce the degree of researcher subjectivity, the researcher did not contribute to generating data in this study.

3.11 Qualitative Research Evaluation Criteria

This study conducted qualitative research as described in detail in section 3.2. In any qualitative research, the relation between the researcher and the participants is subjective, so the researcher seeks to reduce subjectivity by applying trustworthy

criteria. This section evaluates this study using criteria to evaluate qualitative research to address credibility, transferability, dependability and conformability of this research. These are the main criteria that can weaken or increase the power of qualitative research. In this study, issues related to trust were thoroughly examined as described in the next four sections.

3.11.1 Research Credibility (Internal Validity)

The credibility of qualitative research refers to the level of accuracy of the research findings and strength of the conclusions (Gibbs, 2007 as cited by Creswell, 2009). Rudestam and Newton (2007) define the credibility of the research process by presenting research that is well founded and sound, even if the result is not generalizable to a large group. In other words, credibility in qualitative research means that both the researcher and participants are as confident as possible that the findings reflect what the research set out to answer and does not reflect the bias of the researcher (Patton and Cochran, 2002). Credibility relates to a study's genuineness and honesty in which findings accurately represent the phenomena (Anderson, 2010).

Internal credibility deals with the question, 'how consistent are the findings with reality?' Most qualitative research is not open to examination, and this leads to the main internal credibility problem in qualitative research, which arises because most qualitative researchers work alone in the field and focus on finding results rather than describing how they reached these results (Meyer, 2001). In this study, to increase the credibility, depth, richness, honesty and detailed steps for all the research, the journey and analysis process have been recorded so people can understand the research environment, the research background and the research process and how the findings were achievable.

In addition, to ensure the content credibility of questionnaires and interview questions, the researcher ascertained whether the questions were understandable and not confusing to participants when answering them, and any issue that can occur in wording and ambiguity was addressed in the pilot study process (section 3.7). So, the questionnaires and interview questions used in this study were extended versions of questions from several studies and adopted from other literature, which had been

tested and used before and were selected after an intense review of literature and a search to find questions that were linked to the aims and objectives of the research study with some modifications and necessary changes to wording. This means ensuring of the questions credibility due to previous research guarantee.

Additionally, during the pilot studies, the researcher asks participants who are experts on writing questionnaires and interview questions to give their comments and feedback. Remarks by participants during the pilot studies were addressed before the questionnaires and online interviews were finalised (section 3.7).

On other hand, the original questionnaires and online interviews' questions were prepared and written in English and then translated into Arabic because it is the basic language at KAU and most of the staff are native Arabic speakers. To ensure translation credibility and to avoid issues that can occur with wording, ambiguity and translation, the researcher used backward translation techniques as described in section 3.7.1.1.

Moreover, to ensure the credibility of the analysis process, a constant comparative method was applied to examine the data collected to get more valid results. In practice, the analysis of the questionnaires and interviews' responses starts by creating one theme and looking at other participants' answers to find the same theme. For example, when creating a theme titled 'communication', other responses will be examined to find the same theme or a hidden meaning such as 'connection', 'contact' or 'conversation'.

Another method to improve the internal credibility of this research is using numerous sources of evidence (degree of triangulation) (Cohen, Manion and Morrison, 2000; Yin, 2009). Triangulation is a process that increases the credibility and verification of research findings and obtains confirmations of findings through several methods (Yeasmin and Rahman, 2012). This can be done by gathering and analysing data from two or more theories, methods, data sources or investigators in a single study to get full details of different perspectives on specific situations (Law et al., 1998; Lacey and Luff, 2009; Yeasmin and Rahman, 2012). Consequently, there are four types of triangulation in which the researcher can combine more than one type of triangulation in one study to obtain sufficient data and reduce bias (Yeasmin and Rahman, 2012).

1. **Different Resources:** using different research tools or multiple cases is a method of triangulation that increases the credibility of a case study (Teaching and Learning Unit, 2010). Nevertheless, this study chooses a single case study for several reasons mentioned in section 3.3. So, the study looks at different levels of resources by using different types of participants, Deanships and faculties at the University to collect data from more than one type of data collection tool.
2. **Different Methods:** applying a multi-method approach rather than a single method approach is a type of triangulations. In this study, different methods were used to collect different types of data from different types of participants.
3. **Different Investigator:** more than one researcher who investigates the same area of study is also a type of triangulation. This research only uses one researcher, but to increase the credibility of the research at this point, a colleague checked the data analysis for themes generated to support the credibility of the results, and the data collected and the interpretations.
4. **Theory Triangulation:** looking at the collected data from different theoretical perspectives. This research applies the first three triangulations methods because the research starts with analysing with collecting data and not with theory.

3.11.2 Research Transferability (External validity/Generalizability)

Research transferability is defined by Cohen, Manion and Morrison (2000) as a degree of consistency across similar samples and over time. It is described as the degree of consistency with any instance assigned to the same theme by the researcher in different situations. So, truthfulness is concerned with data reproducibility and stability (Anderson, 2010). This means that the study findings are consistent across different projects and researchers (Gibbs, 2007 as cited by Creswell, 2009), and the consistency and stability of the research process means researchers can replicate the study under the same or similar samples or conditions over time (Cohen, Manion and Morrison, 2000; Lewis and Ritchie, 2003; Rudestam and Newton, 2007; Anderson, 2010).

To ensure study transferability, all research steps must be written with detailed descriptions to make it easier for other researchers to repeat the study:

1. Describing the selection of the sample of the target population (section 3.5.2);
2. Describing the selection of the data analysis approach (section 3.13.1);
3. Describing the approach and procedures for data analysis in detail (section 3.13.2);
4. Clearly presenting the process of generating themes and concepts from the data (section 3.13.2); and
5. Referring to the results of previous studies and support by evidence from qualitative or quantitative studies to test the conclusion of this study (findings and discussion chapter).

3.11.3 Research Dependability (Reliability)

Research dependability highlights the stability of the data over the time of the study. The researcher must be able to justify any changes that occur in the research, and the research must describe any changes that occur and how these changes affect the research. Accordingly, to ensure research dependability, this study was recorded in detail, with descriptions of the research design and implementation process, and the data collection process with justification of all changes that happened during the study.

3.11.4 Research Conformability (Objectivity)

Research conformability looks to reduce the effect of research subjectivity in producing data (bias). One way to increase the research conformability is triangulations, which is discussed in section 3.11.1. In addition, documenting all study procedures is another way to increase the research conformability.

3.12 Summary of the Research Design

To summarise, choosing the methodology depends on the literature review, aims of the study and several other factors, such as the environment, the type of data needed, the available resources, time and costs. The main objective of the methodology is to achieve the aims of the study and answer the research questions.

To get more details of the study methodology, this research is guided by the social constructivist paradigm that emphasises understanding different participants' meanings

at the same time in one place which make phenomena of the study. This approach was used in this research because its purpose is to find the subjective meaning of individuals' experiences toward explicit purposes or objects in which they live and work. The social constructivist worldview is an approach to qualitative research that aims to explore, understand and give an explanation for the setting of research situations by visiting the study environment and gathering information by the researcher. In addressing the research questions, a qualitative case study design is used to understand the view and perceptions of the academics and administrators at KAU about using technology tools, LMSs or social sites as blended tools. Therefore, the main unit in this study is the KAU main campus, Jeddah, Saudi Arabia as an entire organisation, and the smallest units of analysis are the academics and administrators as participants in this study.

Multiple techniques were used in the data collection stage in this study. The main data set of this study was collected from the qualitative questionnaires and online interviews. In addition to documentary that helps in more understanding and confirmation to the participants' responses. Table 3.1 describes milestone points for each phase in this study.

	Period of Time	Data Sources	Purpose
Pre-Phase of Data Collection	During the study time	The KAU website, the academics' personal websites, University blogs and literature review	To understand the educational culture and environment of a blended learning approach at the University before conducting the study to know if this study will be valuable to conduct or not.

	Period of Time	Data Sources	Purpose
First pilot study (questionnaires)	First semester (Feb-March) of the 2013/2014 academic year	Six female academics, four female administrators and four female workshops' Trainers participated in the questionnaires	To understand different perceptions of the target participants regarding blended learning and factors that affect blended learning practice and implementation
Second pilot study (questionnaires)	Second semester 2013/2014 academic year (5 th December 2016 to 13 January 2017)	The female academics and 14 female administrators' participated in the questionnaires	To modify the questionnaires and test credibility of it
Actual study (Questionnaires)	Second semester of 2013/2014 academic year (31 st August -15 th January 2014) Including Hajj holiday (9 th -21 st October)	70 academics (17 male and 52 female) and 22 administrators (8 male + 14 female)	
The KAU officially adopted the Blackboard system	Second semester of the 2014/2015 academic year	KAU website and administrators' responses during the online interview	To show how the adoption of the Blackboard system effected the blended learning environment at the University

	Period of Time	Data Sources	Purpose
Online interview – Pilot study	First semester of 2016/2017 academic year (16-20 Oct 2016)	Two female academics and one female administrator	To gain a better understanding of issues that were not clear in the first phase
Actual study (Online Interviews)	5 th December 2016 to 13 January 2017	Nine academics (five male and four female) and five administrators (one male and four female)	

Table 3.1: Summary of study timeline and data collection process and purposes

3.13 Qualitative Data Analysis

Data analysis is a key stage of qualitative research that changes the obtained qualitative data (raw data) that consist of words and participants' meanings and which cannot be transformed into numbers, into meaningful information that helps answer the research questions. Varieties of qualitative data analysis techniques are available, and there is no standard approach for qualitative analysis, but the techniques share common features. The main target of the qualitative analysis process is to construct and group the evidence from collected data to illustrate the findings and show how they were derived from the evidential data (Polkinghorne, 2005; Daniel and Turner, 2010). Qualitative data analysis describes variations in the data, finding themes in the text and finding the relationships between generated themes and how the characteristics of the participants' norms account for the presence of some themes and the absence of others (Mack et al., 2005; Bernard and Ryan, 2010). This can be done by investigating, arranging and classifying all participants' perspectives, thoughts and experiences into charts, figures or tables that answer the research questions and reach the goal of the study.

Analysis of qualitative data could be inductive or deductive approach. In the deductive approach, the researcher uses a structured, pre-determined framework and themes from previous literature to analyse the collected data. However, the bias of this approach

appears in deciding the coding framework in advance and limiting these themes to a specific, pre-determined framework or theory (Burnard et al., 2008). On the other hand, the inductive approach of analysing the data with little or no pre-determined framework or theory uses the collected data itself to drive the structure of the analysis. This means that themes, patterns and categories all come directly from the data, driven by what the researcher wants to know and how the interpretation is and is not imposed on prior collection and analysis (Corden and Sainsbury, 2006; Burnard et al., 2008). The inductive approach is comprehensive and time-consuming but useful when little to nothing is known about the phenomena being studied.

Another categorisation of qualitative data analysis is mentioned by Guest, MacQueen and Namey (2012), who divide the qualitative analysis process into two groups: thematic and content analysis. Thematic analysis focuses on identifying and describing both explicit and implicit ideas in the text by referring to a paragraph or sentence with a unique theme or code, which includes comparing frequencies of themes occurring within the data. Content analysis is when both the content and context of collected data are analysed by identifying themes and focusing on how the theme is presented, and it counts the frequency of the occurrence of specific words mentioned in the text to identify repeated ideas and keywords, including other semantic elements such as synonyms or locations (Lacey and Luff, 2009).

Qualitative data analysis could include several methods such as thematic analysis, contents analysis and a descriptive or narrative approach, which helps in presenting qualitative data in a specific form (Patton and Cochran, 2002). When choosing which qualitative analytic approaches to use, researchers must consider five factors: the kind of data collected; researcher skills; effort required; number and types of themes generated; and testing credibility and trustworthiness of themes generated (Bernard and Ryan, 2010; Silverman, 2013). In addition, choosing the type of qualitative analysis approach depends on the research aims and target presentation of the findings. For example, thematic analysis helps the researcher present collected data into specific categories, whereas content analysis helps the researcher study which factor affects the area of the study more than other factors. Also, when presenting a narrative or story of a specific person or group of people, the researcher should use narrative analysis. If the researcher wants to present the data of a specific person in a comparative way and

represent the important quotes of that participant from their book, articles or papers then the researcher has to apply the hermeneutic analysis approach. To reach the target aims of qualitative analysis approach in this study, the thematic analysis technique was applied as discussed in the next sections.

3.13.1 Thematic Analysis

The thematic analysis approach is one type of qualitative analysis that counts specific words or phrases (themes) and focuses on identifying and describing explicit and implicit ideas (patterns) in the collected data (Guest, MacQueen and Namey, 2012). The main purpose of thematic analysis is to connect different parts of the participants' answers together to frame their theoretical perceptions. In addition, thematic analysis allows creating relationships between concepts and comparing them to data collected in different time periods during the study. So, all possibilities of interpretation are provided after managing and reducing large data without losing the context.

In thematic analysis, the sample participants must be defined and determined before the actual study occurs. In addition, the thematic analysis approach takes place after the data are collected and cannot be parallel with the data collection stage. Thematic analysis uses an inductive approach that generates themes without existing or pre-defined themes and focuses on the participants' interpretations of the topic under study. Consequently, each statement from the participants or idea contributes to understanding the area under study and helps answer the research questions. Thematic analysis builds concepts and gives a broad picture of the participants' views and actions regarding the area under study from the participants' statements and ideas. So, thematic analysis works with the data itself and by looking across all the data to identify common issues and main themes that summarise all the views.

Accordingly, in thematic analysis, generating themes is the key concept. Creswell (2012) defines four types of themes that could be generated from obtained data. Firstly, ordinary themes, which are themes that are expected to come from the data. Secondly, unexpected themes are themes that are surprising and are not expected to come from the collected data. Hard-to-classify themes are a third type of theme that could arise from the collected data, and these themes cannot fit in one theme or

overlap with other generated themes. Finally, major themes are themes that present the major ideas of the study. This classification of themes is way to help generate themes during the analysis process.

3.13.2 Applying Thematic Analysis

This study follows the inductive, thematic approach in which the collected data guide the researcher to generate themes through focuses and relies on the participants' own words, opinions, understanding and beliefs that help in answering the research questions. The main aim of coding collected data is to examine collected data to discover common themes and thoughts from more than one participant to draw the shape of a blended learning environment within the organisational environment of KAU.

Consequently, the aims of this study lead to focusing on generating two major themes from the obtained data. Firstly, themes related to the perspectives of the target participants at KAU regarding the integration of technologies in blended learning environment through understanding the University policy, construction, the participants' attitudes, practices and their different thoughts and by recognising the usage of different tools, supportive elements for a blended learning approach and how this learning approach affects educational culture. The second theme is related to the consideration of issues or factors that encourage or prevent the participants in the study from integrating technologies with traditional teaching to form a blended learning approach. Three common steps of thematic analysis were followed in sequence in this study, which include data organisation and reduction, data display and data conclusion.

3.13.2.1 Data Organisation and Reduction

This phase of analysis is considered the main phase of analysing qualitative data, which includes selecting, breaking up the data, focusing, simplifying and transforming the collected data into intelligible terms guided by the research aims and questions by making logical connections between categories (Dey, 1993; Eysenck, 2004; Miles, Huberman and Saldana, 2014). The processes of this stage are divided into small units to be followed:

Firstly, after the data have been collected in each phase of the study from both the academics' and administrators' qualitative questionnaires and online interviews, the researcher explores and becomes familiar with the data to develop a general overview of the data and base knowledge about the area under study.

Secondly, the data were transcribed, translated, written and organised in a Microsoft Excel file and saved into tables in four Excel files on the computer. The data include the academics' questionnaire data file, the administrators' questionnaire data file, the academics' online interview data file and the administrators' online interview data file. Excel software was used to organise the data into tables so it would be easy for the researcher to look at each topic and specific questions individually in the tables to make it easier to pick out themes and concepts. Each participant's answers were combined in one row and a unique ID was assigned to each participant to preserve confidentiality and to link the data with participants. For example, the academics who participated in the qualitative questionnaire have IDs assigned to the letter 'T' followed by a unique serial number for each academic. Also, the academics who participated in the online interview each have a unique ID assigned to 'TA' followed by a unique serial number. The administrators who participated in the questionnaire have an ID that starts with the letter 'A' followed by a unique serial number, and the administrators who participated in the online interview have an ID that starts with 'AA' followed by a unique serial number for each administrator. The final data organised in the Excel files are shown in figures 3.2 and 3.3, respectively.

Administrators' Questions											
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	
The role, job	changes in educational culture	Essential or supplementary	Future plan	Difficulties	Gender	Age	Position	Specialization	Deanship	Experience	
A1	Provide training for academic staff by help them how to use systems which help them to administrate learning process, learn how to use social sites and give a help when they face difficulties in any system.	Easy communicate between the teacher and students + curriculum availability any time during 24 hours + increase interactions by provide different tools + help self-learning and develop self and skills + serve different learning styles.	Depends on learning approach: in distance learning it is essential where is no physical interaction (F2F) but in traditional learning the students need to these tools to support learning. In blended learning need these tools to support learning and deliver basic parts from the curriculum so blended learning mix between distance learning and traditional learning; part be essential and other supportive.	Employ modern technical in e-learning and distance learning which match local and international standards in e-learning and distance education.	1. Acceptance from users to these tools and lack of aware to these tools or care about it. 2. Lack of desire to self-development using these tools due to fair of concern about it. 3. Lack of tools in some academic staff which help in using these tools in education such Internet network, pc or	F	21-30	TA	Computer Science	Deanship of E-learning and distance education	2
A2	Work in unit of training and human development to train academic staff how to use distance learning systems such as: Blackboard, EMES, Centra (virtual class) and E-exams	Radical change, because it is easy for the new generation and easy in exchange information which change faster than before	Essential due to technical development and most students spend long time on these sites.	To be the deanship number one in the international excellence center in E-learning and distance education by using the most systems (Cloud systems, Social websites).	Weak background + resistance to change or use technology with students	F	31-40	Lecturer	Computer Science	Deanship of E-learning and distance education	6
A3	Prepare and deliver training which relate to designing e- curriculum+ Support the academic staff during all the analysis and designing e-Curriculum+ Blackboard, course sites, lesson builder.	Give big chance for more interaction + easily to deliver information to the digital age of university students.	Essential, if work effectively it will increase the quality and effectiveness of electronic learning.	Improve the quality and outcomes of e-learning and distance education programs.	Aware and readability from the academic staff to use it + Prepare appropriate training. Supportive and understanding of administrators and policy makers for using these tools need very long time to convince use these tools which effect on digital era	F	31-40	Lecturer	MSc Technical learning and Computer Science BSc.	Deanship of E-learning and distance education + The head of the unit of designing and produce e- curriculum.	5
	Work in unit of blended				Varity of academic staff						

Figure 3.2: The administrators' questionnaire responses in an Excel file

Academics staff Questionnaire														
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	
Using digital tools or SNS	Educational culture	Digital competence rate	Ways to improve digital skills	Educational culture change	Essential or supplementary	Goal to use it	Difficulties	Gender	Age	Position	Faculty	Specialization	Experience	
T1	Yes	Email + Personal website	Fair	Nothing	No change	Supplementary	Faster to answer students' requests	Nothing	F	41-50	Assistant professor	Medical applied science	Medical Laboratory Technology	5
T2	No -> Q8	xxx	xxx	xxx	xxx	xxx	xxx	It is modern way to communicate but I do not prefer it due to huge spread that not desirable	F	31-40	Assistant professor	Medical applied science	Therapeutic feeding	4
T3	Yes	WhatsApp, Twitter, Facebook, make groups with students to exchange information about appointments, exams or meetings	Excellent	Put all information in small file in easy way to deliver to all students in the same time.	More easy	Supplementary	To deliver information to all + deliver information which need to present in picture	Not enough for big size	F	41-50	Assistant professor	Medical applied science	Clinical Nutrition	5
T4	No -> Q8	xxx	xxx	xxx	xxx	xxx	xxx	Not activate in our department and students not aware about it.	F	31-40	Lecturer	Medical applied science	Physiotherapy	13
T5	Yes	Send lectures' notes in PowerPoint format or other format using university email	Good	Try to attend workshops	Save time especially for students + alternative way if any problems happen during the presentation in the class + reduce time of students attendance in the class + deliver information in more than one-way.	Supplementary	To save students' time + to change and variety information resources for students	Problems or network disconnect	F	41-50	Assistant professor	Medical applied science	Physiotherapy	12

Figure 3.3: The academics' questionnaire responses in an Excel file

The same process of organising data has been followed to export the collected data to the NVivo 11 project file to use the advantages of this programme in organising and displaying qualitative data such as the coding process by tagged and named selected data. Also, NVivo 11 helps make the analysis process easier

with tools such as searching, grouping text and themes and counting specific words or themes that cannot be done with the Excel software. In addition, the programme works as documentation for the data and recorded steps of analysis. Each participant's responses in this study has a specific folder in the NVivo 11 project assigned to the same unique ID as in the Excel file (Figure 3.4). The process of organising data helps the researcher prepare for the analysis stage by reading question-by-question and word-by-word to show any significant themes or patterns.

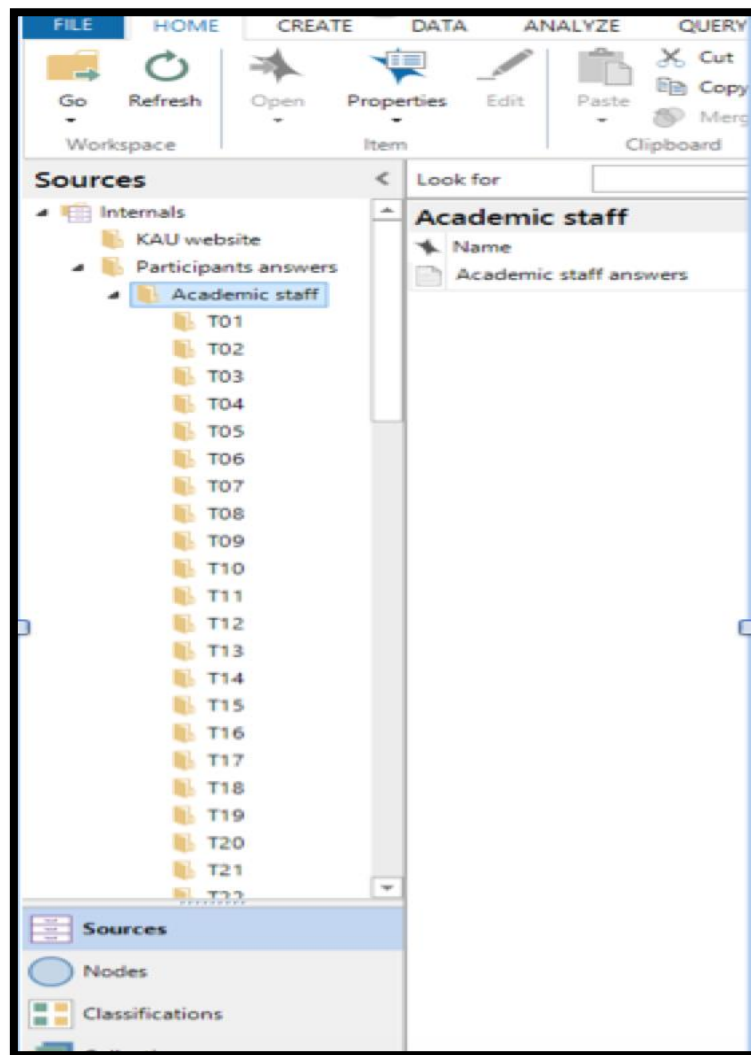


Figure 3.4: The academics' questionnaire responses in an NVivo 11 file.

Thirdly, after organising data into a specific format and tables as shown in the above figures, familiarisation with the data began by reading the data several times to get a general overview of the data and understand and consider different

meanings inherent in the text to help in finding and selecting themes. Each time, the researcher took notes before the formal analysis occurred for an initial list of ideas and themes about what was in the data and what was significant in relation to the previous literature review and aims of the study.

Next, all questionnaires and online interviews' responses were examined initially by combining all answers to each question to generate a general description, and to find the most important themes from each question and label relevant words, sentences or phrases to specific themes, which is called the coding phase.

Choosing labels or coding and creating themes from both the academic and administrator answers were guided by the research questions, the aims of the study and the literature review. Additionally, the researcher looked at unusual or unexpected responses as potential guides to generate new themes or new concepts in the area of the study and to investigate all attributes that affect the area under study. This is done by sorting the codes and bringing related text together to identify similar phrases, relationships between themes, variables, patterns or categories between subgroups when the same words or phrases are repeated in several participants' answers, interest points or the participant explicitly reported this as important and described the connections between them.

To do this examination, the researcher read question-by-question and line-by-line for each participant's response rather than analysing all question responses for each participant separately. She focused on the data in detail, including the meaning of the data, assumptions, actions and adding notes to a set of data after deconstructing the data into small units. This process is not summarising the data but a method to connect small units of text to themes that illustrated what the text is an example of. Accordingly, the researcher highlighted each labelled statement from each participant in the NVivo 11 file and assigned it to themes (nodes) as seen in the Appendix R.

In addition, the researcher compared each response to each question with previous responses from other participants to identify any gaps in the data and to find similarities and differences between the participants' answers to each question. During the process of generating themes, six procedures were used in this study to find themes and help analyse data.

1. Looking at similarities by reading each transcript and finding similar words, ideas or actions that happen in the same process.
2. Looking at contradictions by reading each transcript and finding words, ideas or actions that happen in different ways or are contradictions.
3. Looking at repetitions of words, ideas or actions that appear in more than one response.
4. Looking at sequences in actions for each transcription.
5. Looking to any attachment of anything that appears together.
6. Looking at cause and effect for any issue in any transcription.

In addition, as mentioned in section 3.11.1, to increase the collected data's credibility, along with the interpretations, a colleague specialising in educational technologies checked the data analysis for themes generated to support the credibility of the results.

After all data were collected and coded, the focus became the broader level of themes, by gathering and sorting different and related coded data extracts into recognised themes. The aim of this process is to determine whether the themes worked in relation to the dataset and to code any further data within the themes that were missed in the previous coding phase. The final phase defined and refined the themes generated from the data and linked them to build a meaningful discussion of the results.

This is an iterative process involving familiarisation with the data by reading carefully, underlining key phrases, taking memos about the data several times, and generating themes. After this process, a general idea of blended learning status, what participants at KAU said, and what the results would look like was created. These processes created a thematic overview and made the data more manageable. To interpret the data, the thematic overview was scrutinised closely to identify important data, themes and categories and compare patterns relating to the research questions and the aims of the study. These results are presented and explained in detail in the findings and discussion chapter. An example of this process of analysing collected data is provided in Appendix Q.

3.13.2.2 Data Display

In this phase of thematic analysis, data are displayed by presenting organised and assembled information that draws clear conclusions and shows the description of similarities and contradictions clearly. This presentation could be in the form of text, charts, diagrams or a matrix to show systematic patterns and interrelationships. In addition, the presentation of quotations should be provided as credible interpretations and evidence that support the conclusions presented in detail in the findings and discussion chapter.

3.13.2.3 Data Conclusion

The last stage of the thematic analysis process is drawing conclusions or making verifications by considering all probabilities of meaning of the analysis and assessing the implications for the research questions. Verification of the analysis enables conclusions to be drawn by arranging and organising thoughts and concepts and revising the data many times to crosscheck and verify the emergent conclusions. The final results are derived from the data directly and not from previous expectations or models, which is shown in the next chapter.

3.14 Justification of Using Thematic Analysis

In this study, thematic analysis was chosen as a main approach for analysing collected data with several techniques for this approach for four reasons.

1. Because the selection of the analysis approach depends on the research questions, aims and researcher's time (Lacey and Luff, 2009). So, the academics' and administrators' interpretations are significant in terms of providing and reaching the most appropriate explanations of the participants' attitudes, behaviours, actions and thoughts that fit with the features of the thematic analysis approach as discussed in section 3.13.1.
2. This study is conducted in two phases as described in section 3.8. Accordingly, the data have been collected in two different time periods, which required a compatible analysis process. Thematic analysis is a flexible analysis process because it allows the researcher to analyse collected data at any time during the

study and there is no association between the data to be gathered and the results of the analysis.

3. This study collected data from three different resources: qualitative questionnaires, online interviews and documents. So, thematic analysis is able to analyse data from different resources to provide the similarities and differences between the participants' responses, which help reach the target of this study. In addition, thematic analysis is applicable to producing and presenting the data that reflect the reality and logical chain of evidence and the relations of the collected data.

3.15 Verification of Analysis

During the analysis stage of both the qualitative questionnaires and online interviews, several steps have been followed to increase the findings' verification.

1. By the end of each phase of collected data, all data are translated from Arabic to English through backward translation techniques to ensure agreement on translation before analysis process takes place (Appendices O and P).
2. In the interview stage, a respondent check took place to validate the analysis results by asking each participant during the interview about the real meaning for his or her response by asking 'do you mean this?' or 'what do you mean by'?
3. During the analysis stage, to avoid bias in describing a specific theme, one single statement for any theme will not be considered to reflect the full meaning of any theme. The study aims to gain insights and find relations and patterns from different responses. So, any described theme is explained by more than one participant and statement.
4. To increase the internal validity of the findings, comparison was made between any pattern that appeared in the findings and the predicted pattern.
5. To increase the trustworthiness of qualitative analysis, triangulation by combining the analysis of findings from different data sources was applied.
6. By the end of the analysis stage, a peer reviewer who specialises in the educational technology field was asked to test whether the generated themes are fit with the whole text.

3.16 Conclusion

This chapter started by describing the research paradigms then moved to define the research methodology and data collection strategies chosen for this study. The most appropriate research paradigm for this study was the constructivism paradigm because it provides a wide range of understanding and practice of a blended learning approach through participants' opinions and thoughts, and this approach believes in the subjectivity of the participants. Furthermore, a qualitative case study approach was chosen as a research method as it enables researchers to understand participants' experiences and practices using different technology tools in their educational system. Moreover, a qualitative case study approach was coupled with the constructivist paradigm to offer multiple tools for data collection, which have been utilised in this study.

The chapter presented the rationale for choosing the study methods and design. Then, the research site, target participants and data collection tools and process were described. In addition, it presented details of pilot studies, how the empirical work was carried out including a description of the questionnaires and online interviews' questions construction for both the academic and administrator participants. Additionally, the chapter describes the study methodology implementation in two phases followed by how collected data were organised in preparation for analysis to present how the evidence collected from different sources at different times reflected the reality of collected data. Also, the analysis process and justification for using thematic analysis techniques were provided.

The next chapter reports detailed findings of this study, which were derived from qualitative questionnaires, online interviews and documents for interpretation and discussion. In addition, creating relations, patterns, similarities and differences between the findings will occur.

4. Findings and Discussion

4.1 Introduction

In this chapter, the outcomes derived from the academics' and administrators' questionnaires, online interviews and from documentary resources will be discussed and described in light of the research questions and what is already known about the research area. The discussion will explain the findings of the academics' and administrators' perceptions regarding using different digital tools, social sites or learning management systems at KAU in the context of blended learning approach. Alternative explanations of these findings are considered where appropriate.

This chapter discusses the findings drawn from both the academics' and the administrators' questionnaires and online interviews. Then, data derived from the documentary resources will be discussed. In addition, the chapter connects these findings to previous studies and compares and contrasts the questionnaires and interviews' responses with the documentary resources, with attention paid to the influence of different demographic attributes. The aim of this comparison is to determine the relationships, patterns, similarities and differences between the participants' responses and the documentary resources. Finally, the chapter discusses the research conclusions and to what extent these conclusions address the research questions together with the relationship between the results and the literature review with respect to research context.

4.2 Findings from the Administrators' Responses

This section describes and discusses the responses that were obtained from the administrators' qualitative questionnaire at the first stage of this study and the administrators' online interview that were held during the second stage. Understanding the administrators' perceptions regarding a blended learning approach at KAU is an important step for both the individuals themselves and for the policy of the University in order to be able to design and develop a successful and effective blended learning environment for the academics and students. This is because the administrative roles are inspired directly by the Ministry of Education and deal with the University policies which effect teaching and educational processes. During the investigation, the

administrators expressed a range of responses through qualitative questionnaire and online interview regarding the academics' use of and attitude towards different technology tools in their teaching practices. In addition, the administrators addressed their roles regarding developing the academics' digital skills, and the factors they face during this implementation and development of a blended learning approach.

The findings of the administrators' questionnaire and online interview are discussed in two sections. The first section deals with the biographical and background information of the administrators who participated in this study by looking to their gender, age, experiences, units they belongs to and qualifications. The second section deals with the themes generated by the data that were derived from the open-ended questions from all of the questionnaires and the online interviews. After each theme has been addressed, a discussion develops the meaning of the themes, alongside causes and effects where different administrators' perspectives have been revealed.

4.2.1 The Administrators' Demographic Variables

The demographic data and background information regarding the respondents are presented and analysed in order to show the participant distribution according to six items: age, gender, years of experience, position, field of specialisation and unit of work. This information is important to the study because it helps the researcher to understand issues that may have an influence on the analysis and to look for patterns. For example, how a specific attribute of the demographic data relates to the development of a blended learning policy or the implementation of technological tools in a blended learning approach, which could be affected by the administrators' role or educational culture.

During this study, the researcher gave all of the participants an equal chance to participate in the study irrespective of gender as in the first phase of this study, the administrators' qualitative questionnaire were distributed through the DGS at KAU equally to all target units and for both genders. Then, during the second phase of this study, the researcher followed a snowball sampling approach and did not consider gender or any other factor in choosing the participants.

By the end of the first phase of this study, as described in section 3.5.1, a total of 26 administrators' questionnaire were completed. After that, the total number of administrators' questionnaire that were counted and analysed in this study was 22 as four responses were ignored because the administrators' participants for this questionnaire do not have any role in developing the academics' digital skills, which was the main condition for choosing the administrators who participated in this study. In addition, by the end of the first phase of this study, a total of five administrators agreed to participate in the online interview.

Consequently, the administrators who participated in this study exhibited variable demographic attributes, which gave the study the advantage of having a wide range of participant experiences and perceptions from different administrative levels and different majors, fitting with the aims of the constructivist qualitative approach. In this section, all demographic attributes are presented and described in order to show the variety of administrators included. Table 4.1 presents the gender values of the administrators who participated in the administrators' qualitative questionnaire and in the online interview.

Demographic Attribute	Values	Administrators' Qualitative Questionnaire		Administrators' Online Interview	
		Participants' Number	Percentage	Participants' Number	Percentage
Gender	Male	8	36 %	1	20 %
	Female	14	64 %	4	80 %
Total		22	100 %	5	100 %

Table 4.1: Gender groups of the administrative participants

All the administrative participants in this study gave their gender in the qualitative questionnaire and online interview. There were 14 female and eight male administrators who participated in the administrators' qualitative questionnaire, and 4 out 5 participants in the administrators' online interview were also female. One limitation that affects the study outcomes is a lack of participation from males. The inability to consider gender as an attribute could affect blended learning research.

As discussed in section 3.8.1, the researcher did not receive any questionnaires from male administrators by the time decided for collecting data. For this reason, a male family member of the researcher contacted directly all target units several times in order encourage recipients to fill in the questionnaires. In addition, during the online interviews, the researcher asked all of the participants, both academics and administrators from both genders, to ask their colleagues to contribute in this study. All nominated academics and administrators from both genders were contacted by the researcher and participated in the study.

In summary, the researcher tried in this study to give equal opportunities for both genders to participate in the study using the same tools in order to reduce the bias of using different tools in the gender-segregated environment which could affect the findings of this study.

Regarding age values of the administrative participants in this study, table 4.2 demonstrates the range values of the administrators who participated in the qualitative questionnaire and online interview.

Demographic Attribute	Values	Administrators' Qualitative Questionnaire		Administrators' Online Interview	
		Participants Number	Percentage	Participants Number	Percentage
Age	(21-30) Age old	4	18.2 %	1	20 %
	(31-40) Age old	11	50 %	1	20 %
	(41-50) Age old	3	13.6 %	2	40 %
	(51-60) Age old	3	13.6 %	0	0 %
	No answer	1	4.5 %	1	20 %
Total		22	100 %	5	100 %

Table 4.2: Age values of the administrative participants

Table 4.2 shows that most of the administrative participants were in the 31 to 40 age group that represented 11 out of the 22 administrators who participated in the qualitative questionnaire. All of the administrators of varying ages who participated in this study expressed their support in different ways to academics. In addition, the aim of the research is to consider any administrators' demographic factors that may affect the area of study described in the Discussion section.

The next table shows the variety of positions of the administrators who participated in this study.

Demographic Attribute	Values	Administrators' Qualitative Questionnaire		Administrators' Online Interview	
		Participants Number	Percentage	Participants Number	Percentage
Position	Administrator	1	4.5 %	2	40 %
	Administrator assistant	1	4.5 %	0	0 %
	Assistant professor	1	4.5 %	1	20 %
	Head of a unit	1	4.5 %	0	0 %
	Head of information and statistics unit	1	4.5 %	0	0 %
	Head of the training unit	1	4.5 %	0	0 %
	Lecturer	5	22.7 %	1	20 %
	Network engineering	0	0 %	1	20 %
	Professor	1	4.5 %	0	0 %
	Scientific advisor	1	4.5 %	0	0 %
	Teacher assistant	5	22.7 %	0	0 %
	Teacher assistant and Programs' developer	2	9.1 %	0	0 %
	Technical laboratory	1	4.5 %	0	0 %
	No answer	1	4.5 %	0	0 %
Total		22	100 %	5	100 %

Table 4.3: List of positions of the administrative participants

Administrators at Saudi universities are able to work as an administrator only or could hold an academic post at the same time, teaching courses for a specific number of hours per week whilst working as an administrator in any unit of the University such as in a specific Deanship, centre or faculty. This fact is represented in table 4.3 where several participants work as administrators only and some work as both administrator and academic at the same time. This issue could affect their blended learning practice positively as discussed in section 4.5.5.

So, this study targets all administrators who are responsible for developing the academics' digital skills at the University in order to support their teaching skills. To ensure the study dealt with the participants in the context of their administrative roles, all open-ended questions in the administrators' qualitative questionnaire and online interview dealt with the participants from the perspective of an administrator not an academic. Also, the administrators' questionnaire and online interview were designed to ask the participants about their roles as administrator to make sure that those who participated in this study work in an administrative position in one of the three units mentioned and that one of his/her responsibilities is developing the academics' digital skills.

Additionally, the administrators who participated in this study were from different specialization fields, as shows in table 4.4.

Demographic Attribute	Values	Administrators' Qualitative Questionnaire		Administrators' Online Interview	
		Participants Number	Percentage	Participants Number	Percentage
Specialization	Applied Chemistry	1	4.5 %	0	0 %
	Computer Science	10	45.5 %	1	20 %
	Computer Science and Learning Technology	1	4.5 %	0	0 %
	English Language and Computer Diploma	1	4.5 %	0	0 %
	European Languages	1	4.5 %	1	20 %
	Information Technology	2	9.1 %	0	0 %
	Management of houses and institutions	0	0 %	1	20 %
	Mathematics	2	9.1 %	0	0 %
	Network Technology	1	4.5 %	1	20 %
	Public Administration	1	4.5 %	0	0 %
	Sociology	1	4.5 %	0	0 %
	No answer	1	4.5 %	1	20 %
Total		22	100 %	5	100 %

Table 4.4: Specialization list of the administrative participants

The majority of the administrators who participated in the qualitative questionnaire specialise in Computer Science, which represents 45.5% of the total sample. This effects the administrators’ role positively in support of blended teaching practice.

The next table displays the different units at the University that seek to develop the academics’ digital skills at the University in which the administrative participants work.

Demographic Attribute	Values	Administrators’ Qualitative Questionnaire		Administrators’ Online Interview	
		Participants Number	Percentage	Participants Number	Percentage
Unit belongs to	CTLD	7	31.8 %	1	20 %
	Deanship	1	4.5 %	0	0 %
	DEDE	7	31.8 %	1	20 %
	DIT	6	27.3 %	2	40 %
	E-learning unit	0	0 %	1	20 %
	No answer	1	4.5 %	0	0 %
Total		22	100 %	5	100 %

Table 4.5: The administrative participants’ units

The target administrators in this study are working in one of these three units. By the time of the online interview of this study, the DEDE had asked each faculty of the University to employ a coordinator who should contact the Deanship in order to develop the blended learning environment within each faculty. For this reason, some faculties established an E-learning unit, where one of the administrators who work in this unit concerned participated in the online interview in this study. Seven administrators participated from the DEDE and the CTLD and six administrative participants were from the DIT. Also, table 4.5 shows that the administrators’ participants in the online interview were distributed across all target units. This distribution from administrators across the university units gives the impression that the cooperation processes of each unit toward implementing blended learning is

effective. However, this study will consider the role of each unit's effect on academic digital teaching practice.

The next table demonstrates the numbers of years of experience of the administrative participants in this study.

Demographic Attribute	Values	Administrators' Qualitative Questionnaire		Administrators' Online Interview	
		Participants Number	Percentage	Participants Number	Percentage
Years of experience	(1 - 5) Years	9	40.9 %	0	0 %
	(6-10) Years	6	27.2 %	3	60 %
	(11-15) Years	1	4.5 %	0	0 %
	(16-20) Years	1	4.5 %	1	20 %
	(21-25) Years	1	4.5 %	0	0 %
	(26-30) Years	3	13.6 %	0	0 %
	No answer	1	4.5 %	1	20 %
Total		22	100 %	5	100 %

Table 4.6: Years of experience of the administrative participants

The majority of the administrative participants in the qualitative questionnaire (totalling 9 participants) have 1-5 years of experience and six administrators have 6-10 years of experience. In the administrators' online interview, three administrators had 6-10 years of experience, representing 60 % of the sample, followed by one administrator had 16-20 years of experience. One administrator did not reveal her

age. However, The study also considers experience as an attribute that could affect the administrators' roles in supporting blended teaching practices.

In summary, different administrators' demographical attributes are consider in this study to identify whether any of these attributes effect blended learning implementation. In fact, due to the small number of participants in each group and the different responses from each group, it is difficult to ascertain if specific demographic factors effect blended learning implementation. The only factor that stands out is from the interest and awareness of females by their responses to this study and in conducting a variety of training workshops.

4.2.2 The Administrators' Roles in Developing the Academics' Digital Skills

All administrative participants were asked about their roles regarding developing the academics' digital skills within the unit they belong to. The aim of this question is to understand the administrators' roles, methods and actions regarding the academics and a blended learning approach to determine the goals and vision of the University policies from different perspectives in different units. The analysis of the qualitative questionnaire and online interview responses showed that similar roles exist and similar actions have been taken by the administrators to support and develop the academics regarding integrating different technology tools, learning management systems (LMSs), social sites or programs into their teaching process as a part of the University policy to support a blended learning approach. The results of the administrators' roles appear from the action verbs that are used in their responses from both qualitative questionnaire and the online interview to describe their roles in their respective units. These reveal three main themes as shown in figure 4.1.

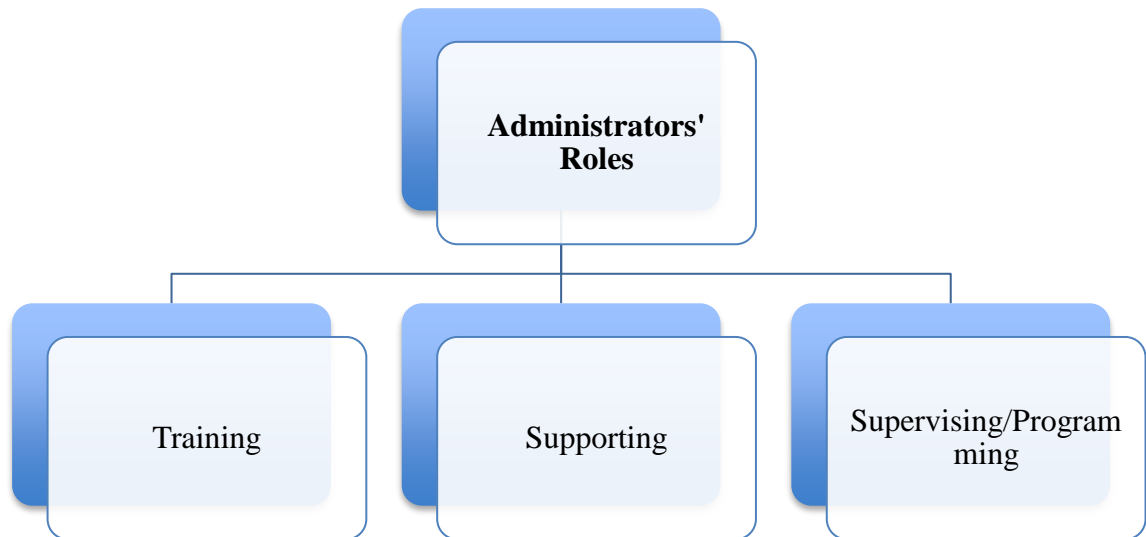


Figure 4.1: Themes generated from the administrators' roles

The analysis of the administrators' responses from both the qualitative questionnaire and the online interview regarding their roles in developing the academics' digital skills leads to three complementary main themes, which are 'training', 'supporting' users and 'supervision' or 'programming'. Firstly, 'training' is the theme mentioned most by the administrators in both the qualitative questionnaire and the online interview with 12 out of 22 administrators in the qualitative questionnaire. In addition, all of the five administrative participants in the administrators' online interview mentioned training as a main role for them in representing their support to the academics in the use of different technology tools in their teaching practices. Therefore, the highest priority for the administrators at the University is to provide and manage training workshops as a way to develop the academics' digital skills and to support them to use technology in their teaching practices.

Training workshops provided by the DEDE, the DIT and the CTLD are conducted with different topics and with different educational technology tools in order to support and encourage the academics to use these tools in their teaching practices. Each of these units provides a specific type of training according to its policies and objectives. For example, the CTLD provides training workshops in three areas, which are learning and education, scientific research and academic leadership and

development skills. The learning and education area includes everything related to the curriculum, teaching, teaching strategies, reports, evaluation, exams etc.

Accordingly, the training workshops in this area focus on everything related to education through designing, evaluation or measuring and trying to balance the academics' needs and the trainers' skills, as stated by the administrator 'AA4'. In addition, the DEDE provides several training workshops for the academics who teach in fully online programs and also provides training workshops for the academics who teach in full-time programs in order to improve their teaching practices digitally. For example, the DEDE provides training workshops named 'blending technology in learning' for all the academics at the University to support their digital skills in their teaching practices, as stated by the administrator 'AA5'.

Additionally, the administrators who participated in the qualitative questionnaire and online interview mentioned different training workshop topics. For example, training workshops about using LMSs including Blackboard, EMES, E-exam, ODUS, Marz and Centra as well as designing E-courses. Also, the administrators mentioned training workshops about using social sites, mobile applications in education and other applications such as Google applications, Microsoft office programs, Photoshop, Telegram and virtual classes. In addition, as another type of support for a blended learning approach at the University, the University also provides training lectures to all students at their first year. These lectures aim to make students aware of the technical services and systems provided by the University in order to support their learning approach and the blended learning system in general.

The administrators showed in their responses in both the questionnaire and online interview the high priority of the training workshops in developing the academics' digital skills and supporting a blended learning approach. On the other hand, some academics still do not know about these support services provided by different units at the University. For example, the academic 'T17' who participated in the qualitative questionnaire did not know about the existence of the training workshops at the University.

To conclude, all administrators' responses about the "training" theme showed intensive attention regarding the various types of training workshops to support academic digital teaching practices. The responses show that administrators believe

in the training workshop as a tool for supporting blended teaching practice. This is in line with the literature (Lloyd-Smith, 2010; Kistow, 2011; Khan, et al., 2012).

The second theme mentioned by the administrators in both the qualitative questionnaire and the online interview is ‘supporting’, where the administrators support the academics at the University in different forms. This theme was mentioned by six administrators out of the 22 who responded to the qualitative questionnaire and by four administrators out of five in the online interview. This theme represents the administrators’ support of the academics at the University by providing help to them when they face any difficulties in using LMSs, programs, technical lab and includes answering their queries and supporting them in designing an E-curriculum and designing or publishing their academic websites. Additionally, the administrators support the academics at the University by providing the required tools such as PCs, software, University blogs, forums and LMSs such as ODUS, Marz and Blackboard as pointed by the administrator ‘AA1’ from the DIT:

As a Deanship we try to offer different technology tools and programs to the academics and search for the best thing to employ in the University

Moreover, as another type of support for the academics’ digital skills development, the University designs special programs and learning management systems in order to support the integration of technology into the learning system including ‘Centra’, ‘ODUS’ and ‘Marz’. Furthermore, the administrators provide support by offering manual brochures or online video tutorials for specific applications to help the academics in using these applications when they are away from the University and thus cannot attend the training or cannot get in contact with the technical support team. They also support the academics’ digital skills by advising them and giving suggestions for different applications that could help in their teaching practices.

In addition, by the time of the online interviews, the administrative participants showed different ways of supporting the academics’ digital skills through conducting campaigns within each faculty at the University. These campaigns were conducted by the DEDE and DIT every semester to contact directly the academics at their departments through conducting focus groups formed from the head of each

department and its academics. These campaigns aim to define blended learning approach, provide help to the academics and to make them aware of any new systems or tools that could help them in their teaching practices. Also, these campaigns aim to measure the academics' satisfaction and to understand the problems they face when applying blended teaching and to ask them for their technical needs. This process showed that all academics at the online interview stage know about the services and support that is provided by the University regarding this issue.

However, The administrators' responses further show massive efforts to support blended learning approach at the university through various methods. This is also in line with the literature, which show the advantages of this support (Summak, Samancioğlu and Bağlibel, 2010; Okello-Obura and Ssekitto, 2015; Pasquini and Steele, 2016). So, the literature supports the importance of implementing blended learning approach through different methods which reflect the effectiveness of this type of learning and the importance of this study in order to support blended learning approach.

The last theme mentioned by the administrators in the qualitative questionnaire as one of their roles in developing the academics digital skills is 'programming/supervising'. This theme was stated by four administrators out of 22 in the qualitative questionnaire. Where, one out of five administrators in the online interview mentioned just 'supervising' theme. The 'programming' theme is represented by the administrators who design or update special LMSs for the University needs such as ODUS, Marz and Centra, which help the academics in managing their learning process. The 'supervising' theme appears when the administrators supervise on wire and wireless networks, University learning systems servers such as E-exam, the Blackboard servers, electronic communications and internal or external E-lectures between the academics and their students at the University in order to check the quality of the connections. Although, the theme 'supervising' considers a complementary theme to the theme 'programming'; in fact 'programming' and 'supervision' are two different verbs for specific software or tools to ensure that the academics work effectively.

From the online interviews no administrator mentioned the ‘programming’ theme. This is because the University officially adopted the Blackboard system, where previously the University employed LMSs for specific uses such as ODUS and Centra.

All methods mentioned by the administrative participants in this study aim to support the academics’ digital skills in their teaching practices and to support the University infrastructure. This is despite several studies in the literature showing the lack of training workshops and lack of administrative support to academics’ digital skills in some Saudi universities. For example, the study of Al-Jarf (2009) mentioned a lack of digital infrastructure in King Saud University (KSU) and the studies of Almalki (2011) and Zeny, Alyamany and Alhebi (2015) asserted the same in Umm Al-Qura University (UQU). However, the lack of training workshops that mentioned in the literature in some Saudi universities has considered by the administrators in the KAU as showed by the administrators’ responses in this study which reflect the overcome of this issue in the University.

Additionally, the studies of Alebaikan and Troudi (2009), Ageel (2011) and Alshammari et al. (2012) showed a lack of training regarding LMSs and using technologies in teaching practices in Saudi universities. In contrast to the previous findings, the responses of the administrative participants in this study regarding training workshops for the academics in order to develop their digital skills showed the high priority of this training as the main method to develop the academics in their teaching practices. Conducting of training workshops comes from the recommendations to support the transition from traditional learning to a blended learning approach. Supporting that, there are documentary resources present on the official websites of the DEDE, DIT and CTLD regarding training workshops that are provided each semester.

4.2.3 Changes in the University Educational Culture

Educational culture can be expressed at different levels, for example, organization, faculties, departments, disciplinary, students, academics, IT staff, librarians, communication or learning style. This section discusses changes in the educational culture and learning environment after integrating technology into the traditional

learning environment to form a blended learning approach from the perspectives of the administrative participants as they appear in the responses.

Changes in educational cultural themes arise after analysis of the administrators' qualitative questionnaire responses. These themes appear from the reaction verbs that are used to describe these changes after moving from pure traditional learning to a blended learning approach. Twenty administrative participants out of 22 who took part in the qualitative questionnaire from the DEDE, DIT and CTLD units at KAU described these changes and two administrators gave unrelated answers. Five main themes arise from these changes in the educational culture relating to the application of a blended learning approach from the perspectives of the administrators as shown in figure 4.2.

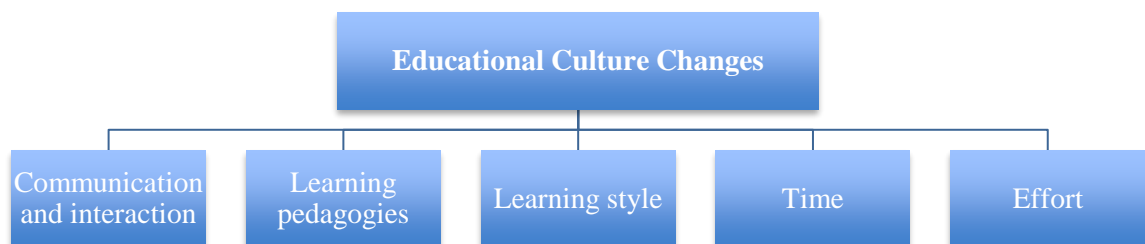


Figure 4.2: Themes generated from the administrators' questionnaire responses regarding educational cultural changes

The high number of administrator responses revealed the changes in the educational culture after integrating the technology tools, LMSs or social sites into teaching through radical changes in the modes of communication and interaction. Eighteen out of 22 administrative participants in the qualitative questionnaire mentioned this issue. The administrative participants mentioned changes in communications and interactions between the students and their instructors that have become faster,

easier, and with more freedom of expression than when they were dependent only on communication and interaction in the class. Using technology tools as blended tools supports the online interactions between the students and their instructors outside of the class time and helps in increasing interactions with people outside the University to gain access to different types of experiences and resources. These changes in the communications and interactions that were mentioned by the administrative participants are in agreement with Almalki's (2011) study that revealed the potential of blended learning in increasing communication among Saudi universities.

Changes in the educational culture also appear as changes in pedagogies, as mentioned by four out of 22 administrative participants who perceived these changes when converting from purely traditional learning to a blended learning approach. Changes in pedagogies appear when delivery of and access to information from different resources becomes faster and easier than when they depended only on the instructor or on the course book in the traditional approach. Additionally, sharing experiences, interests and having open discussions with people outside the university is then possible rather than being limited to teachers and students in the traditional approach. Moreover, the curriculum's availability was mentioned as a change in the learning pedagogies where students can access the course during all the day and at any place. These issues are similar to the findings in the literature (Almalki, 2011; Alebaikan, 2012; Balubaid, 2013). However, the administrators at KAU considered the affect of pedagogies' changes when converting from pure traditional learning to blended learning and assessed that during training workshops time as mentioned in their responses in this study.

The administrative participants also mentioned changes in the learning style as changing the educational culture. Three out of 22 administrative participants in the qualitative questionnaire mentioned changes in the learning style. In a blended learning approach, students have a chance to depend on themselves to learn and develop their skills which makes the learning process student-centred rather than teacher-centred. Also, changes in the learning styles appear when informal learning takes place instead of completely formal in the traditional learning approach during the class time. Additionally, the administrative participants described changes in the learning styles through increasing the learning quality and efficiency compared to

traditional learning and considered using technologies in education a part of the current digital era where technologies have become daily tools used by the new generations of students. These changes are in line with studies conducted by Almalki (2011) and Alzahrani (2017). However, as the administrators at KAU consider changes in the pedagogies, they also consider changes in the learning style when moving from traditional learning to blended learning approach during training workshops time to notice the academics about this issue.

The last two themes arose from the administrative participants' concerns about changes in the educational culture saving time and effort. Three administrators mentioned time saving when integrating technologies into education and one administrator mentioned the lesser effort for the same issue. It takes less time to deliver information to all students and less effort from the academics to deliver information when it is available online to all students at any time. Time is considered to be a critical factor although the literature review revealed contradictory opinions such as that expressed in Bingimlas' study (2009) that mentioned instructors having a strong desire to combine technology with education, but one of major obstacles that prevents them from doing so is lack of time. The supports the study of Khan (2011) who mentioned lack of time to develop online courses to supplement traditional pedagogical methods as one of the factors that prevent academics from utilising the Internet or online learning.

4.2.4 The Importance of Implementing a Blended Learning Approach

This section examines the importance of using different technology tools as blended tools in the teaching system from the administrators' points of view. The administrative participants' opinions are important for this issue because they affect their role in supporting the academics' digital skills at the University and reflect the importance of developing a blended learning approach.

All of the 22 administrative participants in the administrators' qualitative questionnaire showed the importance of using technology tools, LMSs or social sites as blended tools. All the administrators' responses contained the words 'essential', 'basic' or the words 'supplementary', 'supportive' which are the key word themes appearing during the analysis of their responses. Accordingly, analysis of the

administrators' responses can be divided into three main themes, which are 'essential', 'supplementary' and 'conditional' as shown in figure 4.3.

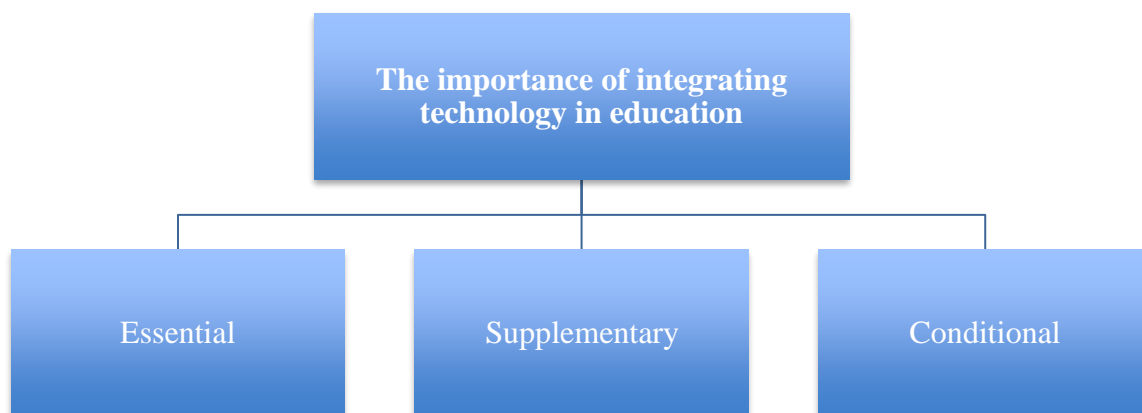


Figure 4.3: Themes generated from the administrators' qualitative questionnaire responses regarding the importance of a blended learning approach

Integrating different social sites, LMSs or technology tools with traditional learning as blended tools was referred to as an essential activity in education for 17 out of the 22 administrative participants for two main reasons. The first reason to integrate technology tools as essential tools in education which was mentioned by the administrators with a high percentage (35.3%) is because technology development has become obvious in the daily lives of the next generation students and the University follows the digital era and the current digital language. The second reason for integrating technology tools as essential tools in the learning process links to the advantages that come from using these tools. These advantages were described by the administrative participants as including increasing communication, interaction and experience. As well as time saved, solving some problems faced in traditional learning by an increase of learning quality, fostering availability and increasing speed in transferring information for both students and their teachers, also positively affect the learning efficiency. These findings support the previous studies mentioned in the literature review (Almalki, 2011; Alebaikan, 2012; Gecer and Dag, 2012; Makhdoom et al., 2013; Güzer and Caner, 2014; Zeny, Alyamany and Alhebi, 2015). However, as mentioned in the previous section, the administrators at KAU consider the importance of implementing different types of technologies in the educational

environment. This consideration has been showed in the administrators' roles to support this type of learning as showed in their responses in this study.

On the other hand, two out of 22 administrative participants in the qualitative questionnaire referred to integrating technology tools in education as supplementary tools due to the lack of seriousness of these tools and because technology tools are ever-changing tools over time, rather than fixed, so a technology can be replaced at any time by a new tool, which cause difficulty in use and difficulty in training. This opinion reflects 9.1% of the total administrative participants in the qualitative questionnaire and could affect negatively their roles as supportive to the academics' digital skills development and a blended learning approach at the University.

The last group of administrative participants was of two administrators who referred to the importance of integrating technology tools in education to be dependent on the learning approach of the programs where usage of these tools are essential in the fully online (distance learning) programs and supplementary in the traditional learning (full-time) programs. In addition, one administrator discussed the importance of integrating technology tools in education as being dependent on the tool itself. For example, email is an essential tool, whereas Facebook is a supplementary tool in the educational environment from the perspective of this administrative participant.

4.2.5 The University Policy Regarding Blended Learning Implementation

One of the objectives of the Saudi Ministry of Education is to optimally employ information and telecommunication tools in the educational system in order to achieve the Saudi 2030 vision (Ministry of Education, 2017c; SaudiVision2030, 2017). The KAU is one of the Saudi universities that seeks to achieve this vision. Accordingly, this section explains the University policy regarding blended learning implementation and development from the administrators' perspectives in the online interview. In addition, the administrators in these units represent the University policy through their roles, which was explained in detail in section 4.2.2. These roles represent three main themes, which are providing training workshops, employing and providing different technology tools, and finally programming and supervising technology systems at the University.

The KAU provides three types of learning program, which are full-time programs, distance learning (fully online) programs and affiliation or external programs. There are no official blended learning programs provided by any Saudi university authorized by the Saudi Ministry of Education as stated by the administrator 'AA5'. This study focuses on integrating different technology tools into the teaching practice as blended tools in the full-time programs where it is compulsory for both academics and students to attend physically the classes at the University as scheduled during semester time and each academic is free to integrate any technology tools, LMSs or social sites as supportive tools in his/her teaching practice.

The administrative participants in the online interview explained in more detail the policy of the blended learning implementation and supporting process for full-time programs. For example, all administrators who work at the DEDE revealed the Deanship's role in supporting the use of technologies for all the University faculties and departments. The DEDE asks all faculties to assign a coordinator aiming to help in supporting the integration of technology in each faculty as guided by the Deanship. Also, in support of a blended learning approach the DEDE aims to convert all full-time curricula to E-curricula with help from the coordinators and aims to activate these E-curricula through the Blackboard system to be available to all the students at any time. Accordingly, every faculty started to change their organizational structure in 2014 to activate blended learning activities. However, there are some differences in faculty hierarchies where some faculties formed a new unit supervised by the coordinator named the E-learning unit and others just assigned a coordinator without any other changes in hierarchy.

The DEDE support a blended learning approaches in different levels as explained by the administrator 'AA5':

In general we applied a blended learning approach on different levels; for example, learning management systems level, examinations and testing level. We have QuestionMark software, which is a different independent platform that supports this area

Another issue mentioned by three administrators in the online interview regarding a blended learning approach are the conditions of gaining international academic

accreditation for any department. One of the conditions is to implement blended learning courses in the faculty as stated by the administrator 'AA3'. This condition forces each faculty to employ blended learning courses in its entire department in order to gain international academic accreditation such as 'ABET' for meeting international high quality standards of computing courses.

Regarding technology tools, the administrative participants in the administrators' online interview mentioned different tools and systems used at the University as blended tools by the academics. But the use of these tools differs between the University programs as mentioned by the academics and administrators in this study. For example, the University generalized to the use of the Blackboard system for all programs at the University but it is compulsory to use it in the distance learning (fully online) programs and optional for other programs. This is stated it by administrator 'AA5':

We already generalized using the Blackboard system to all faculties at the University since 2014 and it is not compulsory to use in full-time programs. It is not even compulsory in the international universities that we work with together.

The DEDE also works on periodic reports for every faculty every semester regarding their use of the Blackboard system as stated by the administrator 'AA5':

Regarding the Blackboard system we do training packages and we look for that at the end of each semester or year by doing analysis. We do not aim from this analysis to evaluate each faculty but we aim to see if they are using the system in an effective way or not.

In addition, regarding personal academic website tools that are provided by the DIT, the low usage of academics' personal websites led the DIT to change their policy regarding publishing and using academics' websites. The DIT aim to evaluate each faculty depending on its website contents and its academic personal website contents. Hence, publishing and using academics' websites is not compulsory for each academic but it affects the rating of each faculty website as described by the administrator 'AA1':

The academic website has a big role in the educational system if used effectively for uploading resources, course syllabus and course notes or summary. It is not compulsory now for the academics to create their websites but it affects the rating of the faculty website. We do the evaluation for each faculty website every six months.

4.2.6 The Administrators' Perspectives Regarding the Academics' Blended Learning Practices

Embedded technologies in the teaching practice differ from one academic to another as shown in this study. In the online interview, administrators discussed these differences on several levels: training, faculty, technology tools, and academics' digital skills.

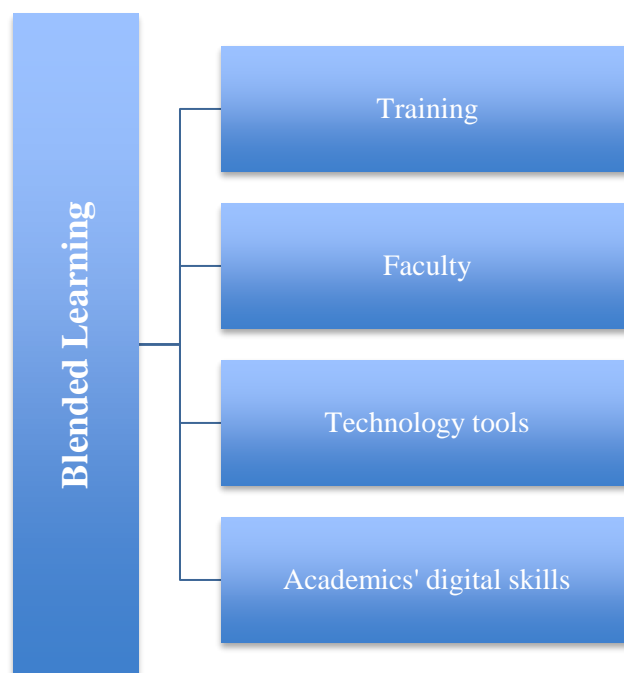


Figure 4.4: Different levels of blended teaching practices from the administrators' perspectives

4.2.6.1 Training Level

As discussed in section 4.2.2, the University provides several types of training workshops to support the academics' digital skills in order to support a blended learning approach and learning outcomes. The administrators in the

administrators' online interview expressed their perspectives regarding differences among the academics who attended the training workshops. For example, the administrator 'AA5' described in detail three types of academics who attend these workshops and stated that:

We have like three types of educators who attend the training workshops. There is the educator who attends the training because it is open training and she can come and can go with the certificate for example. This is unfortunately a very recognizable number. Also, other type of educators come to workshops to learn and by the end of each semester when we do the analytic work we found this type of educator will give us suggestions. Educators who come to learn and show interest in this area they always ask for more information. Finally, for the third group of educators who attend the workshop it's like they are coming just to tell you that they are not going to do it and they are going to tell you this is not successful and the students are lazy and so on

Administrator 'AA5's' answer regarding the types of academics indicates that implementation should be an effective blend of learning, depending on the academics. This means when the academic believes in this type of approach and believes in the importance of developing their digital skills, this will lead to the effective implementation of a blended learning approach.

In addition, the administrator 'AA3' referred to difficulty in the beginning of training workshops for the Blackboard system for the academics who teach in the faculty of home economics and stated that:

Actually in the beginning, the academics at the faculty of home economics found the Blackboard difficult. But with training and applying what I did in the training they found it easy, enjoyable and useful for increasing their productivity in the work

Several studies agree with the importance of the training workshops for academics to support their digital skills (Al-Moheba, 2008; Al-Madhoni, 2010). Accordingly,

the administrators' responses showed the importance of the training workshops for the academics in supporting their digital skills. While from a different point of view some administrators and academics assign less importance to these training workshops due to lack of specialization of the training topics and because the training is provided to all University academic members at the same time where there are different digital skills levels and different specializations.

4.2.6.2 Faculty Level

In the online interview, administrators expressed the differences in blended learning implementation between different faculties. For example, the DEDE notice high usage of the Blackboard system from the academics at three faculties, which are the faculty of computing and information technology, faculty of medicine and faculty of sciences. The administrator 'AA5' described the differences between faculties in implementing a blended learning approach in the context of attending the Blackboard workshops or activating the system as follows:

The academics who register in our training workshop from the faculty of art and humanities are very few in number and most of them do not attend it after the registration...

Computing and information technology, medicine and sciences faculties started encouraging their academics to implement technology and E-learning in their full-time programmes. For example, the faculty of computing and information technology does its exams through the E-exam system and all activity and course syllabuses are uploaded on the Blackboard system. While there is rising interest from some faculties like the faculty of home economics and faculty of economics and administration and some departments in the faculty of art and humanities for specific purposes for them

All the university units that are responsible for supporting teaching skills equally provide the same instruction and training workshops to all faculty members.

However, the differences between their practices affects how each will teach, and thus, their belief in the importance of blended learning approach.

Additionally, the administrator 'AA5' mentioned that the usage of technology tools and programs as blended tools is different for each faculty depending on its needs:

Some faculties put the content of courses on the Blackboard system with no interactions while other faculties do the opposite. Also, some faculties get benefits from the virtual classes through the Blackboard system in synchronous interaction form. For example, in the faculty of medicine, academics use the Blackboard system through their mobiles. So, every faculty focuses on what its needs from any system depending on their educational ideas

In conclusion, the participants' answers show various levels of blended learning practices among different educators. These variances appear in the differences of each teacher's support of blended learning practices, as the subjects they teach play a primary role in how to apply blended learning practice. The application of blended learning practice depends on the type of course, and some may be better adapted to blended learning practices (i.e., theoretical courses) than others (i.e., practical courses), as described by the study participants.

4.2.6.3 Technology Tools Level

The academics' usage of specific systems, technology tools or social sites in their teaching practice is different from one academic to another. For example, the administrator 'AA2' described the use of social sites as blended tools and stated that:

Most of the academics use Facebook, Twitter, YouTube, etc. There is no class at the University with no social communication between the academics and their students

While administrator 'AA5' has the opposite opinion regarding usage of social sites:

Regarding the social sites it is still not used by faculties

Along the same lines, the administrator 'AA1' stated regarding the general usage technology in education at the University:

Academics who use technology in education are few

Regarding usage of other systems such as Marz, the administrators from the DIT unit described the academics' usage of the Marz system. For example, the administrator 'AA1' from the DIT gave her opinion regarding the academics' usage of Marz to publish or update their academic personal websites:

Unfortunately, the academics do not care about their academics' websites and a lot of them not update their websites. Also, some faculties do not ask their academics to update their websites

The administrator 'AA2' agrees with this and stated that:

Few of academics who use Marz now

The reason for the low numbers of academics who use Marz is supported by the academics' responses through the questionnaires and online interviews. For example the academic 'TA2' stated:

I created the academic's webpage but I did not update it. It would be helpful but I did not use it

Regarding the Blackboard system, two administrators mentioned about Blackboard system. For example, the administrator 'AA2' stated that:

'Most of the academics prefer using the Blackboard system'

In a blended learning approach different types of online tools can be used as blended tools with traditional learning. The effectiveness of each tool as a blended tool differs from one academic to another depending on several factors such as the academic's digital skills, type of course taught and students' access to this tool as shown from the both academics and administrators' responses in this study.

In conclusion, a blended learning approach may be applied in different forms, as stated in Section 2.3.4. As a result of applying the Blackboard system at the university as its main learning management system, most educators there use it as a main blending tool in their teaching practice. The participants' responses showed that other tools used by the academics who believe in technologies in education.

4.2.6.4 Academics' Digital Skill Level

In the online interview, administrators gave their perspectives regarding the academics' digital skills and differences between them as they are in direct contact with them during the training workshops. For example, the administrator 'AA1' said:

In general, most academics from different faculties have weak digital skills and they find it difficult to employ technology in their teaching practices. It is difficult to evaluate the academics' technical skills but if I evaluate their usage and understanding for new technologies I can say it ranges between weak to good

While the administrator 'AA2' has a different opinion than 'AA1' and said:

There is big difference between the academics' digital skills five years ago and now. Now, they all have good skills so, no barriers prevent them to use technology

The administrators' responses in this study show that the different levels of the academics' digital skills affected their blended teaching practices. This is in line with the academics' responses, which will be discussed in Section 4.3.3. Various digital skills result in different blended learning practices at the university. Hence, it is difficult to ensure the same practice among different academics. Policy-makers must consider this issue when applying an effective blended learning approach

4.2.7 The University Future Policy Regarding Blended Learning Implementation

Understanding the future policy or vision for the KAU regarding blended learning implementation and the future roles of the administrators to support this type of learning are discussed in this section. Analysis of the administrators' responses in the administrators' questionnaire and online interview was derived from looking at the future action verbs in their answers to find the key themes regarding the University future policies and goals. Creating themes was difficult in this section due to the variety of answers, expressions and the variety of verbs provided by the participants.

Twenty out of 22 administrative participants in the administrators' questionnaire presented their vision about the University future policies regarding blended learning implementation and using technology tools or social sites in the educational environment. Analysis of all administrators' responses to the questionnaire and the online interview resulted in four main themes being identified, as presented in figure 4.5.

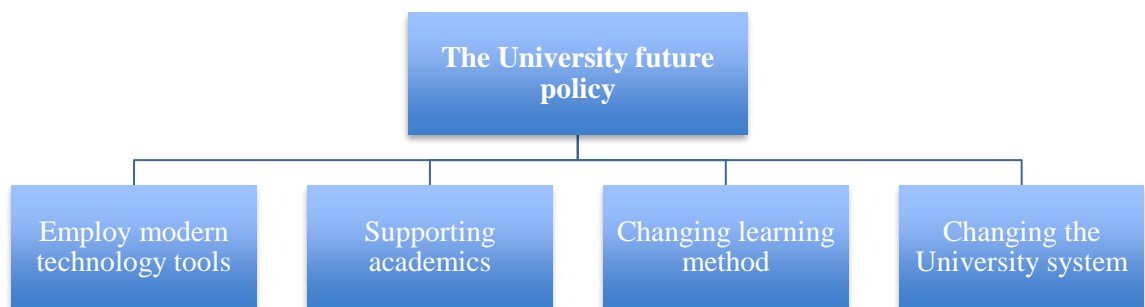


Figure 4.5: Themes generated from the administrators' questionnaire and online interview responses regarding the University future policy

Twelve administrators out of 22 in the administrators' qualitative questionnaire and one out of five administrators in the online interview stated that employing and

activating modern technology tools in education is the future University policy for effective use of blended learning tools such as second life, cloud systems, Internet channels and the use of smart tools, for example tablet devices. In addition, eight out of 22 administrators in the administrators' questionnaire and two out of five administrators in the online interview indicated future University policy is to increase the support to the academics. Supporting the academics happens in different ways as mentioned by the administrative participants such as conducting more training workshops and making attendance compulsory for these workshops. Additionally, by supporting the academics by making them aware of the optimal ways to employ technology in their teaching process.

The third theme appears from analysis of the administrators' responses regarding the University future plan for supporting blended learning as changing the learning method. Six administrators out of 22 in the qualitative questionnaire and one administrator out of five in the online interview indicated about changing the learning methods. This change happens by implementing and activating blended learning and mobile learning approaches at the University, make learning more attractive, flexible and modern by transforming classes into intelligent classes. The last theme mentioned by four administrators in the questionnaire and one administrator in the online interview regarding the future University policy is changes to the University system. The administrative participants presented their expectations for the future changes in the University system as applying an international system, activating the current University policy, employing a new mechanism to evaluate the academics' websites, making technology tools compulsory in teaching practice and converting full-time courses to E-courses.

Besides that, one administrator stated that there is no future plan regarding blended learning implementation in the University and one administrator gave an unrelated answer.

In summary, four techniques presented in this study as actions will be taken by the university in the future to support blended learning approaches. These actions have been mentioned by the administrators from all the university units as current actions to support blended learning. This current support provides positive results in this

area. What the results of the study show are an increased awareness and practice of blended learning from educators.

4.2.8 Factors Affecting Blended Learning Implementation

Understanding factors that affect positively or negatively blended learning implementation at the university helps in adopting and implementing blended tools in education effectively in order to gain the full benefits of these tools. All 22 administrative participants in the qualitative questionnaire and four out of five administrators in the online interview indicated the different types of factors that affect blended learning implementation. Analysis of the administrators' responses in both the qualitative questionnaire and online interview leads to four main themes, as shown in figure 4.6.

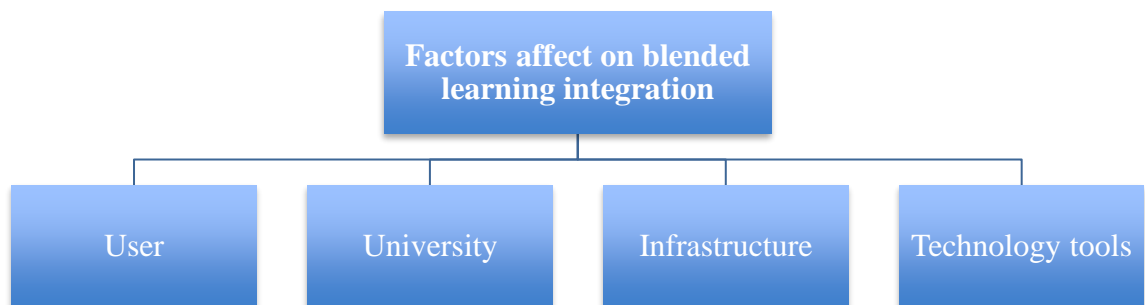


Figure 4.6: Themes generated from the administrators' questionnaire and online interview responses regarding factors affecting blended learning integration

Factors that face the administrators and affect their roles regarding blended learning implementation and development can be summarised by four main themes. These themes are users, university, organizational infrastructure and technology tools.

4.2.8.1 Users

The first set of factors mentioned by 20 administrators out of 22 in the qualitative questionnaire and four out of five administrators in the online interview as a major attribute affecting blended learning implementation is the users. The administrative participants indicated the academics or students or both of them as factor that affect the implementation of technology in the educational system. Ten administrators in the questionnaire and one administrator in the online interview mentioned academics only as a factor which affects the implementation of technology in their teaching practices. The administrative participants mentioned several reasons for this such as lack of the academics' awareness, interest, readiness and fear or resistance to change. Supporting this, the administrator 'AA5' who mentioned resistance from some academics at the University to the use technologies as a factor affecting their usage:

There is some resistance from some academics. But actually there is a change, we started with some academics who resisted changing and now they are trying to change and ask us for the next training workshops

Despite the global trend towards blended learning that is shown in the literature, some academics at the University are still resistant to change teaching practices from pure traditional learning to blended teaching through implementing one or more online interactive tools to enhance traditional teaching. The issue of resistance to change is supported by several studies in the literature review (Bingimlas, 2009; Alfarani, 2015). A resistance to teaching practice change comes in different forms. For example, some academics resist learning or using a technology tool. This particular resistance comes from a variety of reasons, as will be discussed in Section 4.3.7. This is in line with studies in the literature review (Khalil, 2013; Alfarani, 2015). Therefore, administrators should acknowledge resistance to successfully negotiate with the teachers to ensure effective blended learning implementation. The administrators' acknowledgement of teachers' and students' apprehensions may affect the implementation of blended learning effectively.

In addition, some academics at the University do not have a clear course structure to integrate technology with traditional teaching which negatively affects their blended teaching practices. Also, the administrative participants mentioned difficulties in training old academics who need more time to be convinced to use new technology tools than young academics. These issues are in agreement with studies in the literature that mentioned academics as a main factor affecting blended learning implementation (Al-Jarf, 2009; Alebaikan and Troudi, 2010; Hussein, 2011; Zeny, Alyamany and Alhebi, 2015; Alghamdi and Bayaga, 2016). However, each faculty at the University must consider these issues to work as a team with the administrators in order to overcome these difficulties that affect negatively on developing blended learning approach.

On the other hand, nine administrators in the questionnaire and two administrators in the online interview mentioned that both academics and students are factors that affect blended learning implementation. The administrative participants mentioned reasons such as lack of interest, awareness, acceptance, digital skills, responses, time and misuse of technology tools in education or fear regarding the privacy or safety of these tools. In addition, the opinion in some academics is that traditional learning is better than other types of learning and there would be an overload of work for student to undertake online learning activities in addition to traditional learning.

Although the administrators are not in contact directly with the students some administrative participants work academics at the same time and they identified some issues that arise from students as users affecting the use of technology in the educational system. One administrator in the questionnaire and one administrator in the online interview discussed the difficulties in implementing blended learning effectively to the students only. The administrators mentioned the lack of student knowledge about the advantages of blended learning and lack of their awareness about the services provided by the University. Another issue with students that was mentioned is the lack of student responses where the administrator 'AA1' stated that:

Sometimes the problem is from some students who are not responding to use the system

Eventually, the administrators refer to the academics, students or both of them as a type of users consider as factor that could affect on implementing blended learning effectively at the University. In addition, the administrators consider the academics as a main and direct factor where the academics are the guide in this type of learning and students follow their rules.

4.2.8.2 University

The second factor considered to be an attribute affecting blended learning implementation is the University, as mentioned by six administrators in the questionnaire and four administrators in the online interview. The University factor is present in different areas as mentioned by the administrators such as lack of financial resources, lack of appropriate training provided by the University, lack of administrators' support, lack of faculty support to the academics and lack of the University having a clear blended learning strategy or pedagogy. In addition, the administrators mentioned the lack of preparation before conducting training workshops and the lack of University technology services. Moreover, the administrative participants mentioned that the trainers for the training workshops work as administrators and do not work in the teaching field and are thus not aware of the academics' needs as having a negative effect on their training. The administrator 'AA1' described the process of training workshops as conducted and authorized by the administrators as occurring without sharing the academics' experiences and needs before they are conducted

Most of the systems we do training for are authorized by the higher administration at the University and we as a Deanship and the centre of teaching and learning development do different training workshops to train the academics to use these systems. I think this is the wrong way because there must be preparation before any training for any programme or system and then the training must be compulsory to attend. Additionally, the administrators must cooperate with the academics before employing any new techniques to discover all possibilities of the programme or system and if this system is easy to use or not. As administrators who work for this training, and we are away from their work as a teacher, so I

prefer to consider this issue from the academics and administrators together

This issue in training is supported by the administrator 'AA3' who works in the E-learning unit at the faculty of home economics and who specialized in the home economics field. The administrator 'AA3' expressed the importance of the trainer's specialization, which positively affects the academics' training. The training workshops conducted in the University are usually provided by trainers who are specialized in computer science or from other specializations and have good skills in the topic of the training. While the academics who attend these training workshops come from different faculties and specializations. This issue leads the trainer to give general examples during the training time, which cannot be as useful as if the examples come from the same field as the academic's area of specialization. The administrator 'AA3' explained this in detail:

Most academics at the faculty of home economics have attended the Blackboard system training at the DEDE but they did not like it and did not activate it. The reason is because I love the system and I love to use technology in everything. So, they get this feeling when I train them and then they motivate it with me. I think this is the difference because most of them told me they have attended the same training at the DEDE but they did not like it until they attended workshops training with me. I mean the trainer must have good skills and it is important to know exactly what academics needs and explain that by giving examples from their field

The issue of training workshops was discussed in detail in the literature. Different studies mentioned the importance of training workshops and how they help in developing academics' digital skills (Hussein, 2014; Ganesh and Indradevi, 2015; Abouelenein, 2016). The university and its different units then notice importance and apply various types of training workshops to develop teachers' digital skills. In addition, the university missed the cooperation between the administrators and its academics during preparation for workshop training and in planning the university policies that discuss the implementation of blended learning approach in full-time programmes. This negatively affects educators in their primary role in

the teaching process (DeYoung, 2000; Gray, 2013). So, as mentioned in the previous section, each faculty must consider the cooperation with the administrators in order to develop blended learning approach and overcome issues that affect negatively on this improvement as a result of separate work of administrators and academics at the University.

Additionally, another factor affecting the academics' usage of technology from the administrators' perspectives is the conflict in using the terms 'blended learning' and 'E-learning'. This confusion in terms arises for example in naming some units E-learning units that aim to support a blended learning approach as in the faculty of home economics. Also, this issue appears in not defining the differences between the E-learning (fully online) approach and a blended learning approach clearly at the University. For example, the administrator 'AA3' from the E-learning unit at the faculty of home economics mentioned clearly the meaning of E-learning when the researcher ask about it:

Yes, we mean blended learning in this unit

In addition, the administrator 'AA5' confirmed this by saying:

Yes, we have this problem in using blended and E-learning terms. It is true what you said about using the term E-learning but we try to differentiate between the E-learning and blended learning terms by putting icons beside each training workshop to indicate if this training workshop is for E-learning programmes or for external programmes or full-time programmes. Additionally, when we do faculty campaigns we do customization for each training workshop to indicate the target group who will gain benefit from this training

This issue appears also on the part of some academics who consider the meaning of the term 'E-learning' to be a fully online approach which is provided by the DEDE's programs. Those academics who teach full-time programs say that when they face the term 'E-learning', they ignore it because they think it is for only fully online programs and not full-time programs. The University refers to blended learning by the term 'E-learning' which covers full-time programs at the

University and the integration of technologies in the programs and support for the traditional approach. This conflict in terms leads to ignorance from some academics to the use of technology in their teaching practices with full-time programs while they already use these technologies with external programs (see sections 4.3.4 and 4.4).

Moreover, the confusion between the terms ‘blended learning’ and ‘E-learning’ was also discussed in the literature (Sharpe, et al., 2006; Donnelly and MacAvinney, 2012). The administrators at the university must consider this issue by providing a clear definition for both terms to avoid confusion. This will also have an affect the implementation of blended.

Another issue relating to the University and affecting blended learning implementation are the monthly rewards for every academic who publishes a personal website. As encouragement for the academics to publish their personal academic websites there were monthly monetary rewards for every academic who publishes his/her academic personal website starting from 2008. However, in 2016, as a result of the Saudi economic collapse, all monthly rewards stopped for all academics. Accordingly, stopping the rewards affected negatively some academics who use technology in general and who use Marz specifically as a system to update their personal websites as stated by the administrator ‘AA2’ who noted ‘few academics use Marz now’.

Faculties as the main part of the University can also affect directly the academics’ teaching practices by supporting the idea of blended learning and using technology in teaching. The administrator ‘AA1’ revealed that some academics do not update their personal websites because their faculties do not ask or encourage them to update it or even to activate it. So, the academics just activated once time and left it.

Still, supporting either from the university or faculty is an important factor that supports the integration of technology in teaching. As noted in the teachers’ responses, the main factor that supports the use of technology in their teaching practices is self-motivation and the believe in the tools. Therefore, the university and faculty must support other educators to support the blended learning

approach, especially after discontinuing financial funding for updating their academics' personal websites.

4.2.8.3 Organizational Infrastructure

The University infrastructure is one of the factors that affects blended learning implementation as mentioned by four administrators in the questionnaire and one administrator in the online interview. University infrastructure is represented in different areas as indicated by the administrators such as lack of PCs, software, Internet connection and lack of pedagogical tools.

This issue is in line with different studies in the literature (Bingimlas, 2009; Almalki, 2011; Hussein, 2011; Khan, 2011; Alsaleh and Rashad, 2012; Khan et al., 2012; Kashghari and Asseel, 2014; Zeny, Alyamany and Alhebi, 2015). These studies refer to the different types of university infrastructure that affect the implementation of supporting technologies. However, the University must ensure that the infrastructure can support high-quality internet access and video conferencing, automated video recording for lectures and collaboration networks, possibly by redesigning physical learning spaces. All these are permanent resources for both professors and students that support a blended learning approach. Furthermore, grants, teaching awards and scholarships are all part of an infrastructure that helps academics build knowledge for their teaching practices (Paterson, 2005; Kashghari and Asseel, 2014; Zeny, Alyamany and Alhebi, 2015). So, administrators at KAU also should consider these issues that not mentioned in their responses which could affect the blended learning implementation.

4.2.8.4 Technology Tools

The final factor that affects the implementation of technology in education as blended tools was mentioned by two administrators in the questionnaire and two administrators in the online interview as relating to the technology tools themselves. The administrative participants described some tools that affect the academics usage in terms of it taking a long time to convince them to use these tools due to their difficulty. Also, the administrators mentioned the high cost of some tools and the difficulties in using or updating some software that were built for specific purposes.

However, administrators must consider any factor that could have an effect on the implementation of blended learning, such as technology tools or online programs. Thus, administrators should check these tools with the University's current infrastructure to determine whether they are useful or not.

In addition, another issue regarding the training for new programs or tools was mentioned by two administrators 'AA1' and 'AA3'. For example, the administrator 'AA1' stated that:

The difficulty appears when we introduce a new programme because it is different from other programmes they are used to, even if the new programme or system has a new easy infrastructure and interface. The academics face difficulty in using a specific programme just because it has a lot of screen interfaces and all interfaces link it together. Usually the academics do not like complicated systems.

Also, the administrators face difficulties during training for some systems that were built for a specific purpose or for a specific department or faculty at the University. The administrator 'AA1' mentioned that:

We build some systems for a specific purpose as a department or faculty asked about it. So, when we did training for these systems a lot of difficulties appear but we cannot change the system because the system is created for a specific purpose as we asked.

In conclusion, different issues are mentioned as difficulties related to the specific technology tool to use as a blended tool. Thus, the administrators should negotiate all issues related to specific tools or programs with the academics during training workshops. This will make administrators aware of the issues, and thus work to find a solution or an alternative tool.

4.2.8.5 Gender

Some studies in the literature have explored gender differences in relation to using technologies. These studies have shown a less inhibited and more appreciative of

the opposite gender in segregated gender environment,(Al-Saggaf, 2004; Almalki, 2011). Other studies, however, have not noted any significant gender differences in overall Internet usage or in adopted E-learning in a gender-segregated environment (Alshankity and Alshawi, 2008; Ullrich, Borau and Stepanyan, 2010; Alsaleh and Rashad, 2012; Algamdi and Samarji, 2016).

In this study, none of the administrators' participants mentioned gender as a factor affecting blended learning implementation in the University. This is because there is no direct interaction between male and female members, which makes it impossible to compare the different genders in technology usage in their teaching practices due to the segregated gender environment in all University buildings. So, this is compatible with other studies in the literature that have found no significant gender differences in regard to internet usage or adopting online learning approaches in Saudi Arabia in general, and more specifically at KAU (Alshankity and Alshawi, 2008; Alsaleh and Rashad, 2012; Algamdi and Samarji, 2016). So, these studies consider the gender as a factor in using technologies in education at KAU with no significant differences. This is inline with the results of this study as a result of no physically interactions between different genders as academics and administrators.

In conclusion, not all factors were considered to be real barriers in implementing technology in education as some academics implement technologies without facing problems with the University infrastructure or students' difficulties for example. This is supported by the administrator 'AA2' who mentioned that:

Now, all academics have good skills so, no barriers prevent them to use technology.

4.3 Findings of the Academics' Responses

Academics have a fundamental role as knowledge producers and the driving development learning and teaching approach at universities. So, understanding academics' perceptions and use of technologies in their teaching practices is an important step for them and for administrators or policymakers to develop a learning environment.

The findings of the academics' questionnaire and online interview are discussed in two sections. The first section discusses the biographical information of the academic participants in this study by looking at their gender, age, position, experience and qualifications. The second section presents the themes generated from the data based on the academics' open-ended questionnaire and the online interview. After presenting each theme, the meaning of the theme will be explained, causes and effects will be discussed, and different academics' perspectives will be explored.

4.3.1 The Academics' Demographic Variables

This section explains the academics' demographic data collected from the academics' qualitative questionnaire and online interview. The demographic information of the respondents is presented and analysed to show the distribution of the respondents in six categories: age, gender, position, faculty, field of specialisation and years of experience. This information is important to the study because it helps the researcher understand some issues that may influence the analysis; for example, how specific attributes of demographic data relate to the use of technological tools in a blended learning approach, which could affect the academics' teaching or educational culture. Demographic data collected from the academics through the qualitative questionnaire and online interview showed a range of values for each demographic attribute, which strengthened the study by obtaining a wide range of participants' experiences and perceptions from different levels and majors.

Demographic Attribute	Values	Academics' Qualitative Questionnaire		Academics' Online Interview	
		Participant Number	Percentage	Participant Number	Percentage
Gender	Male	17	24.2 %	5	55.6%
	Female	52	74.2 %	4	44.4%
	No answer	1	1.4 %	0	0%
Total		70	100 %	9	100 %

Table 4.7: Distribution of gender between the academic participants in the questionnaire and online interview

Table 4.7 shows that most of the academic participants in the qualitative questionnaire were female, with a total of 52, which represents 74.2% of the total sample. The large number of female participants in this study is not an issue due to the different studies within the literature that have shown that have found no evidence of a significant difference between genders in a gender-segregated environment, as discussed in section 4.2.8.5.

After several notices were sent to the male sections from the DGS by phone and email to complete the questionnaire, the researcher did not get any male academics' response. So, one of the male family members contacted directly with each faculty to ask them to participate. On other hand, a nearly equal number of male and female academics participated in the academics' online interview, with five male academics and four female academics.

Table 4.8 illustrates the age ranges of the academic participants who participated in the qualitative questionnaire and online interview.

Demographic Attribute	Values	Academics' Qualitative Questionnaire		Academics' Online Interview	
		Participant Number	Percentage	Participant Number	Percentage
Age	(21-30) years	5	7.1 %	1	11.1 %
	(31-40) years	19	27.1 %	8	88.9 %
	(41-50) years	25	35.7 %	0	0 %
	(51-60) years	16	22.8 %	0	0 %
	Over 60 years	2	2.8 %	0	0 %
	No answer	3	4.2 %	0	0 %
Total		70	100 %	9	100 %

Table 4.8: Age differences between the academic participants in the questionnaire and online interview

The academic participants in the qualitative questionnaire were in different age groups as shown in Table 4.8. The block number of the academic participants was from age range between (41-50) years and represents 25 academics out of 70. Three academics did not respond to this question. On the other hand, all academics who participated in the academics' online interview were from the (31-40) years group except one, who was in the (21-30) years group.

The next table illustrates the different positions of the academics who participated in the qualitative questionnaire and online interview.

Demographic Attribute	Values	Academics' Qualitative Questionnaires		Academics' Online Interview	
		Participant Number	Percentage	Participant Number	Percentage
Position	Academic member	4	5.7 %	0	0%
	Academic and department supervisor	1	1.4 %	0	0%
	Assistant professor	21	30 %	2	22.2%
	Assistant professor and head of department	1	1.4 %	0	0%
	Associate professor	15	21.4 %	0	0%
	Consultant	1	1.4 %	0	0%
	Head of department	1	1.4 %	0	0%
	Lecturer	10	14.2 %	4	44.4%
	Postgraduate student and part-time lecturer	1	1.4 %	0	0%
	Professor	11	15.7 %	0	0%
	Teacher assistant	2	2.8 %	3	33.3%
	No answer	2	2.8 %	0	0%
Total		70	100 %	9	100 %

Table 4.9: Academic participants' positions in the questionnaire and online interview

The academic participants who completed the qualitative questionnaire in this study hold many different academic positions at the University, as shown in table 4.9, although four academics did not mention their position. The academics who participated in the academics' online interview held three different positions: assistant professor, lecturer and teaching assistant, which refer to the different levels of experience of the academics, as defined by the Saudi Ministry of education (Majmaah University, 2017).

Table 4.10 displays the different faculties to which all academic participants in the questionnaire and online interview belong.

Demographic Attribute	Values	Academics' Qualitative Questionnaire		Academics' Online Interview	
		Participant Number	Percentage	Participant Number	Percentage
Faculties	Arts and Humanities	9	12.8 %	2	22.2%
	Computing and Information Technology	5	7.1 %	0	0%
	Communication and Media	0	0%	3	33.3%
	Dentistry	7	10 %	0	0%
	Earth Sciences	1	1.4 %	0	0%
	Economics and Administration	2	2.8 %	1	11.1 %
	Engineering	8	11.4 %	0	0%
	English Language Institute	2	2.8 %	0	0%
	Environmental Designs	1	1.4 %	1	11.1 %

Demographic Attribute	Values	Academics' Qualitative Questionnaire		Academics' Online Interview	
		Demographic Attribute	Values	Demographic Attribute	Values
Faculties	Home Economics	0	0%	2	22.2%
	Medical Applied Science	11	15.7 %	0	0%
	Medicine	6	8.5 %	0	0%
	Pharmacy	1	1.4 %	0	0%
	Program for Educational Graduate Studies	4	5.7 %	0	0%
	Sciences	12	17.1 %	0	0%
	No answer	1	1.4 %	0	0%
Total		70	100 %	9	100 %

Table 4.10: Faculties of the academic participants in the questionnaire and online interview

Academics participated in this study from 15 of 20 different faculties at the University. This variety of academics' specialisations and fields gives the study a chance to capture a range of academics' experiences, attitudes and perspectives about using technologies in their teaching practices as a blended tool with traditional learning.

The next table shows the number of years of experience for the academics who participated in the qualitative questionnaire and online interview.

Demographic Attribute	Values	Academics' Qualitative Questionnaire		Academics' Online Interview	
		Participant Number	Percentage	Participant Number	Percentage
Years of experience	(1–5) Years	15	21.4 %	1	11.1 %
	(6–10) Years	5	7.1 %	6	66.7%
	(11–15) Years	17	24.2 %	2	22.2%
	(16–20) Years	8	11.4 %	0	0%
	(21–25) Years	8	11.4 %	0	0%
	(26–30) Years	10	14.2 %	0	0%
	More than 30 Years	4	5.7 %	0	0%
	No answer	3	4.2 %	0	0%
Total		70	100%	9	100%

Table 4.11: Academic participants' years of experiences in the questionnaire and online interview

The academics who participated in the qualitative questionnaire had a range of experience. All the academics who completed the questionnaire except three answered this question. Most academics who participated in the academics' online interview had 6–10 years of teaching experience followed by two academics who had 11–15 years of teaching experience and one academic who had 1–5 years of teaching experience.

In summary, the academics' demographic attributes are considered to determine whether any of these attributes affect blended learning implementation. In fact, due to the small number of participants in each group, as well as the demographical attributes and different responses for each group, it is difficult to determine whether

specific demographic factors affect blended learning implementation. The only notice that the interest and awareness from the female section in responding in this study.

4.3.2 Blended Learning Forms and Practices at KAU

The academic participants in this study implemented technologies differently in their teaching practices as a form of blended learning. The academic participants could be categorised into two main groups: academics who use online tools as blended tools with their traditional teaching practices; and academics who do not use any technology in their teaching practices and rely only on the face-to-face approach. The academics' user group was examined based on their current usage of technology, LMSs or social sites in their teaching practice indicated in their responses. The non-user group of academics was also examined to find the factors that prevent them from using technologies in their teaching. Table 4.9 presents the number of academics who practice a blended teaching approach and those who do not.

	Academics' Questionnaire		Academics' Online Interview	
	Participants' number	Percentage	Participants' number	Percentage
Academics who practice blended learning	52	74 %	9	100 %
Academics who not practice blended learning	18	26 %	0	0.0 %
Total	70	100 %	9	100 %

Table 4.9: Numbers of academics who applied blended learning practice

All 70 academic participants in the qualitative questionnaire described their teaching practices, and 52 academics that represent 74% of the sample revealed their usage of technologies in their teaching practices. On the other hand, 18 academics who represent 26% of the sample rely only on traditional teaching practices and do not use any type of technology tools, LMSs or social sites in their teaching practices. On other hand, in academics' online interview, all nine academics' participants revealed their blended teaching practices.

Using technologies as a blended tool with traditional learning varies from one academic to another depending on several issues such as educational environment, department, faculty, academic's beliefs, motivation and digital skills, students' interactions, etc. So, analysis of the academics' responses in the qualitative questionnaire and online interview for academics who mentioned their blended teaching practices revealed different meanings and forms of blended learning at the University. For example, some academics consider using computers to present their lectures through the projector as a type of blended learning, which is considered a form of displaying data using technology but there are no online interactions with students at all. Whereas, 13 academic participants in the qualitative questionnaire mentioned their usage of PowerPoint software through the projector as an offline tool used to display curriculum materials during class time. In addition, the PowerPoint software was not used outside class time as blended tools are, to interact or increase the communication with students, so it does not fit with the blended learning definition and the target of this study. All of these forms are a form of the blended learning approach found within the literature, as discussed in section 2.3.4.

Additionally, some academics consider uploading lecture files and notes on their websites or the Blackboard system as a form of blended learning, but this is considered a way to save data to be accessed online at any time through technology without any online interactions with students. Consequently, these two forms of technology usage in education are not considered a type of blended learning because they do not fit the blended learning definition and target of this study. This case demonstrates the misunderstanding in the meaning and practice of blended learning. A misunderstanding may arise for several reasons, such as no clear definition from the University on blended learning, confusion between the terms 'blended learning'

and ‘E-learning’, or academics could consider using online tools for Distance learning programs. All these issues must be considered by the University and its administrators to avoid any misunderstandings in regard to blended learning practices and to ensure an effective blended learning implementation.

On the other hand, the academics’ responses in the qualitative questionnaire and online interview revealed different forms of blended teaching practices at the University. So this section does not aim to determine only different types of technology tools used by the academic participants at the University but also aims to know the variety of tools used in their teaching process inside the campus to form a blended teaching approach. Different technology tools, LMSs or social sites mentioned by the academics who use them in their teaching practices are divided into four types of tools as presented in figure 4.7.

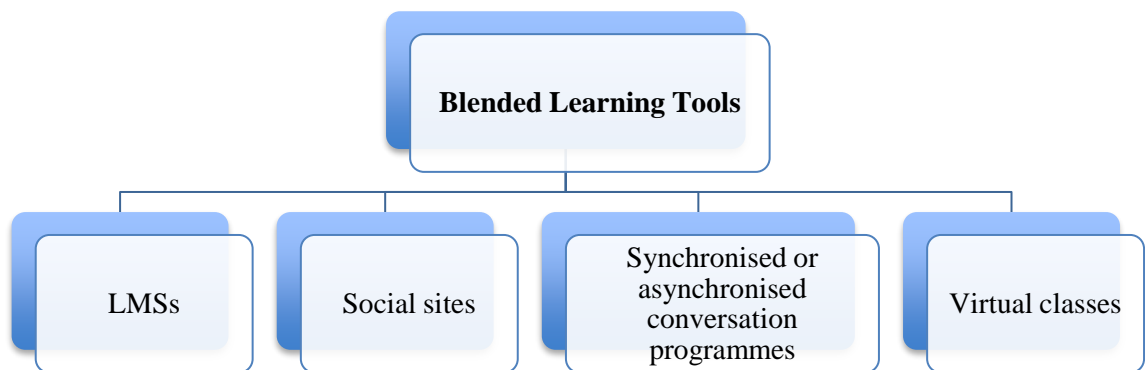


Figure 4.7: Tools used as blended learning tools in teaching practice

These tools in detail are as follows.

1. **LMSs.** The first type of technology tool mentioned by the academic participants is learning management systems (LMSs). A total of 12 academics in the questionnaire and six academics in the online interview revealed their usage of LMSs in their teaching practices. The academics in the questionnaire mentioned

several types of LMSs that are designed specifically for KAU purposes such as Marz, Centra, EMES, MyKAU, ODUS and online grading systems. None of academic participants in the qualitative questionnaire who use technology in their teaching practice mentioned the Blackboard system as a learning management system at the University. The system had not been launched at the University by the time data were collected through the qualitative questionnaire. But, the academics who participated in the academics' online interview mentioned Blackboard as a commercial learning management system used in their teaching practices because the system officially launched and was generalised for use at the University after 2014. This action leads to focus in using one online tool as blended tool instead of different types of LMSs or social sites.

Analysis of the academics' usage of LMSs showed two different types of use. The first group of academics use LMSs just to upload lecture notes and files to be accessible online resources as a reference for all students without any interaction with them, which is not considered a form of blended learning. On the other hand, the second group of academics take advantage of these systems and use them to save files and lecture notes online and to interact online with their students through synchronous or asynchronous discussion forums, email or virtual classes within the system, which is considered a type of a blended learning approach. The literature reveals that different LMSs, application programs, and social sites are used as tools to support blended learning practices, as mentioned in section 2.3.4.

2. **Social sites** are the second type of blended tool mentioned and used by the academic participants in the qualitative questionnaire and online interview. For example, the academics mentioned Twitter, Facebook, Snapchat, LinkedIn, blogs and YouTube as examples of social network sites used in their teaching process. Analysis of the academic participants' responses in the qualitative questionnaire and online interview revealed online discussion and interactions between the academics and their students through these websites. Also, these websites give students a chance to interact outside the class environment and interact with others outside of educational institution members, which fits with a blended learning approach. The literature reveals that different LMSs,

application programs, and social sites are used as tools to support blended learning practices, as mentioned in section 2.3.4.

3. **Synchronous or Asynchronous Conversation Programmes** are the third type of technology tool used in the blended teaching practices mentioned by the academic participants in the qualitative questionnaire and online interview at KAU. For example, the academics mentioned WhatsApp, email, Skype, WizIQ and TeamViewer programmes. These programmes give the academics and their students a chance to communicate and interact in synchronous or asynchronous ways through audio or video outside the class, which fits with the blended learning definition. The academic participants get the advantages of these tools by answering students' questions, receiving homework and notifying them for any issue. The literature reveals that different LMSs, application programs, and social sites are used as tools to support blended learning practices, as mentioned in section 2.3.4.
4. **Virtual Classes** is a tool mentioned by only one academic in the qualitative questionnaire as a form of blended learning. Virtual classes provide an opportunity in online classes to interact between academics and their students in online environment in similar to the traditional class environment. While only one participant mentioned virtual classes, this is not a unique case. In qualitative research, as mentioned in the methodology chapter, each response has a determined weight; unique responses may occur due to the small number of participants.

For example, the academic 'TA1' mentioned their blended teaching practice through engaging students in reading electronics books, watching YouTube videos and then discussing them later with her students during the class time. Also, they mentioned their usage of the 'Edmodo' virtual class with students in advanced years. Another example was provided by the academic 'TA2' who gives online lectures through the Blackboard system only when they are away from the University and who uses the WhatsApp mobile application and email to communicate with students and to receive their homework or for classroom management.

Another form of blended learning was provided by the academic 'TA3' who uses WhatsApp, Doodle, Twitter and YouTube in different forms of blended usage. The

academic uses WhatsApp because it allows the sending of different types of media formats (text, audio and videos) and the academic considers this as a virtual class when chatting and interacting through audio in one group. In addition, the academic 'TA3' uses WhatsApp for repeating or explaining any concepts or information and for planning meetings. Recently, 'TA3' used 'Doodle' for organizing meetings with students. Also, 'TA3' uses Twitter to write in specific hashtags and to interact with students regarding any work. However, 'TA3' considers Twitter as a public platform because posting something there makes it available to all followers not just to students. Additionally, the academic 'TA3' asks students to upload translated videos on the YouTube channel and to discuss during the class time the best form of translation.

The responses of the academics in both questionnaire and online interview show different forms of blended teaching practices and combinations. Some academics depend on one of these tools and some combine more than one tool to form a blended teaching practice. On the other hand, two academics in the questionnaire and two academics in the online interview consider some of these tools, such as social sites, are for social usage and should not be considered an educational tool. Thus, this case does not conflict with the definition of blended tools, because there are a large number of online tools that are specifically designed for learning purposes, which participants use instead of social sites.

4.3.3 The Academics' Digital Competence Rate

A total of 51 out of 52 academic members who use any type of technology in their teaching practices and participated in the qualitative questionnaire evaluated their digital skills, which is presented in Table 4.10.

Digital Competence Rate	Academics' Participant Number	Percentage
Excellent	6	11.5 %
Very good	18	34.6 %
Good	17	32.7 %
Fair	8	15.4%
Poor	2	3.8 %
No answer	1	1.9 %
Total	52	100 %

Table 4.10: The academic participants' digital competence rate

The bulk of academic participants who use technology in their teaching practices evaluate their digital skills between the very good and good level. This is different from the administrator participants' responses as discussed in section 4.2.8. The administrators mentioned a lack of academics' digital skills as one factor that affects blended learning implementation negatively at the University.

Additionally, the level of experience among the academics is varied. Thus, even academics with a digital competence rate between fair and poor have at least used the Blackboard system at the University. Those with a high level of experience practice blended teaching and collaborate with administrators to help other academics by conducting training workshops. Several academics who rated their level of digital competence between fair and poor have employed at least one blended learning approach with no difficulty. Thus, the important thing is not one's experience with using technologies, but how one employs these tools in the teaching practice. This is compatible with the literature (Benson, Anderson and Ooms, 2011; Donnelly and MacAvinney, 2012; Torrisi-Steele and Drew, 2013). So, the administrators at KAU consider varying among academics' digital skills and work to avoid this issue through implementing different level of training workshops as shown in documents resources in section 4.4.

4.3.4 Improve Academics' Digital Skills Methods

The academic participants in both the questionnaire and online interview mentioned two main ways to improve their digital skills to support themselves in teaching practices. The first method mentioned by the academics is attending training workshops or conferences in the area of educational technology and get a chance to ask experts in this field. In addition, academics can get the experiences of others by following them on their social channels to be updated with new technological tools in the education field. This form of skills development was mentioned by 17 academics in the qualitative questionnaire and four academics in the online interview. The academic participants mentioned their attendance at different training workshops at the University such as Blackboard training workshops, Marz, E-exam and other educational technology tools.

All training workshops provided by the University are not compulsory for academics to attend. While, the University generalised using the Blackboard system to all University programmes in the second term of the 2014/2015 academic year, but the academics 'TA2', 'TA3' and 'TA8' had attended Blackboard workshops because this training is compulsory for academics who want to teach in distance or external learning programmes. Also, the academics mentioned not getting advantages from this workshop for the full-time programmes because the system had not applied for this programme. On the other hand, the academic 'TA4' had attended this workshop and used it with her full-time students due to encouragement from her faculty to use it. This issue supports the confusion between the terms 'E-learning' and 'blended learning', which affects their usage of technology in their teaching with full-time programmes.

Faculty support is a factor to encourage academics to improve their digital skills as seen in the faculty of home economics at the University in section 4.2.6.

Accordingly, all academic participants from this faculty use the Blackboard system after attending workshops provided through the E-learning unit at the faculty. On other hand, the academic 'TA7' was not encouraged to attend training workshops as a result of faculty encouragement where 'TA7' mentioned that:

I did not see the faculty of art offering any form of motivation to attend any training courses. Moreover, if I attend the training, what next? How I can apply the programme in my teaching practice?

The case of the academic 'TA7' is expected if the faculty does not support the academics in their teaching practice and if they do not express the importance of employing a blended approach. Moreover, administrators should hold training workshops for the faculty to explain how implemented blended learning approaches can be used in specific courses. All of these points have also been mentioned by other academics and administrators in this study.

The second method mentioned by the academic participants as a way to improve their digital skills is self-development or a self-training approach by self-practicing, reading, searching on the Internet or watching online video tutorials. This method was mentioned by 26 academics in the qualitative questionnaire and two academics in the online interview. Additionally, the analysis of the academics' responses showed four of the academics in the qualitative questionnaire and three academics in the online interview combined the two methods. On the other hand, two academics in the questionnaire and three academics in the online interview answered that nothing was needed to improve their digital skills because it is easy to use. For example, the academics 'TA3' and 'TA6' had attended training workshops at the University but they found them boring because they found the programmes easy to use and had no need for training. Similarly, the academic 'TA5' did not attend any training workshops about using technology in education at the University because it is not an interest.

However, While some academics relied on the University to conduct several training workshops to develop themselves in specific areas, other academics taught themselves. Thus, the University must recognize the importance of training workshops in developing academics' digital skills for use in their teaching practice, as discussed in section 4.2.2.

4.3.5 Changes in the University Educational Culture

The culture within educational organisations shapes individuals' perceptions, which has a direct impact on individuals' practice (Bates and Khasawneh, 2005). So, educational culture differences in relation to perceptions towards usage of technology as a blended tool is a factor that affects the academics' acceptance of technology tools or their effect on future usage in teaching practices. Saudi educational organisations are an example of specific educational culture relating to gender as a demographic value, which differs completely from Eastern educational culture. This particular educational environment and culture have an impact on the university members' attitudes and behaviours regarding the usage of technology tools in the educational process as discussed in section 2.4.2. Therefore, understanding the educational culture differences is essential in this study to design and develop a blended learning approach at the University and to increase University acceptance for integrating technology with traditional learning.

A total of 51 academics who participated in the qualitative questionnaire and six academic participants in the online interview who use technology tools, LMSs or social sites in their teaching system described changes in the educational culture from their perspectives after moving from traditional learning to a blended learning approach. The analysis of the academic responses in the questionnaire and online interview revealed four levels of educational culture changes. These changes are changes in the learning process, students only, academics only and both academics and their students at the same time as presented in figure 4.8.

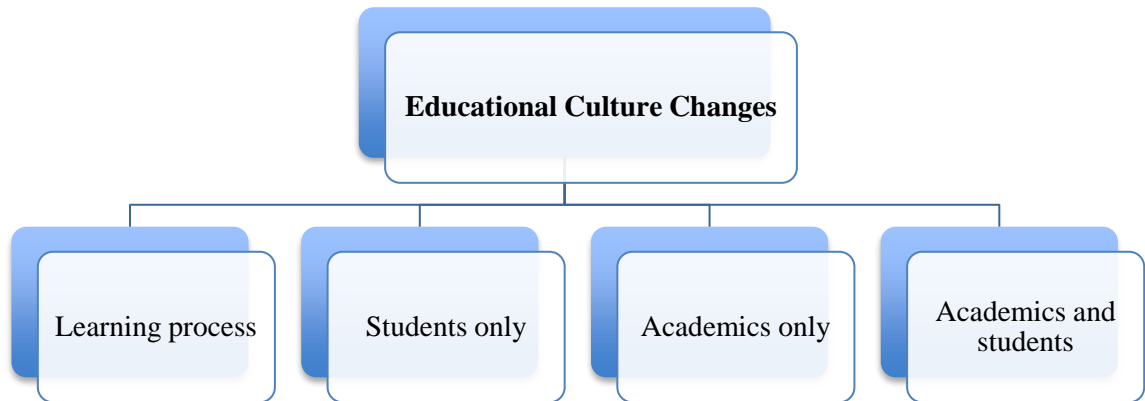


Figure 4.8: Educational culture changes after using technology in education

Firstly, the academic participants pointed to changes that affected the learning process presented in different forms. These changes in the learning process present the change in the traditional learning process by breaking the routine of traditional learning by contacting and interacting online with others after class time, delivering information from different resources and in different media formats, and fill some gaps in traditional learning by making students the centre of the learning process instead of depending on the teacher or course book. All these changes make the teaching and learning process easier, interactive and better than pure traditional learning. This is supported by the response from academic ‘TA1’:

This time if the teacher stands and just talks in the class, he/she will lose his/her students’ concentration after five minutes. Students in this era do not need information they can bring all information about the course through one click from Google. Students now need interaction, need to know how to insert information in their real lives, conversation, they love to look at anything on their mobiles. So, they like all technologies that have interactions, renewal and attractions.

And this is in line with administrator ‘AA5’ who stated:

If some academics do not believe that students are at the centre of the learning process, then okay they are not coming here for training, they are just coming for plying on.

Additionally, another example mentioned by academic 'TA8', who deals with his students as a group to share knowledge, stated:

I always reward any student who gives me new information, ideas or studies related to a specific topic. Additionally, I always tell them I am not here to teach you but to share knowledge with you.

In addition, one academic in the qualitative questionnaire mentioned that implementing blended learning courses in each department allows the faculty to get the ABET accreditation for meeting international high quality standards of computing courses.

Additionally, converting from traditional learning to blended learning also affects learning outcomes. For example, the academic 'TA1' mentioned the positive outcomes of using different technology tools in her teaching practice for students who vary in their learning and understanding of skills, stating:

Blended learning for me is offering good learning outcomes and we adding via that a good experience for our students who have different learning skills and understanding levels.

All previous academics' responses confirmed the changes in the learning process after moving from a completely traditional teaching practice to a blended learning practice. This is in accordance with the literature, as discussed in section 2.4.2. The University noticed these changes, as well as over several LMSs and training workshops that support these changes.

The second form of changes in the educational culture that happens after moving to a blended learning approach is changes that affect students only. These changes include improving students' understanding and knowledge, increasing students' activities, interests, digital skills and increasing students' capabilities to learn and attract their attentions. For example, the academic 'TA3' mentioned that using some

technology tools such as WhatsApp group chat gives students a chance to interact online with their friends, and this could be especially helpful for students who do not have strong speaking skills during class time.

The third form of educational culture that changed after implementing blended learning is changes that affect the academics only as changes in the educational culture. These changes include ease of preparing for the lessons before the class and ease in displaying information, saving time by reducing their office hours, knowing students' needs and explaining more to them by giving more examples and increasing their experience by contacting members outside the University to expand their knowledge. All these changes either positively or negatively affect the academics' teaching practices. For example, the academic 'TA1' said that adding other online educational resources could fill some lecturers' teaching gaps:

As a teacher, how much your teaching is perfect, but still you have some shortfalls, which affects teaching skills. So, blended learning will offer additional resources on YouTube, papers or whatever which overcome your shortfalls.

To support her perspectives, academic 'TA1' gave an example of statistics students who do not understand from their lecturer and depend on the YouTube channel to understand their course:

I teach statistical students and they tell me that they are not satisfied with the statistical lectures but they have to attend it because attendance is compulsory. When I asked them about the reason for that they told me that they do not understand from the teacher and she does not answer their questions. Then, I asked them how they understand the course they said that they watch a YouTube channel for one academic who explains everything in an easy way and they understand everything from this channel.

This is in line with the perspective of academic 'TA7' who mentioned difficulty in giving her attention to a big group of students at class time and stated:

I think blended learning will be more comfortable for us as academics. Because now at the department, I teach about 70-80 students in one class. It is difficult to teach all of them in one class and give each one my attention.

Another example of positive impact on the academic was given by academic 'TA2' who has positive experiences receiving online homework through emails or Blackboard because it is easier for him in marking and more convenient to save it than get it in hard copies.

Finally, changes affect both academics and their students at the same time as changes in the University educational culture after implementing a blended learning approach. These changes appear in an increase in communication between them after class time, which becomes easy and fast in responses, saves time and effort, makes it easy to prepare for meetings and provides easy access and availability all day. Additionally, blended learning affects educational culture positively for both academics and students through keeping up with the digital age, sending and receiving information quickly for all, broad knowledge and capabilities.

Comparing the academics' responses in this section with the administrators' answers show slight differences. The academics' perspectives regarding the educational culture focus more on the learning process in general and on changes affecting the academics or students. On the other hand, the administrators' perspectives regarding changes in the educational culture focus on changes in the learning process, pedagogical tools, communication and changes that affect the academics. This is because the administrators' do not have direct contact with students.

In conclusion, different aspects, mentioned by both academics and administrators, have affected educational culture after shifting from a traditional learning approach to a blended learning approach. These changes are critical factors in this movement, and can affect the efficiency of a blended implementation, as discussed in section 2.4.4.

4.3.6 The Importance of Technology Tools in Education

The importance of using technology in the teaching practice was mentioned through the academics' qualitative questionnaire by 51 out of 52 academics who use technology in their teaching practices. Analysis of the academic participants' responses were categorised into three themes as presented in figure 4.9.

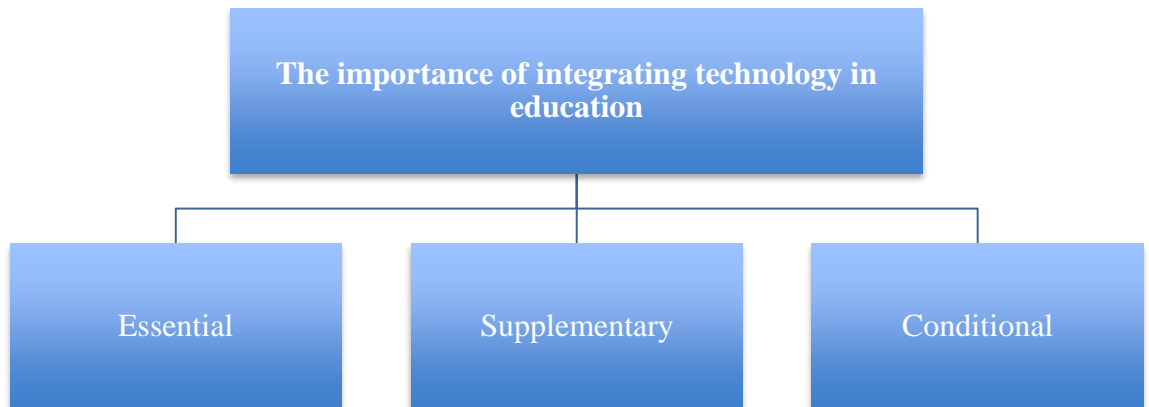


Figure 4.9: Themes generated from the academics' qualitative questionnaire responses regarding the importance of a blended learning approach

A total of 28 academics revealed the essential usage of these tools in their teaching practices with full-time programmes, while 21 academics consider these tools as supplementary in their teaching practices. The third type of academics considers using online tools with traditional teaching as essential and supplementary at the same time as mentioned by one academic. For example, using technologies is supplementary with teaching practice and essential if these tools help in displaying course materials in a good way. The last group of the academic participants considers the importance of using online tools as depending on the learning programmes, where it is essential for distance learning (fully online) and external programmes and supplementary for full-time programmes at the University as mentioned by two academic participants.

The academics who revealed that the use of technology was as important as traditional learning tools were 20 females and eight males. Most of them ranked their digital skills as very good and most of them ranged in age between 31-40 and 41-50 years old. While 15 female academics and five male academics consider technology tools as supplementary in the educational environment, there was one academic who did not reveal his/her gender. The high percentages of this group of academics were from age 51-60, with a high level of experience.

However, the majority of the participants in this study exhibit a high level of digital skills, and an analysis of the participants' responses does not reveal any significant correlation between academics' digital skills level and their age. This is confirmed by several studies within the literature that were conducted in Saudi Arabia (Al-Gahtani, Hubona and Wang, 2007; Baker, Al-Gahtani and Hubona, 2007).

Nevertheless, other studies have found that the elderly can experience difficulties when using technologies (Ejechi, 2013; Vacek and Rybenská, 2016). In this study, the academic participants' responses showed differences in their digital skills while, the administrators participants' responses do not present any significant differences among academics' blended teaching practices and their age.

4.3.7 Factors that Affect Blended Teaching Practice

This section illustrates the factors that affect the use of different technology tools in teaching practice from the academics' perspectives—factors that either encourage them to or prevent them from using these tools in a blended learning environment. These factors were mentioned by the academic participants in the qualitative questionnaire and online interview. The analysis of the academic participants showed five different factors they face during their blended teaching practice as shown in figure 4.10.

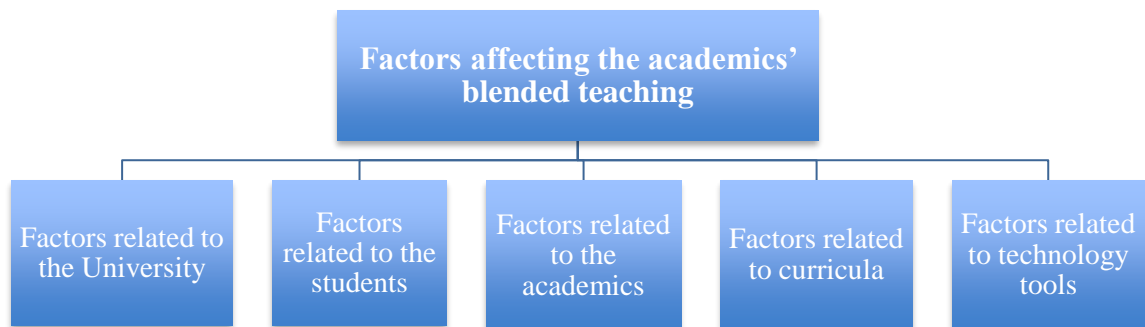


Figure 4.10: Factors that affect blended teaching from the academics' perspectives

These are factors related to the University, factors related to the students, factors related to the academics, factors related to curricula and factors related to technology tools. The next sections discuss each factor in more detail.

4.3.7.1 Factors Related to the University

The academic participants in the questionnaire and online interview mentioned different factors that affect their use of technology in their teaching practices in a blended environment. Forty-seven of 63 academics in the qualitative questionnaire and all nine academic participants in the online interview mentioned one or more factors related to the University, for example, the University infrastructure, the University or faculty support, full-time programmes' policy, financial rewards, training and technical help provided by the University.

University Infrastructure

The first factor mentioned by the academics in this study related to the University is the University infrastructure, which is mentioned by 42 academics in the qualitative questionnaire and four academics in the online interview. This issue presents in different forms in which the academics mentioned a lack of technical resources such as PCs and programmes,

problems with some computers or projectors, network disconnection or poor Internet availability, lack of appropriate computer labs, lack of technical help and restrictions on installing some programmes in the University. For example, the academic 'TA1' mentioned a lack of University infrastructure even with new buildings in the University:

Now, we are in new building in the University for three semesters and not all projectors work. Because the technicians have not installed the application on the computers until now.

The University Internet connection is a factor that negatively affects the academics' and students' use of technology tools in the learning practices as mentioned by academics 'TA1' and 'TA5', respectively:

Not all buildings in the University have an Internet connection.

The Internet connection is not good inside the University so it is difficult to record a video in the class time. I have used the Blackboard system in an advanced way when I was a teacher outside the KSA. But at the KAU, the infrastructure of the classes is not ready for that.

This issue was mentioned by the administrators in this study as seen in section 4.2.8 and in previous studies conducted in Saudi Arabia as discussed in section 2.4.4.

However, the current University infrastructure is a main issue in the implementation of effective blended learning practices at the University. The different responses obtained from several academics and administrators led the University and policy makers to consider any factors related to University infrastructure as capable of negatively affecting blended learning implementation.

University or Faculty Support

The University or faculty has an important impact on the academics' use of technology in teaching practices because the University and faculty are the

main units that have direct contact with the academics regarding any issue or policy in learning and teaching approaches. In this study, lack of University or faculty support was mentioned by nine academics in the qualitative questionnaire and two academics in the online interview. For example, the academics who participated in the academics' online interview from the communication and media, European languages and business and administration departments mentioned not receiving any support or encouragement from their departments or faculties in teaching in a blended way. The academic participants who teach in a blended way in these departments mentioned a lack of support from their departments and that their practice of blended learning comes from self-motivation to support the traditional learning approach and learning outcomes.

Additionally, the academics mentioned that some faculties at the University support using the Blackboard system but at the same time do not support academics who provide online lectures through the Blackboard system and cannot attend the University. This is supported by academic 'TA7' by agreeing to the supporting form her faculty to integrate technologies with traditional learning:

Yes, some of my colleagues use the Blackboard system

Nevertheless, her faculty does not support online lectures and the absence of academics for special situations as stated by academic 'TA7':

When it was raining one day, some academics posted a lecture online for their students but I heard it was not a successful experience. This was because the department regarded the academics as being absent and stated that they must attend to the University.

Along the same thought, academic 'TA3' mentioned the lack of faculty support regarding blended learning:

Regarding the faculty, I don't see any steps or vision for that. But the University has this vision because the infrastructure of

the University is ready for that but it has not been active until now. Some of the full-time curriculums' content is now available on the Blackboard system so we can use it.

On the other hand, the faculty of home economics supports and encourages its academics to use the Blackboard system by creating an E-learning unit in the faculty. This unit provides training workshops about the Blackboard system for all academics and is published in the E-library in the faculty website. This support appeared in the academics' responses from this faculty in the online interview. For example, academic 'TA6' stated:

The Blackboard system has become semi-compulsory in our faculty.

So, academics differ regarding the support provided by the University or faculty, as there are academics who practice blended teaching with no support and there are academics who have support from their faculties but do not apply any blended form as stated by academic 'TA7'.

One of the DEDE policies is to have an ambassador from each faculty to develop a blended learning approach for each faculty. Nevertheless, none of the academic participants mentioned any reference in their faculties from the DEDE except the academics who participated from the faculty of home economics.

However, as mentioned before in section 4.2.8 from the administrators' responses, the University and faculty have noted the importance of guiding academics in their blended teaching practices.

Full-time programmes' policy

The full-time programmes' policy at the University depends completely on traditional learning, in which class attendance is compulsory for both academics and students, and all students' exams, homework and projects are marked during the semester. Additionally, every academic teaching in this programme has to teach specific curriculum materials. While the DEDE at the

University generalised the use of the Blackboard system to all programmes at the University, not all academics use it because it is not compulsory to use it for full-time programmes like it is with external and distance learning programmes as stated by two academics in the questionnaire and six academics in the online interview. For example, academic 'TA1' said:

For full-time programmes there is nothing for electronic vision and most academics do not open the Blackboard system.

Academic 'TA2' confirmed this:

The department normally would provide us with the course syllabus and the teacher chooses the way to deliver. There are no strict roles over the way the teachers teach. Each teacher can teach the way they like. There is no requirement to teach online.

Additionally, academic 'TA5' agrees with academics 'TA1' and 'TA2':

I did not hear about any future policy from the faculty or the University to implement a blended learning approach. Because we use the Blackboard system with external and distance learning students only.

This is similar to what academic 'TA8' said:

The department gives us the broad outline of the curriculum's syllabus and activities. How the academics interact with the students is depend on each academic. There are no specific steps 1, 2 and 3, as in the distance learning programmes.

The academic 'TA8' mentioned the policy of teaching at the University, wherein each department provides the specific academic course syllabus and goals for the course that he or she is responsible to teach. Subsequently, each academic has the freedom to choose the appropriate teaching method. Thus, each academic could integrate online aspects with face-to-face teaching practices.

Accordingly, the full-time programmes are completely different than the distance learning (fully online) programmes at the University. In the distance learning programmes, the academics give all lectures online and are observed by the DEDE regarding their online attendance and online activities as a policy of distance learning programs. Consequently, the observed educational system could be a factor that affects the academics' use of technology tools as described by academic 'TA1':

Unfortunately, another thing related to academics' attitude is to make blended learning observed like distance learning programmes. The technicians at the DEDE can know how many times academics did online lectures, how many hours they spend on that, and they can listen to all audios and check their chats and know how many E-mails are sent and everything done by the academics with distance learning students (fully-online students). Accordingly, the academics who teach online students sign in at the beginning of each semester to these rules and if the academic follows all these rules he/she can get his/her fees because fees for teaching distance programmes is something different than for full-time programmes. So, I mean here that if the academic is observed and ambitious to do that then they can apply blended learning.

However, this observation by the DEDE unit forces academics who teach distance learning programs to attend all online virtual classes, maintain contact with students through online tools and submit all their projects and assignments online. This observation does not exist in the full-time programs, as no one can observe the academics' physical attendance or types of projects and assignments given to the students. This could make academics follow the traditional teaching method without doing any extra work by adding online parts to the course.

The academic participants revealed different policies for each type of program provided by the university. Some academics considered the use of online tools as essential for distance and external programmes as its main role for these

programmes and its observed by the University. On other hand, some academics at the university consider online tools as optional for full-time programmes. This appears in some academics use the Blackboard system with distance and external programs but do not use it with full-time programmes. For example, the academic 'TA3' who attended the Blackboard training workshop stated that:

I use the Blackboard system only with external students

However, the type of program in the University could force academics to use specific forms of teaching and tools, such as distance learning programs or face-to-face learning, as stated by the University policy and discussed in detail in section 4.5.1.

Moreover, the academics revealed the difficulty in using technologies with a large number of students in the class in full-time programmes. All these factors led to a lack of them using these tools.

Another factor related to full-time programmes' policy that affects blended learning implementation is related to the difficulty of assessing the students online where there is no policy for that in full-time programmes. Three academics in online interviews mentioned that the policy of the full-time programmes does not consider any impact of the online activities on learning practices. For example, academic 'TA2' mentioned the process of the full-time programmes is to attend classes and integrate online technology or convert part of the course to online which must be marked to engage the students in a new learning environment:

It is difficult to apply in our traditional learning system. For example, if the activities/assignments were not marked, the students would not do it. If the teachers were absent the students would not come also. I would prefer if some changes happen to the fresher year's system to make students depend on themselves more than teachers and make all students' activities marked not just exams.

Therefore, even if an academic is motivated to apply a blended learning approach in a full-time program, he/ she could face difficulty from the students. In a blended learning approach, students must be motivated to be independent learners. One way to motivate students to become independent learners is to mark their online activities rather than make the online portions of the course optional.

Academic 'TA2' also mentioned the policy of full-time students' assessment:

Because of the way of assessing students, which largely depends on exams and the exams based on the textbook. So, the students' main objective is to study the textbook and learn from the teacher. When you link usage of technology or online discussion with marks you will find all students use it and motivate each other.

Confirming all academics' opinions in practice, academic 'TA6' stated:

I enforce my students to do several activities through the Blackboard system by assigning marks to these activities. So, marks motivate students to work through the Blackboard system.

Three units at the University support the implementation of a blended learning approach, as made apparent by the administrators' roles in these units (section 4.2.2); However, the faculty and department support continue to play a significant roles in inspiring academics to implement blended teaching techniques, as demonstrated by the academics' responses. In addition, academics' motivation to implement a blended teaching approach is a direct factor in the success of a blended learning approach, as it is not required from the University in the full-time programs. This point is discussed in section 4.3.7.3.

Financial Rewards

One of the factors related to the University is stopping monthly financial rewards for academics who use computers in their teaching practice that negatively affects their technology usage practice. This issue does not present in the qualitative questionnaires where the financial reward was continued. By 2016 and due to the Saudi economic collapse, all rewards at the University stopped. So, by the time of the online interviews, three academics in the academics' online interview mentioned stopping rewards as a factor negatively affecting their usage. For example, academic 'TA1' illustrated the reason other academics do not use technology in their practice:

The academics do not apply that in their teaching practices because it represents an overload of work without any financial reward. So, most academics do not even use PowerPoint due to stopping this reward.

Academic 'TA8' confirmed this:

As you know there is no financial reward. So, the personal motivation comes from loving my field and job and because I want to see my students in the best situation.

However, All academics were motivated by monthly financial rewards and started publishing their websites. However, after the Saudi economy collapsed in 2016, all monthly financial rewards were stopped, as described in detail in section 4.5.3. This issue negatively affected the academics, as most had not updated their websites nor interacted with their students through this channel, as discussed in section 3.6.

Training and Technical Help

Responses from the academics in this study showed that a lack of training workshops and technical help affected their blended teaching practices. One academic in the qualitative questionnaire mentioned a lack of training and another mentioned a lack of technical help provided by the University. Additionally, during the online interviews, two academics mentioned the lack

of technical help and one academic mentioned the lack of specialised training, which was supported by the administrators. For example, academic ‘TA1’ said:

Sometimes, it is difficult to get help from the technician in the University. When I want to use the projector or computer for example, sometimes I find it not working so, I have to ask the technicians for help by filling in a form for that and the process may take time until the end of the semester.

Confirming this, academic ‘TA6’ mentioned not getting help from the technical unit to solve the problem with her personal website’s issue.

In section 4.2.2, the administrators in this study expressed their concern for developing the academics’ digital skills. Although some limitations remain in this area, the academics’ responses note the difficulties they faced while teaching in-class. This is considered an issue, and the University and administrators must consider this issue to develop the University infrastructure and blended learning implementation. Nevertheless, this issue is not considered an obstacle to practicing blended teaching, because the academics can overcome this issue by using another computer without having to depend on the University’s infrastructure.

4.3.7.2 Factors Related to the Students

The second factor that affects blended teaching practice from the academics’ perspectives at KAU relates to the students, according to 14 academics in the qualitative questionnaire and seven academics in the online interview. This factor presents in different forms as mentioned by the academics.

Students’ Level of Education

Four academic online interview mentioned that the students’ level of education has an impact on their use of technology; students in the fresher year were used to “spoon-feeding”, unlike students in advanced years. Academic ‘TA1’ talked about her online activities with fresher year students:

If I have to teach five sections in the term and all of these sections have students in the first year, who are all young and have new experience in the University, and all of them focus on how to gain high marks, I implement blended learning in some activities instead of using paper and try to put some materials through the Blackboard. Sometimes I include about 10-15% of the course as online activities to help students to interact online.

Similarly, academic 'TA2' mentioned the difficulty of using online aspects in teaching the fresher year students:

The problem is that students in the first year (fresher year) are used to being "spoon-fed"

On the other hand, the use of technology tools with students in advanced year is easy compared to students in the fresher year, according to academic 'TA1':

Now, I teach just one section. This section has older students aged around 30 years and they have a sense of responsibility and want to improve themselves. So I begin with them using other applications like 'Edmodo'

The academics' responses also noted the students as a factor that affect blended learning implementation; Indeed, the academics' have experienced difficulties in applying blended teaching practices on newer students, due to the students' lack of online learning experience. These issues prevent academics from teaching newer students and effectively applying blended learning. On the other hand, the academics who teach more advanced students find it easier to apply blended teaching practices. Thus, administrators must focus more on new students and teach them to become independent learners and obtain information from different resources rather than depend entirely on the teacher during class time.

Students' Interactions and Interests

Increasing student online interaction with their academics', students at their classes and others outside the University after implementing blended learning is a factor that motivates the academics to teach in a blended way. For example, academic 'TA1' was motivated to use technology tools in her teaching practice when observing a high percentage of her students' online interactions and their desire for self-learning and understanding their course by themselves:

For me it is a personal motivation when I see the positive responses from students and when I do training and see how academics get benefits from this training and when I see how they apply that. So, all this motivates me to do that even if the University does not motivate me. I think it has an effect on the learning outcomes and on students.

Additionally, two academics in the qualitative questionnaire and three academics in the online interview mentioned how students' interest affects their usage of technology in teaching either positively or negatively. For example, academic 'TA1' mentioned the lack of interest from some students regarding the use of 'Edmodo' in the class.

Academics in this study who applied a blended teaching practice noted an increase in students' interactions with them and others outside the University. In addition, the academics noticed students' increased interest in learning through an online approach. This issue can motivate academics to apply a blended teaching technique, as well as encourage other academics to do the same.

Students' Resistance to Change

Two academics in the online interview mentioned students' resistance to change as a factor affecting blended teaching practice. For example, some students will ask to do their homework and projects on paper instead of online because they used to do it that way. Also, academic 'TA6' said that some

students are not interested in sending their homework online and prefer to print it on paper because this represents the comfort zone for them.

While the previous section revealed that more advanced students are interested in applying a blended learning approach, some students may still resist the new learning approach. This resistance may be due to students' comfortability with their established routine. However, if academics mark students' online activities, then all students will have to complete their work online; Thus, students' resistance to change is not consider a critical factor in blended learning implementation.

Students' Lack of Digital Tools and Technology Misuse

Two academics in the qualitative questionnaire and two academics in the online interview mentioned students' lack of digital tools such as computers or Internet service. This issue affects the integration of technology in education effectively and leads to not sending their homework or projects online, which is also difficult with poor Internet infrastructure at the University.

In addition, four academics in the qualitative questionnaire and three academics in the online interview mentioned students' misuse of technology tools that led to a lot of noises and notifications during the day and through the late hours of the day. For example, academic 'TA5' described the students' misuse of the Blackberry group:

The problem was that some students did not take the Blackberry group in a serious way and dealt with it like friends' groups and sent unrelated topics. So, the problem was in controlling a large number of students who do not take the group seriously.

In the same vein, academic 'TA8' mentioned students' misuse of email and stated:

Some students do not use emails seriously. For example, they use it just to send their absent reports. Actually, students who

use emails for interacting are few in number, and represent 20-30% of the total students.

Confirming this, academic 'TA6', who faced students' misuse of the WhatsApp group, said:

I am thinking about not using WhatsApp by next semester due to noises all the night-time. Student send very silly questions just because she has a mobile and it is easy for her to use it and after like 15 minutes from sending her question she said sorry I got the answer. So, they found using WhatsApp so easy and ask about everything and I feel that is annoying to me and causes stress to me.

On the other hand, an annoying issue was mentioned by academic 'TA7' but this did not affect her negatively:

Most academics do not like to give their mobile numbers to their students to avoid being annoyed by some of them. But, I myself prefer to communicate with my students through the WhatsApp application. Every semester I create a WhatsApp group for each curriculum with my students to communicate with each other during the whole of the semester. I use the WhatsApp application to present some activities and suggestions.

In general, several academics showed their inconvenience with misuse of different technology tools from students. Other academics, moreover, have expressed that spending too much on emails and notifications from different applications is an inconvenience. These two issues could negatively affect the implementation of a blended teaching practice. Nevertheless, the effectiveness of these issues can be minimised in a number of different ways. For example, if academics mark students' online activities, the students will follow their instruction and do the online work. However, several academics mentioned the inconvenience of receiving so many notifications from students. In this case, academics could simply switch off all notifications and advise students to send

questions during a specific time period. Nevertheless, all student-related issues mentioned in this section can be overcome, so none are considered factors that may prevent academics from applying a blended teaching practice.

Students' Digital Skills

Students at the University have different levels of digital skills as mentioned by three academics in the academics' online interview, which affect their blended teaching. For example, academic 'TA1' mentioned:

Some students did not know the meaning of E-mail and didn't know how to use it

This agrees with what academic 'TA8' stated:

Some students do not have email accounts and when I ask them how they have Twitter or Snapchat accounts, they tell me that they contact to any office that can create an email account for them and use it.

While there are some students who are used to using technology in their normal and social lives, when it relates to learning they do not know how to use it as said by academic 'TA1':

Actually, students love to use mobiles but when it relates to learning they do not know how to use it. So, I have to teach them step-by-step. It takes time but it deserves because students become motivated to learn more.

Also, this issue mentioned by academic 'TA6', who faces students with low computer skills such as uploading files incorrectly or using the wrong format. So, she has to help the students, which is time consuming for her as she stated. Academic 'TA2' mentioned the difficulty and time it takes to teach students how to use specific programmes, so he advises them to look at the online tutorial provided by the University.

Digital skills level affects academics' usage of technology tools, as discussed in section 4.3.3, as well as students' usage. Students' digital skills vary, and it can be difficult to manage different digital skills among many students. However, the University addresses this by providing different training workshops for newer students to develop the necessary digital skills. This solution works to minimise the effect of this issue.

Students' Readiness and Awareness

Two academics in the qualitative questionnaire and four academics in the online interview said that students do not care or are not ready to use technology tools in a serious way in their learning approach, which negatively affects a blended learning implementation. For example, lack of students' care where some students do not use or open their email accounts.

In addition, the lack of student awareness about the advantages of integrating technology in education affects the academics' blended teaching. Five academics in the qualitative questionnaire and one in the online interview mentioned this issue.

As mentioned in the previous section, the administrators are aware about different issues related to students that can affect the effectiveness of a blended learning approach. Administrators at the University work to provide different training workshops for all students to make them aware of the different online resources available to them.

Students' Class Attendance

Moving from purely traditional learning to blended course content leads to increased student absence and dependency on these tools and not referring to the course books as explained by academic 'TA1':

What I notice is that when the teacher puts all the course contents in the PowerPoint form and upload it online, the absence of students increases. The students depend on that and fail to attend the class. So, personally I do not believe in putting all the course's content online but putting in resources related to

a specific point, examples of activities or something students can get benefit from in their daily lives and to develop their skills in different areas.

This issue was also mentioned by one academic in the academics' online interview. This issue could not be a serious factor because physical attendance at the University is compulsory for all full-time programmes.

The academics in this section mentioned an increase in student absences from physical classes due to the availability of online lectures. This is not considered a factor that negatively affects the implementation of blended learning practice, because University policy forces full-time students to attend at least 75% of their physical classes or they will fail the course. Thus, it is possible for academics to provide online materials to their students to support the blended learning approach without worrying about an abundance of student absences.

4.3.7.3 Factors Related to Academics

The academic participants mentioned other academics or issues related to the academics themselves that affect their blended teaching practice. Thirteen academics in the qualitative questionnaire and all of the academics in the online interview (nine academics) mentioned this. These factors come in different forms listed in detail:

Academics' Self-Motivation

The academic's self-motivation is an important factor in using technology tools in the teaching practice, especially if the faculty or department does not support a blended learning approach. This factor is mentioned by six of the nine academics who participated in the academics' online interview.

The academics who are motivated to use technology in their teaching practices are motivated even if there are device problems, and they try to solve the problem rather than waiting for a technician's help. Also, they help other academics who need technical help in their classes. For example, academic 'TA1' is a strong believer in a blended learning approach and her motivation

motivates other academics to implement technology in their teaching practices by conducting several training workshops at the University:

The University and the department do not affect my teaching method. It is something I do personally without any financial reward. Just because I believe in using technology in teaching and believe that is better for students.

Also, the desire of the academic to generate the best learning outcomes and fit the students' needs is a factor that supports the use of technology in education as academic 'TA1' mentioned:

I think even if I teach another course like physics or astronomy I will search for ways to teach in blended forms. Because what motivates me is how learners learn and what they need for that.

Academic 'TA2' does not use technology in his teaching practice unless he is away from the University, but he mentioned other academics who teach in a blended form do it because of their personal initiative. Also, motivation guides academic 'TA8' to integrate technology in teaching and to keep up with the technology era:

I try to change the style of traditional teaching in the old curricula to keep up with the new era and technological environment we live in.

Similarly, academic 'TA9' mentioned her personal motivation to use the Blackboard system before her faculty encouraged its members to use it.

Actually, All academics who participated in this study and practice blended learning strongly believe in the approach and are especially motivated to practice it. This is a strong factor that positively affects blended learning implementation. Indeed, other academics may not be as interested in applying a blended learning practice unless required to use online resources by the University. These other academics are not as motivated to practice a blended learning approach.

Time and Work Overload

Three academics in the qualitative questionnaire and two academics in the online interview mentioned the lack of time to implement a blended teaching approach. Additionally, one academic in the qualitative questionnaire and five in the online interview mentioned overload work, especially for designing the online part of a traditional course.

Although academic 'TA1' is a strong believer in blended learning and uses different types of technology tools, they mentioned the time needed to train students and design the course to integrate the online part as stated:

Teaching with technology for me depends on my time, effort and number of sections I have to teach. Because it needs time to train students on how to use this programme. Time is the first problem, normally when I integrate a new technology or new application I must study that and look to the course syllabus to see which chapter I can integrate this programme into and when. So, designing the blended course takes time and effort because I also have to consider how I will mark students' online activities.

In the same vein, academic 'TA6' mentioned the time consumed because of slow uploading files when using the Blackboard system. They mentioned that the problem is from the Blackboard system, not from the Internet connection and stated:

If I upload files to the Blackboard system from my home where I have a fast Internet service it takes time. So, I think the problem is with the system. Also, I have the same problem when I copy information from one curriculum to another one in the system.

In addition, academic 'TA5' does not use technology in his teaching practice due to work overload, stating:

Maybe because I am busy with my work at the research institution at the University so, I could not take this idea in a serious way.

This is similar to academic ‘TA7’ who mentioned:

The teaching load for academics is high and we teach a large number of curricula besides having a large amount of committees. The academics are busy all the time so, there is no time to develop ourselves or attend training workshops.

Some academics, however, have complained that shifting from a purely face-to-face approach to a blended learning approach requires too much time. This differs from other academics, who have noted that using technologies saves time. Initially, academics who apply a blended learning approach for the first time may take longer to determine which part of a course could be converted to an online format and how to measure students’ understanding. However, after this, academics will find that integrating technology into their teaching practice saves time. The same phenomenon will occur in regard to academics’ work load when shifting to a blended learning approach, as students will become more independent learners and thus not depend so entirely on their teachers.

Academics’ Impact

Unfortunately, some academics who do not use technology in their teaching practice have a negative impact on other academics who do use it. This issue was mentioned by one academic in the academics’ online interview. Academic ‘TA1’ mentioned the negative reactions from her colleagues in her department:

Sometimes some colleagues said that you do extra work but I don’t listen to them and I am not affected by their talk.

Academic ‘T43’, who participated in the qualitative questionnaire, does not use technology in her teaching practice because the faculty members do not use it.

On the other hand, some academics have positive inspiration from other academics to integrate online tools within traditional teaching. For example, academic 'TA5' said:

I have heard from my colleagues about using Twitter with students. Actually I think about that and I plan to do it next semester.

Academics' impact on other academics is considered a difficult issue to manage. Although some academics motivate and inspire their colleagues to apply a blended teaching practice, others do not believe in blended learning, and this negatively affects the opinions of other academics in the same department. However, administrators and the University policy makers must consider this issue and work to inspire and motivate academics through different rewards to ensure the effectiveness of blended learning implementation.

Resistance to Change

Two academics in the qualitative questionnaire mentioned that they do not want to change to a blended teaching form and two other academics in the qualitative questionnaire stated that nothing encouraged them to change to the blended teaching approach. In addition, academic 'TA1' in the online interview who provided training workshops to other academics mentioned the academics' resistance to change:

Some academics do not want to change and learn new things. Also, when I asked them about that they said they have a lot of things to do and this thing is not compulsory from the department and not marked. So, they will teach students normally and this is enough for them.

As previously mentioned, a strong factor that of blended teaching practice application is self-motivation. Thus, academics' resistance to change is one of issues that must be considered by administrators and University policy makers to ensure the effectiveness of blended learning implementation.

Publicity and Privacy

Fear of publicity and lack of privacy were mentioned by two academics in the qualitative questionnaire and one in the online interview as a factor that negatively affects their blended teaching practice.

However, A lack of knowledge can also negatively affect blended learning implementation. While numerous training workshops deliver information regarding privacy issues to academics, many lack awareness in this area. Academics who practice blended teaching do not face this issue, however, due to their awareness of privacy and publicity from their teaching practice.

4.3.7.4 Factors related to Curricula

One academic in the qualitative questionnaire and four out of nine in the online interview mentioned a factor related to the type of curricula contents. The academics said that they could not take advantage of technology tools especially in practical subjects. For example, academic ‘TA1’ mentioned:

Regarding the current curriculum ‘communication skills’, all the curriculum’s contents are theoretical and nothing relates to technology. Moreover, all homework is fixed and looks like a routine to do. Yes, the nature of the course I teach has an effect on the way of teaching.

But her department has a new vision regarding this as described by academic ‘TA1’:

The department has a new vision now to apply a new curriculum through a new book. This new book has a section on social media activities and E-course form. So, this is the only step for applying technology in the department.

At the same time, academic ‘TA1’ mentioned that the type of curriculum, whether its practical or theoretical, must not affect technology use in the learning practice as stated later:

Our curriculum has a theoretical and practical part and it has a big practical part and in each chapter in our course we can insert online parts even if it is a small part.

Similarly, academic 'TA8' agrees with this:

I use these tools in all the curricula I teach... the degree of interaction varies from one curriculum to another due to the old curricula we teach, except the 'Thinking skills' and 'Communication skills' curricula.

Also, academic 'TA3' agrees with academic 'TA1':

Some course's materials must be represented in audio or video format so the format of the materials forces me to use these tools.

The academics' noted whether they teach a practical or theoretical course. It was determined that a blended teaching practice is more applicable to theoretical courses than practical ones. Nevertheless, all types of courses benefit from the use of online resources. Thus, the administrators must be aware of how to apply a blended teaching practice to any type of course.

4.3.7.5 Factors Related to the Technology Tools

The academics mentioned some factors related to the technology tools that affected using technologies in their teaching practices. Eight of the academics in the qualitative questionnaire and four in the online interview mentioned this. This issue presents difficulty in using some type of technology tools for formal learning purposes because these tools are built for social purposes such as Facebook and Twitter. For example, academic 'TA4' mentioned the nature of some technology tools or applications do not fit with the purpose of the learning:

Some of these tools are not effective in learning such as Facebook. Facebook is actually used for advertisements and social communication and it is difficult to interact with students on this platform. Also, because it is public tool for everyone to

share and post anything. Additionally, some students do not like open communication where everyone can see what they write. So, students prefer to use personal E-mail or personal communication method.

Also, academic 'TA5' agrees with academic 'TA4':

In general social media in our community is mainly entertainment not personal profiling or personal exposure as I notice with my students... I am actually thinking of an effective way to use Snapchat and interact with my students through this platform but I did not get acceptance from my students.

I was asking my students who they follow on Snapchat and it was really rare that they followed anyone interested in the marketing field. There are a lot of people who are interested in the marketing field posting useful things on Snapchat but very few students who follow them.

This issue is compatible with McCarthy's study (2010) who stated that Facebook or other web 2.0 tools are not always effective or suitable for formal learning and teaching activities (McCarthy, 2010). Accordingly, each academic could decide how each tool could be affective as blended tool depending on the educational environment, the tool natural and subject course.

Another issue with the technology tools mentioned by the academics is the variety of educational technology tools which leads to not knowing which are the best tools to use, especially with no reference guide.

On the other hand, seven academic participants in the qualitative questionnaire do not face any difficulties using technology tools or social sites in their teaching approach.

The academics also discussed the different technology tools used in their blended teaching practice, which include social tools such as Facebook, Snapchat and WhatsApp. Although these tools are used by some academics, they have also

noted that students misuse these applications. Academics who implemented technology tools specifically designed for learning purposes, such as LMSs, do not face such difficulties. Thus, administrators must advise academics on how to use these tools to avoid misuse or noise.

Moreover, administrators and E-learning coordinators must host training workshops for faculty to teach academics how to apply a blended learning approach in specific areas. This can help academics who do not yet know how to apply specific tools for specific courses.

4.4 Findings from Documentary Resources

This study relies on qualitative questionnaires and online interviews as its main data sources in order to investigate the perspectives of the academics and administrators at KAU regarding a blended learning approach. In addition, documentary resources provide a secondary data source for this study to ensure the credibility of the participants' answers through triangulation. Moreover, instead of asking the target participants factual questions, documentary resources help to save time and act as a guide to the history of the University. This helps to shape the history of blended learning and the process of the academics' digital skills improvement at the University. This section is concerned with discussing the official or administrative public documents regarding blended learning implementation and its development at the University in light of the participants' responses.

Here, the documentary evidence, information and data come from recent materials produced by the University, DEDE, DIT and CTLD regarding the policy and process of using blended learning and integration technologies with traditional learning approaches. Moreover, the information gathered from documents includes strategies such as training workshops, used to develop the academics' digital skills, as well as information provided through the academics' personal websites and University blogs which help in understanding how academics use these tools in their blended environment. In addition, information and data gathered in the form of documentary evidence contain details that help the researcher to gain a better understanding of the participants' responses in this study.

Analysis of the available documentary evidence revealed several issues as listed below.

1. Confusion between the term ‘blended learning’ and ‘E-learning’ and different definitions for blended learning were observed in the DEDE online websites. Additionally, the online contents of the Arabic version are slightly different than the contents of the English version. Moreover, the Arabic version’s websites deal with two different terms, either ‘blended learning/hybrid’ or the term ‘supportive learning’ which leads to confusion for the reader as to whether these term have the same or different meanings (Deanship of E-learning and Distance Education, 2014a, 2016a, 2016b, 2017a). This confusion in using terms either in Arabic or in English leads to confusion in the blended learning practice and in understanding what the University policy would need to achieve in order to support blended learning. This issue supports the findings presented in this study related to the analysis of the administrators’ responses, as presented in section 4.2.8, and in the academics’ responses, as shown in section 4.3.7. Hence, all data resources confirmed the existence of confusion between the terms ‘blended learning’ and ‘E-learning’ which led to confusion between the roles and policies that are required for E-learning (fully-online) programs and a blended learning approach, which is an optional learning method aimed at enhancing the traditional learning (full-time) programmes at the University.
2. The online page of the DEDE shows the Deanship’s support for blended learning courses and has recently started to consider the requirement for blended learning courses, which are as follows: course description to show all course contents and to clarify online activities; LMS use to show discussion forums, information about the academics involved; teacher assistant’s information (if appropriate); and one or more synchronous or asynchronous tools in the teaching process (Deanship of E-learning and Distance Education, 2017a). These requirements were not mentioned in the findings of this study either by the academics or administrators that participated. Academics who apply a blended learning approach are not aware of the requirements for blended learning courses at the University. However, the administrators must to consider this issue and host different training workshops that focus on using technology tools in education.
3. The DEDE supports a blended learning approach by assigning coordinators in each faculty to communicate with the Deanship, to offer support for the academics, to provide training workshops for the latest educational technologies

and to provide technical support for the Blackboard system (Deanship of E-learning and Distance Education, 2017e). This was mentioned by one administrator during the online interviews. However, none of the academics who participated in the academics' online interview mentioned the existence of the coordinator in his/her department or faculty which revealed the lack of awareness from the academics regarding the support provided by the Deanship.

4. Both the DEDE and the CTLD provided training workshops for using the Blackboard system after the system was officially adopted for the University in the second term of the 2014/2015 academic year (Centre for Teaching and Learning Development, 2017; Deanship of E-learning and Distance Education, 2015e). The Blackboard system training workshops are provided by two different units at the University which leads to confusion in differences between these two workshops. Both units provide these workshops for all academics at the University and this is not restricted to academics who want to teach in fully online programs or external programs. Nevertheless, the academics who attended the workshop provided by the DEDE attended because it is compulsory for academics who want to teach in fully online or external programs, and they mentioned that they do not benefit from this workshop in their delivery of full-time programs. However, The University's policy makers and administrators must also increase academics' awareness of these training workshops and specify which workshop is provided for which program. This will make it easy for academics to determine what specific training workshops are provided to academics who, for example, teach in full-time programs. This would increase academics' awareness of these technologies in their full-time programs and not just for distance learning programs.
5. The analysis of 192 academics' personal websites at KAU showed a lack of usage of these websites whereas the University conducted several training workshops to train all the academic members at the University to activate their website through the 'Marz' system. The academics' responses in this study confirmed their lack of use of their websites. For example, the academic 'TA2' mentioned that:

I use Marz and I found it easy to use. I created the webpage but I did not update it. It would be helpful but I did not use it

Additionally, the academic 'TA3' also found 'Marz' easy to use and he described his opinion regarding use of the academic website by stating that:

Regarding Marz, I did not attend this workshop because it was easy for me to look at the tutorial wizard on the University website. But for me I consider the personal website is like a gate for any external units to know about my details and my contact information. I mean the website is not an interactive tool used with my full-time students but I could use it with my external students to make contact with me. But full-time students never gain advantages from my personal website

6. The analysis of 332 University blogs showed a lack of published blogs and a lack of interactions between academics and their students through this tool. This observation was confirmed in this study through the academics' responses. However, two academics in the qualitative questionnaire and two in the online interview mentioned the University blogs as a tool used to communicate with students. Supporting this, the academics 'TA3' and 'TA4' mentioned their usage of the blog to post some materials. For example, the academic 'TA3' stated:

I remembered in 2007 I published a blog and at this time there were no social media websites like Twitter and WhatsApp. I published the blog to post all materials on it and communicate with my students. But now I did not use it and I did not use the University forums

Additionally, the academic 'TA8' mentioned his previous usage of the academic personal website, University blogs and forums but that they were not used anymore because most students now use social media websites such as Twitter and Snapchat. In addition, the academic 'TA7' had never heard about the University blogs or forums.

7. The administrators' responses during the online interviews (section 4.2) supported the information from the online documents and resources. For example, the administrator 'AA5' stated that the aim of the DEDE since 2014 is

to convert all curricula for full-time programs to E-curricula through activation on the Blackboard system. Additionally, the administrator 'AA5' supported the online documents and resources by stating that the DEDE offers a series of training workshops regarding implementation of the technology in teaching.

8. The analysis of this study revealed that the DEDE asks for coordinators in every faculty at the University to help the Deanship in reaching their goal of using technology in education for full-time programs as stated by the administrators 'AA3' and 'AA5', information which is supported by the online document resource (Deanship of E-learning and Distance Education, 2017e).
9. The policy of the DIT at the University regarding blended learning and support, with references from the University's official online document resources, supported the administrators' responses who participated from the DIT unit. The administrators described the Deanship's policy regarding developing the academics' digital skills and the support for blended learning implementation. The DIT provides the 'Marz' system and training workshops for this system in order to publish and update the academics' online websites. In addition, the Deanship offers blogs and forums for all academics and students at the University to create their own online area and to share information in an academic online space. For example, the administrator 'AA1' described the process of conducting training workshops at the DIT:

The training workshops for the academic websites are conducted once every month if we do not have a load of work. In these training workshops we explain in detail how to create websites step-by-step through the Marz system and how to add contents to the website. Also, in other training workshops we explain links, save files and other programs such as Google applications and Office which I assume is like general technical information

10. Section 2.4.4.5 discusses the policy of the CTLD at the University regarding blended learning policy and support with references from the University's official online document resources. This information was supported by the information from administrators who participated from the CTLD unit. For example, the administrator 'AA4' stated:

We do training in three areas: learning and education, scientific research and academic leadership and development. The learning and education area includes everything related to skills. The learning and education area includes everything related to curriculum, teaching, teaching strategies, reports, evaluation, exams etc. So, we focus on everything related to education through designing, evaluation or measuring

4.5 Discussion

This section discusses the main findings that were revealed from the academics' and administrators' responses and document resources at KAU regarding the blended learning environment at the university.

4.5.1 King Abdulaziz University Educational System

King Abdulaziz University (KAU) is one of the oldest universities in Saudi Arabia and is located in the western region of the country in Jeddah city. It was established in 1967 as a private University. The University started its first semester in 1968 with 68 male students and 30 female students as one of the first universities in Saudi Arabia that began operations on the same day for both genders but at two separate campuses according to Islamic regulations and gender segregation culture. In 1974, the University changed to a public (governmental) University. Currently, the University consists of 160 departments within 20 faculties (King Abdulaziz University, 2017a).

The KAU offers three types of learning program, which are full-time programs, E-learning (distance learning or fully online) programs and affiliation or external programs. The full-time programs are the main programs at the University and are provided by all University faculties and different specializations. This type of program depends on the physical attendance of the students in classes at the University as specific times throughout the semester for both academics and students. The teacher-centred approach is the basic type of learning in this program, where the teacher stands in front of the students to provide and explain information and the main resource for information besides academic is books. Student evaluations and marking in this type of program are divided between homework,

projects and exams. All of the academics' members at KAU teach full-time programs as their main role excepting academics who want to teach E-learning or external programs as extra work (King Abdulaziz University, 2017b).

The second type of program provided by the University is E-learning programs (fully online). The KAU was the first University in the Kingdom that delivered fully online programmes and established the Deanship of E-learning and distance education (DEDE) in 2004. The DEDE is responsible for the E-learning programs in which all lectures are provided online and instructors and their students can contact each other through the Blackboard system with no physical attendance to the University. The marking system in this program depends on the students' online homework, projects and online exams (Deanship of E-learning and Distance Education, 2016c; King Abdulaziz University, 2017b).

Finally, the last type of program provided by the KAU is the affiliation, or external programs. In this type of program students work alone using extensive online courses for three weeks through the Blackboard system in order to familiarize themselves with the contents of their courses. Marking and assessment for this program depend only on one final exam (King Abdulaziz University, 2017b).

Because this study focuses on a blended learning approach, the next two sections show that how KAU supports a blended learning approach through different types of learning management systems (LMSs) and training workshops for the academics at the University.

4.5.1.1 Learning Management Systems at KAU

To support the learning process at the University, the University provides different learning management systems (LMSs) in order to control and manage teaching practice and learning processes and to support traditional learning. For example:

Marz is a content management system created by the Deanship of information technology at KAU. The system supports four languages (Arabic, English, French and Spanish) and targets the academics and coordinators at the University. The system helps academics in publishing their personal websites

with text, images, videos, blogs, articles and feedback to increase the communication with their students (Deanship of Information Technology, 2011).

ODUS is a comprehensive system designed by the Deanship of information technology at KAU to provide integrated and controlled academic operations and it monitors all registration processes (add, delete, view courses) using an online self-service for students and faculty members. Also, it provides all types of academic policies and information for students. The system is used by all academics and students who are registered in full-time programs at the University (Deanship of Admission & Registration, no date).

Centra is a virtual classes system designed by the Deanship of E-learning and distance education at KAU to deliver online courses where instructors and students can interact at the same time using video, an electronic board, webpages, live chat and feedback. The system supports both Arabic and English languages and is used by all academics and students who are registered in the E-learning programs (fully online) (Deanship of E-learning and Distance Education, 2014c).

EMES is a learning management system designed by the Deanship of E-learning and distance education at KAU to make the interaction between instructors and their students easier and to allow them to manage the education system from a distance. The system supports both Arabic and English languages. It delivers the courses, homework or online exams to students through distance chat with instructors and the students can give their presentations via this system online. The system is used by all academics and students who are registered in the E-learning programs at the University (fully online) (Deanship of E-learning and Distance Education, 2014d).

E-exam is an electronic system that can evaluate students electronically after testing them in order to save academics' time and effort. This system is used for fresher year student exams at KAU and all learning programs provided by the University (Deanship of E-learning and Distance Education, 2017c).

QuestionMark is an international system used by the University within its E-exam system (Deanship of E-learning and Distance Education, 2017c).

Blackboard is an international learning management system that can be used to follow the performance of students and their learning progress. In addition, the system facilitates a high level of communication between students and their instructors and allows students access to course contents anytime and anywhere using a variety of tools. In the second semester of the 2014/2015 academic year, the KAU officially adopted the Blackboard system for all academics and students in all University programs. Before fully adopting the Blackboard system, the Deanship of E-learning and distance education used the 'EMES' and 'Centra' online learning management systems for the E-learning programs and the Deanship of information technology provided the 'ODUS' learning management system for full-time programs (traditional learning) (King Abdulaziz University, 2014).

Through the large number of educational technology tools and LMSs that are offered by the University, the University works to support the academics to use these tools in their teaching practices and as blended learning tools. The next section gives an overview of the training workshops that are provided by the University in order to support its blended learning culture.

4.5.1.2 Training Workshops at KAU

Educational organizations gain advantages from the developments in the information and communication technologies unit through employing technology tools in education in order to increase the efficiency and effectiveness of the educational process. The study of Postareff, Lindblom-Ylanne and Nevgi (2007) showed that with pedagogical training it takes about one year to show the effectiveness of training to aid the shift from a teacher-centred approach (the face-to-face approach) to a student-centred approach (a blended learning approach). Their study, conducted on 200 teachers at University of Helsinki, Finland tested the effectiveness of the pedagogical training process. Training of one-year duration makes academics aware of the pedagogical tools in the teaching process

and long-time training is perfect to ensure they are aware of the best way to integrate these tools in their teaching practice.

From this point of view, the KAU as an educational organization realizes the importance of training workshops for all academics at the University, without any differences between staff, in order to support them in the field of educational technology. Three main units at the University provide training workshops for academics to improve their digital skills and to support them in their use of the different technology tools and LMSs that can help them in managing their teaching practices. These units are the Deanship of E-learning and distance education, the Deanship of information technology and the centre for teaching and learning development. These are separate units at the University and each one aims to develop the academics' digital skills from their own point of view.

This study aims to cover each of the University units that are responsible for academics' digital skills development through conducting training workshops. The next sections will provide the essential information about each in order to understand the educational environment and policies regarding supporting a blended learning approach at the University.

4.5.1.3 The Deanship of E-learning and Distance Education

The Deanship of E-learning and distance education (DEDE) was established in June 2004 to guide the E-learning programs (fully online) at KAU, the first fully online programs in Saudi universities. The DEDE is endeavouring to support and develop online educational tools and systems for academics and students who belong to this type of program (King Abdulaziz University, 2011a).

The students in E-learning programs attend virtual online courses from anywhere and at any time with no need for physical attendance in the campus (Deanship of E-learning and Distance Education, 2015a). The DEDE has designed three specific LMSs to support all of their programs, which are 'EMES', 'Centra' and 'E-exam' (Deanship of E-learning and Distance Education, 2014c, 2014d). Then, after the University officially launched the 'Blackboard' system in 2014, the DEDE activated the system for their students instead of using the 'EMES' and

'Centra' online learning management systems (King Abdulaziz University, 2011b; Deanship of E-learning and Distance Education, 2017d).

4.5.1.4 The Deanship of Information Technology

The Deanship of information technology (DIT) at KAU was established in 1967 as a centre and then converted to a Deanship in 2008. The DIT is responsible for improving the University's technical process and administrative and instructional standards by providing the newest programs, technical services, consultancy and technical studies to the whole University. In addition, the Deanship is responsible for developing communications between the University's departments and its branches and providing technical support to them (Deanship of Information Technology, 2017a). These services are provided by integrating information and technology (IT) solutions and comprehensive interactive E-services, updating and securing an IT infrastructure that connects all of the University's departments and members (Deanship of Information Technology, 2017b).

4.5.1.5 The Centre for Teaching and Learning Development

The centre for teaching and learning development (CTLTD) was founded in 1987 at KAU. The CTLTD is responsible for providing all types of knowledge and skills to the academics and postgraduate students at the University in order to help them to develop their digital or research skills and teaching processes (Centre for Teaching and Learning Development, 2012).

The previous sections provided an overview of the educational culture in Saudi Arabia in general and more specifically at KAU. Because this study focuses on blended learning at KAU, the next sections discuss blended learning as it appears in the literature as well as the specific status of blended learning at KAU.

4.5.2 Blended Learning in KAU

Regarding this study, as conducted at KAU, the review of the literature has shown the low number of studies conducted at KAU regarding the blended learning environment which do not give a clear understanding of the blended learning environment and educational culture at the University. However, the researcher has

conducted several investigations discussed in detail in the methodology chapter which aimed at discovering the status of the blended learning environment for full-time programs at KAU and at understanding the type of communication between the academics and their students prior to conducting the actual study to ensure the necessity of this study. Consequently, the early investigation of the educational culture at KAU showed a lack of use of online tools as blended tools in the University and a lack of interaction between the academics and their students outside the class time.

Section 4.5.1 mentioned each unit at the KAU that is responsible for integrating technologies in the traditional learning system at the university. This section analyses in detail how each unit works to reach the goal of implementing a blended learning approach at the university.

Conversely, to develop a blended learning approach at the university, the DEDE held a blended learning workshop on the 16th and 18th February 2013. The participants of this workshop were 20 female academics. Then, the University provided a series of training opportunities in this area in both male and female section (Deanship of E-learning and Distance Education, 2015b). The DEDE provides workshops for academics that teach only fully online programs to support their technical skills. Nonetheless, if there are technology tools that can help in enhancing traditional learning outcomes and which support a blended learning approach, the Deanship seeks to deliver training for these tools to all academics at the University. Moreover, none of the training workshops provided by the Deanship are compulsory for the academics who teach only full-time programs (Deanship of E-learning and Distance Education, 2015b).

After the full adoption of the Blackboard system at the University as mentioned in section 4.5.1.3, the DEDE then delivered training workshops about the Blackboard system for all academics at the University. These workshops seek to train the academics to present course materials in different formats, such as videos, sound or any other multimedia, to provide synchronous or asynchronous communication with students through blogs, emails or forums and to follow up with their students. Additionally, these workshops seek to define all tools and functions in the Blackboard system to develop a learning approach and to encourage academics to

manage their teaching process electronically. In addition, the goal of this training program is to increase the academics' capabilities and skills in employing the Blackboard system in their teaching approach (Deanship of E-learning and Distance Education, 2014e, 2015c). Moreover, as a part of support for using the Blackboard system, there are some educational YouTube videos and user guides which provide instructions on the use of the system published by the DEDE for both academics and students and which appear on the KAU website (Deanship of E-learning and Distance Education, 2015d).

Additionally, as a support to a blended learning approach, the DEDE targets the conversion of all courses at KAU with E-content through the Blackboard system and trains all academics at the University to deal with it. The E-content is prepared and transmitted using different types of media to deliver it to all students at the University whether studying in traditional programs (face-to-face) or distance learning programs. This work is undertaken by the E-learning unit at the DEDE who desire to disseminate the blended learning culture among faculty members in regular (full-time) programs. This policy is applied with the purpose of enhancing teaching and learning approaches by improving blended learning courses that combine a face-to-face program with the best of online tools (Deanship of E-learning and Distance Education, 2016b).

KAU was the first University in Saudi Arabia that established personal academic websites for its academic members in order to support the blended learning process. The unit of applications gate of the University management at the DIT supports all academics at the University in publishing their academic websites through providing training workshops for them about using the University's portal and how to host their official academic sites. This unit is responsible for the training workshops that are conducted each month for all academics to help them in promoting their academic websites, blogs and forums in order to maintain and support their online communications alongside traditional learning (Deanship of Information Technology, 2017c). For this, the DIT offers 'Marz' as a content management system that is designed specifically for KAU academic members to help them in publishing and creating their personal academic website as an online resource (Deanship of Information Technology, 2011). Additionally, to support the use of this

service, the KAU offers monthly monetary rewards for all academics who publish their websites.

Blogs are web 2.0 tools used as a communication method to increase the interaction between students and instructors, students and students or instructors and instructors. Accordingly, the DIT offers a free KAU blogs and forums server to all University's members (academics, students and administrators) in order to give them free space for online communication. The aim of this facility is to break the ice between all KAU members and encourage them to interact at any time with each other, reducing the barriers to expression and to give access to different sources of information. The DIT ensures that University's members activate their blogs and helps them by giving suggestions for ideas and manual videos for publishing their blogs (Deanship of Information Technology, 2017d).

Additionally, the CTLD as a unit at the University provides several training workshops in the use of different technology tools that help in managing the teaching and research processes (Centre for Teaching and Learning Development, 2012). These workshops are provided depending on the University guides, academic suggestions and the results of discussions of the centre members to achieve the goal of supporting the academics' skills in teaching, research, technical, and providing leadership. The training workshops seek to define and use different technology tools or software in an effective way in order to give the best results and improve learning outcomes and teaching practices (Centre for Teaching and Learning Development, 2016).

Conversely, in order to develop teaching practices, the CTLD collaborates with the DEDE at the University to organize and provide training workshops for the academics in the use of the Blackboard system (Centre for Teaching and Learning Development, 2017). However, both the DEDE and CTLD work together in order to support the use of the Blackboard system at the University.

This study considers KAU as a case study to investigate the perceptions of the academics and administrators regarding a blended learning approach. However, the review of the literature has uncovered three studies that were conducted at KAU in the blended learning field and which employ the term 'blended learning' clearly. The

first study, titled 'Effectiveness of blended learning for teaching of English: an exploratory study', was conducted by Khan (2014). The study aimed to explore the effectiveness of blended learning for the teaching of English language for a group of 22 students who studied in the community college at KAU. The study did not clarify the meaning of blended learning and used the terms 'blended learning' and 'E-learning' interchangeably, leading to confusion as to whether the study referred to blended learning or a fully online approach. The study revealed the effectiveness of the blended learning environment for teaching English language in particular, and any type of education in general.

The second study was conducted at KAU and was titled 'Measuring the readiness of faculty members and students at the King Abdulaziz University for blended learning and mobile learning' (Deanship of E-Learning and Distance Education, 2014b). The researchers conducted a survey to measure the readiness of the female academics and female students at KAU for blended and mobile learning approaches. The findings of the study have not published by the time of this study.

The last study was about blended learning at KAU and was conducted by Kashghari and Asseel (2014). Their study was the first study to take place immediately after the implementation of the Blackboard system at the University in the second semester of 2014. Their study was a pilot study to report on the effectiveness of the blended English course for 17 female students at the University. The study concluded that there were positive effects from the use of the Blackboard system as an online tool for interaction between the students and their teachers.

There are a variety of studies that were conducted at KAU regarding the implementation of technologies in education without mentioning the term 'blended learning'. These studies can be divided into two groups depending on the use of these technologies. The first group deal with technology as a tool to present data or a tool to access the course online. The other type of study deals with technology as a tool to increase resources, support traditional learning and to interact online with others, which is considered as a form of blended learning. For example, the study of Alshareef (2013) evaluated students' satisfaction with using social sites at KAU. The study showed high satisfaction among students who took traditional courses and used blogs and Facebook posts as a form of online interaction. Along the same lines, the

study of Balubaid (2013) was conducted at KAU in the industrial engineering department and found that 70% of the student participants preferred to use Facebook as a platform for sharing information and knowledge, followed by 16% choosing Twitter, 13% choosing Google+ and 1% other social networking sites.

Additionally, the study conducted by Alfarani (2015) at KAU titled 'Influences on the adoption of mobile learning in Saudi women teachers in higher education' used mobile learning as a form of blended learning with traditional teaching. The study investigated the female academics' perceptions regarding mobile use as a form of blended learning. Also, the study conducted by Alsaied (2016), which did not mention clearly the term blended learning, showed that the majority of the English language academics at the KAU have positive perceptions towards using the Blackboard system in their teaching practice and showed that the use of the Blackboard provides a structured E-learning platform. Supporting that, the study of Al-Hassan and Shukri (2017) measured the effectiveness of the use of the Blackboard system in enhancing English language as a foreign language for female students at KAU. The study revealed the effectiveness of utilizing supplementary materials on the Blackboard system, which lead to richness of learning resources, opportunity for interaction and student satisfaction.

From the literature review there is a lack of studies in this field at KAU and confusion between the terms 'E-learning' and 'blended learning', where the University provides E-learning programs which are completely online programs. This issue leads to confusion into differentiating between the 'E-learning' and 'blended learning' contexts and whether specific tools provided by the University for E-learning programs could be used to support traditional learning programs.

However, a blended learning approach is not considered to be an official type of learning at the University. Nevertheless, the University considers a blended learning approach as a type of learning environment that supports the traditional learning approach and enhances learning outcomes as discussed.

4.5.3 Blended Learning Definition at KAU

This study showed that the term blended learning holds different meanings for different individuals and that appears in the academics' teaching practices, the administrators' responses and University's definitions.

In case of the KAU, the literature gives two different blended learning definitions provided by the Deanship of E-learning and distance education (DEDE) at the University. Since the role of the DEDE appeared to support a blended learning approach in the University by establishing the E-learning unit to spread the culture of blended learning in full-time programmes (traditional learning). So, the first blended learning definition proposed by the DEDE stated:

A mode of education that integrates elements of traditional education (face to face) and distance education (online). As a result, it creates a learning environment consisting of a combination of many of the teaching methods and theories of education (Deanship of E-learning and Distance Education, 2014a, 2016a).

This definition of blended learning is complex and defines blended learning as a combination of different learning styles (traditional and online), teaching methods or learning theories with aim of generating a new learning method and environment in order to increase communication with students, enhance the learning process and outcomes, and to use technological tools effectively. The second definition provided by the DEDE at KAU of blended learning states:

E-learning unit at the E-learning programs department is working hard to spread out E-learning culture among faculty members in regular programs. What we mean by E-learning here is blended learning courses that combine the best of online learning and face-to-face instruction for the purpose of enhancing teaching and learning. One of E-learning types is supportive where students and faculty need full attendance at the campus, and they use E-learning tools in order to support and facilitate the learning process. This is adopted in the regular programs in our University (Deanship of E-learning and Distance Education, 2016b, 2017a).

This definition of blended learning shows the integration between the best of traditional learning and online learning through one or more online tools to enhance the learning outcomes, teaching process and offers online interactions and collaborations with members from within the educational institution or outside of it. In addition, the definition considers blended learning as a type of learning to support traditional learning with full physical attendance in person for academics and students in all classes in the full-time programmes.

The Arabic version of this definition provided by the University has more details than the same definition in English version in which the DEDE adds online tools to integrate it with traditional learning, which are synchronous and asynchronous tools to support traditional learning (Deanship of E-learning and Distance Education, 2016d, 2017b). Since this study uses KAU as a case study, the Arabic definition of blended learning, used recently at the University, will be employed during the study. This is to facilitate understanding of the members of the University.

On other hand, as the University offers E-learning (fully online or distance learning) programs, it is obvious in this definition the confusion between the term 'E-learning' and 'blended learning' term. This is because the E-learning programs are official programs provided by the University for undergraduate and postgraduate students whereas a blended learning approach is an optional learning approach that the E-learning unit at DEDE works hard to disseminate to form a blended education culture among faculty members in full-time programs (traditional learning), in order to enhance teaching and learning outcomes (Deanship of E-learning and Distance Education, 2017a). However, a blended learning approach at KAU provides optionally for full-time students for specific hours through online activities using one or more online tools guided by an instructor.

This confusion between the terms 'blended learning' and 'E-learning' has been discussed within other Saudi studies in the literature. For example, the study titled 'Encouraging effective blended learning in higher education in the Kingdom of Saudi Arabia' conducted by Aljahni, Obayya and Skinner (2010) aimed to examine the adoption of blended learning among Saudi universities. The study examined the status of blended learning in three Saudi universities, namely King Khalid University (KKU), King Saud University (KSU) and the King Abdullah University of Science

and Technology (KAUST). The study used both the terms ‘blended learning’ and ‘E-learning’ without differentiating their meaning and sometimes used them to mean completely online courses and at other times to refer to the support of traditional learning approaches with technology. This issue causes confusion regarding the meaning of the terms and the learning environment of the study.

This issue is in line with Alebaikan (2010) who claims that there is confusion and insufficient definitions to define exactly the difference between the terminologies of E-learning (distance learning or fully online) and blended learning at King Saud University (KSU) and at the Saudi Ministry of Education. The same issue appeared in the study of El-Zawaidy and Zaki (2014) that showed confusion between the uses of the terms ‘E-learning’ and ‘blended learning’, which again leads to confusion in the meaning.

Thus, differing definitions of blended learning appear in the administrators’ responses in this study where the administrators do not define clear policy and forms of blended learning. Moreover, courses in Saudi universities that are taught fully online or using blended approaches are both called E-learning courses. There are at least six different Arabic terms carrying a similar meaning to ‘blended learning’, so this causes difficulty in searching for research and in understanding the differences between blended learning and E-learning in the Arabic context. This issue is exacerbated by the fact that the Arabic term ‘blended’ is rarely used in Saudi higher education because this type of learning is considered a new learning system for Saudi universities due to the shortage of Arabic literature about the topic, particularly in Saudi Arabia.

An issue that increases the complexity is the existence of three main units at the University which are the DEDE, the DIT and CTLD, and all of which have a goal to enhance the academics’ digital skills and support a blended learning approach. These units also have the same issue with confusion between ‘blended learning’ term and ‘E-learning’ term. Regarding the academics, different practices and understanding showed in their responses in this study and support the assertion that there is no existing clear policy even from the academics who participated from the same department. This point is in line with Correia’s (2016) study that showed participants

had different experiences and understandings of a blended learning approaches due to differing definitions of the term blended learning among educators.

4.5.4 Blended Learning Impact and Importance

This study concerns blended learning practices at the KAU as a case study from the perspectives of the academics and administrators. The finding revealed from the administrators and academics that practise blended teaching with full-time programs at KAU show a positive impact on the students and their learning outcomes. This finding is consistent with several previous studies (López-Pérez, Pérez-López, and Rodríguez-Ariza, 2011; Gecer and Dag, 2012; Güzer and Caner, 2014; Obiedat et al., 2014; Dinning et al., 2015). Additionally, the importance of a blended learning approach has increased in the Saudi higher education system because fully online education is not supported in some Saudi universities and it is not acceptable as a degree from any university outside the kingdom (Alamri, 2011). This has a negative effect on students who want to complete their studies through online courses in or outside Saudi Arabia. In addition, in June 2017, all fully online and external programs in all Saudi higher educational institutions were stopped suddenly in order to enhance the learning outcomes for undergraduate studies (Alghamdi, 2017). This issue increases the importance of blended learning for Saudi higher education in order to obtain the advantages of an online approach within traditional learning programs.

Comparison between the academic responses in the qualitative questionnaire and the online interview showed increased awareness of the importance of implementing technologies in their teaching practices and development of their digital skills after attending different training workshops and after the Blackboard system was implemented at the University. This resulted in an increased number of the academics' participants who implemented the technologies in their teaching practices in the second phase of this study.

4.5.5 Saudi Higher Educational Culture

In terms of educational culture, the findings of this study showed that most of the academics and administrators at KAU who participated believe in integrating technology tools or social sites in education in order to achieve effective learning

outcomes. However, there is not enough awareness in the University regarding how to integrate technology tools effectively with traditional learning, despite the fact that there are training workshops available. This is apparent in the lack of a clear and defined policy for the DEDE, DIT and CTLD units at the University regarding blended learning implementation, which appears in the responses from the academics and administrators. Hence, changes from a completely face-to-face approach to blended learning requires clear and defined planning and policy in each university unit and the administrators must consider these factors with cooperation from the academics.

Also, the academic 'TA1' suggested creating a precise plan for implementing technology in the teaching practice by stating:

Every educational institution must make a plan that depends on its facilities and possibilities and where the main goal is a student-centred approach. We have to build good awareness in the level of the institution to be aware and motivate the academics about using technologies in their teaching practice.

Regarding the training workshops that are provided to the academics at KAU, one administrator mentioned the need for a specialized training workshop for each faculty to be more effective. This issue was supported by two academics' participants who train other academics at the University. Additionally, the effect of specialized training for each faculty was revealed by all the academics who participated from the faculty of home economics, as members of the same faculty have needs which are more specific. This is because the faculty has an E-learning unit which aims to support a blended learning approach at the faculty through conducting compulsory training workshops for all its academic members, and through providing a trainer from the same faculty who know the academics' needs. Because the training workshops are compulsory for all academics at the faculty of home economics, the E-learning unit asks the head of the faculty and the heads of all departments at the faculty to follow the academics' attendance of these workshops as mentioned by the administrator 'AA3'. Also, the administrator 'AA3' stated that the development of the E-curriculum at the faculty through the Blackboard system, after

published the E-learning unit in order to get the academic accreditation by implementing a blended learning approach:

When we started this unit at the middle of the last term (second semester of the 2016/2017 academic year) we had less than 20% of the curriculum active on the Blackboard system. The first aim of this unit was to make all University curriculums active on the Blackboard system. We started with intensive training workshops about the Blackboard system for beginner users and then we did advanced training workshops. Now, more than 75% of the University curriculums are active on the Blackboard

Additionally, the University provides training workshops about different types of technology tools, different LMSs, software and social sites that help in the education process. These huge numbers of specialized LMSs and technology tools are considered confusing for some academics that do not have the appropriate approach to blended learning. Unfortunately, few of the academics mentioned alternative LMSs during this study. For example, the application MyKAU was mentioned only one time by one academic during the qualitative questionnaires while the system was mentioned on the front page of the questionnaires as an example of a tool used for blended learning. Another example is that only five out of 70 academic participants in the qualitative questionnaire, and three out of nine academics in the online interview, mentioned their usage of their personal academic website. However, the DIT expends a lot of effort and work in this area, and designed the Marz system to help academics publish and update their academic websites in an easy way. Additionally, the University assigns monthly financial rewards for every academic who publishes on his or her website and this rewards was continuing until 2016 as a result of Saudi economy collapse.

The academics who participated in the online interview and collaborated with the University by providing training workshops to other academics, in order to enhance traditional learning through implementing different types of technology, gave some suggestions and recommendations. For example, the academic 'TA1' suggested the need for increasing the awareness of the importance of the technology and using methods to motivate academics by stating:

The educational institutions must have a policy to make the academics aware about this issue. Even if there is no financial reward, the institution should motivate academics who implement technology in their teaching practices by appreciation certificates, trips, increasing their degree etc.

The participants' responses showed that changes in the educational culture appear in four main areas after moving from purely traditional learning (face-to-face) to a blended learning approach which is described in figure 4.11.

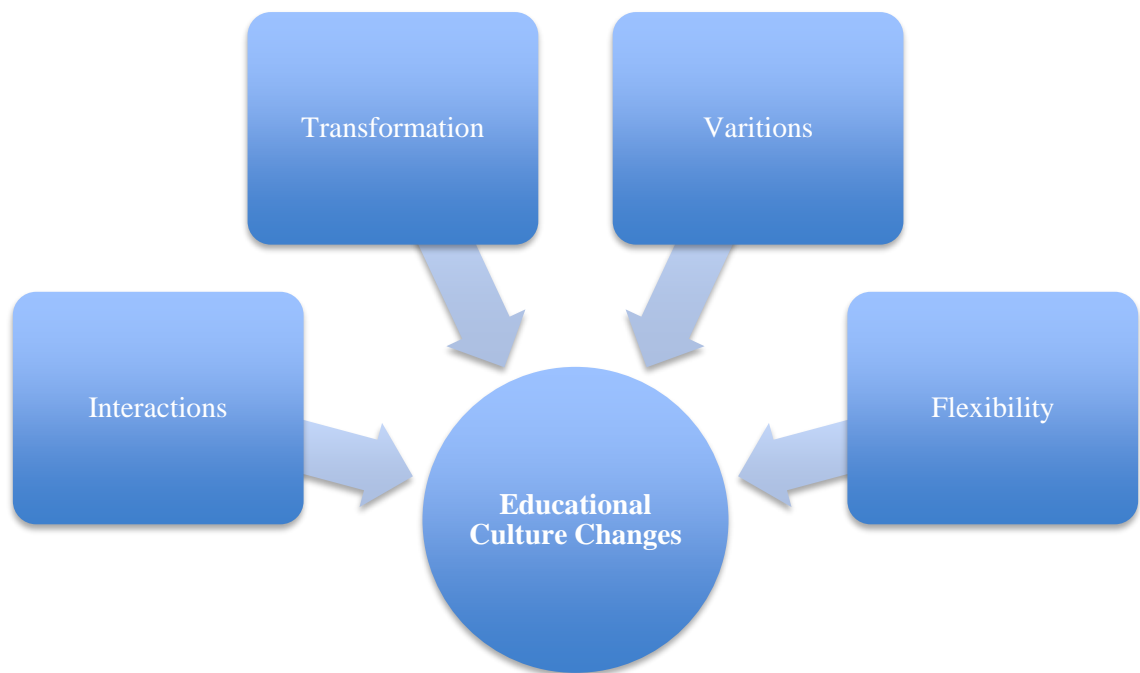


Figure 4.11: Educational culture changes after moving to a blended learning approach

Firstly, moving from purely traditional learning to a blended learning approach provides flexibility in the choice of learning delivery in a flexible time and place and provides flexibility to meet individual needs. Secondly, moving to a blended learning approach shows variations in different areas such as variations in choosing online tools, online resources, pedagogical methods, teaching strategies, and learning styles. Thirdly, transforming from traditional learning to blended learning requires transformation in course design, transformation from a teacher-centred role to a student-centred role and transformation in instructional methods. Finally, a blended learning approach means changes in interactions where purely face-to-face

interactions are added to online interactions allowing both academics and students to interact in a synchronized way. Additionally, such interactions could also be with members of the educational institutions or outside of them.

4.5.6 Blended Learning Practice

The academic participants who use technology tools, LMSs or social sites in their teaching practices used these tools differently. Analysis of the use of these tools in the learning environment can include a range of activities which serve different purposes. These can be categorized in terms of purpose:

- **Supporting** where technology tools, LMSs or social sites are used as a tool for making access more flexible for students or making the process of work or feedback more time-effective besides the traditional learning approach. This type of usage was the main reason for applying a blended learning approach at the university, as described by the participants. This is supported during the literature review through different studies (Hughes, 2007; Sriarunrasmee, Techataweewan, and Mebusaya, 2015; Lalima and Dangwal, 2017)
- **Enhancing** where technology tools, LMSs or social sites are used to add or supplement resources or learning opportunities for students outside the class time. While, one of the regulations of the Saudi Ministry of Education includes the provision that any learning organization providing traditional learning can combine these with online learning courses but these must not exceed 25% of the required academic hours (Deanship of Graduate Studies, 2013). Hence, the opportunity to integrate an online component for all full-time programs is authorized by the Saudi Ministry of Education. Nevertheless, none of the academics or administrators that participated in the current study mentioned this regulation. Additionally, this is supported during the literature review through different studies (Dinning, et al., 2015; Kabassi et al., 2016; Doyle, et al., 2017)
- **Transforming** where technology tools, LMSs or social sites are used to transform teachers' and students' experiences through different learning activities in ways that have been difficult to achieve in a face-to-face learning approach. This is discussed in different studies in the literature

(Burton and Bessette, 2014; Downing, Spears and Holtz, 2014; Alammary, Carbone and Sheard, 2017)

In case of KAU, in order to support blended learning the University integrates different technology tools such as learning management systems (LMSs), software and social sites within the traditional education system through providing training workshops to all of the academics at the University to enhance and support their technology skills in their teaching practices as discussed in section 4.5.1. In addition, the University provides training for all students in the fresher year to inform them about the technical facilities available and programs that are supported by the University. Additionally, the University supports the use of technology in education by offering specific tools or systems for specific academics' usage such as 'Marz', 'EMES' and 'ODUS'. In summary, the University provides a wide spectrum of technologies and systems and the academics have the option to find one or more convenient tools to support their teaching practices.

On the other hand, comparing the academics' and administrators' responses showed some contradictions regarding academics' blended teaching practice. For example, the administrator 'AA2' expected all academics to use social sites with their students and this was not present in the academics' responses through the qualitative questionnaires and online interviews. In another example, the administrator 'AA5' stated that there was no usage of social sites in the University while most of the academics mentioned social sites as a tool used in their teaching approach through the academics' qualitative questionnaire and online interview. These examples show the lack of communication between the administrators and academics at the University and lack of clear statistic information regarding academics' digital practice during teaching time.

However, regarding blended learning forms and designs, blended learning presents special challenges that not only relate to finding effective combinations of traditional and online approaches or targets to increase resources or learning outcomes. Blended learning is inherently about building new learning and teaching relationships with all members inside and outside of the educational institution.

4.5.7 The Relationship between the Academics and Administrators

Analysis of the academics and administrators that participated in this study through the qualitative questionnaires and online interviews revealed the relationship between them. This relationship appears when comparing the responses from the academics and administrators which showed some similarities and some contradictions and revealed small gaps between management and teaching practices. The administrators' answers revealed information about their direct roles as administrators and their direct contact with the academics at the University during the training workshops and campaigns with no contact with the students at the University. On other hand, the academics' responses in this study revealed information about their teaching experiences, with direct contact with students and direct contact with the administrators only as trainers in the training workshops, without knowing the detailed policy of the unit that provided the training workshops. This gap appears clearly between the outcomes of the training workshops that were conducted by the DEDE and the training workshops that were conducted by the faculty of home economics. The training workshops that were provided by the faculty of home economics provided them for its members with a clear policy for blended learning implementation within a full-time teaching approach. This issue also appeared with administrators who work as academics at the same time and provide training workshops to other academics. These training workshops were provided using general content to fit different groups of academics from different fields of specialization.

Although, the administrators made efforts in several units at the University to conduct periodic campaigns to directly contact the academics, in order to support a blended learning approach and to know the academics' digital needs, a gap still existed which was revealed in the academics and administrators' questionnaires and online interviews responses. This issue is consistent with the findings in a study by Conway (2012) who revealed the real phenomena of a gap existing in the relationship between academics and administrators in universities. Hence, in order to achieve successful educational organization, administrators and academics from each department need to work together to manage the University in ways that ensure University's policies and strategies are maintained and to ensure effective implementation of technology in education.

4.5.8 Factors Affecting Blended Learning Implementation

Practices of blended learning or usage of technologies with teaching practice is related to the self-motivation of the academics to inspire their students to engage in a blended learning environment. This motivation drives the academics to apply blended teaching practices even if there are some barriers which affect their usage. On the other hand, some academics who depend completely on traditional teaching practice referred to a lack of University's infrastructure, a lack of students' digital resources or resistance to change as factors which prevent them from applying blended teaching approaches. For example, some academics' participants teach in a blended way with external and distance learning programs and teach traditionally with full-time programs. In addition, there are some academics who do not apply any form of a blended learning approach and at the same time they do not face any problems or barriers that prevent them from utilizing technologies in education. Analysis of the academic participants who integrate blended tools in their teaching practices showed the use of personal initiative for these changes in their teaching practice even without clear policy, structured course design and online assessment policy.

Some factors that were mentioned by the academic participants as factors which affect their blended teaching practice negatively, such as lack of digital resources, lack of university infrastructure, or resistance to change, are not considered barriers that affect other academics. Hence, academics' belief in technology usage, even when faced with a lack of digital resources, appears to be a more important factor. For example, some academic participants consider using technology tools, LMSs or social sites as a way to save their time and effort. On the other hand, some of them consider these tools as overloading them with work and as time consuming. While, comparison between the participants' responses in the qualitative questionnaires and the online interviews showed a decrease in the number of participants who complain about the Internet services in the University which indicates an enhancement in the University's infrastructure compared to the time of the qualitative questionnaire.

Additionally, one academic who specialized in the computer science field does not implement any type of technology in their teaching practice because they do not know the appropriate tools to integrate into the learning process. This issue

highlights an unexpected relation between the computer science specialization and the academic's practice where the general view is that the computer science must use technology tools in the educational process.

Some factors that affect blended learning implementation are mentioned by the academics and not mentioned by the administrators, or vice versa. This presents different perspectives between the two different types of participants due to their different positions and roles at the University. The administrators deal with the academics during the training time and work in the administration field without contacting students directly. On the other hand, the academics have contact with the administrators at the training time and direct contact during the semester time with their students. The appearance of any of these factors, even in only one of the participants' responses does not reduce its importance since every factor present in a qualitative study has value. The degree importance of a factor is examined afterwards through quantitative investigation.

As a result of a cultural gender segregated educational environment at Saudi schools, and it is difficult to consider gender as a factor in Saudi higher education levels. It is impossible to compare between segregated genders in this environment except in courses that are delivered by male instructors to female and male students through one-way interaction.

Regarding the KAU infrastructure level, the literature shows different studies mentioned the lack of supported infrastructure at the University. For example, the study of Alsaleh and Rashad (2012) conducted at KAU measured the digital divide among University's members. Their finding was that there was no digital divide as all participants has access to the Internet via several avenues. However, their study refers to 38% of professors and 7% of students' participants having access to the Internet from the University. This low percentage of participation in the use of the Internet from the University is a sign of a lack of Internet infrastructure and lack of computer labs. The study of Kashghari and Asseel (2014) that conducted with only female students' participants at KAU reported a slow Internet connection as a major barrier facing female students' participants who took English courses and used the Blackboard system, followed by the lack of computer labs at the University.

In conclusion, simply integrating technology in teaching practices to form a blended approach does not provide sufficient learning quality for academics and students without precise and clear policy and collaboration between academics and administrators involving the setting of clear goals and outcomes. Accordingly, academics who want to implement a blended learning approach have to design the course in way that fit its objectives and takes into account the technology tools needed for specific usage and management of learning applications. These must meet the academics' and students' needs and fit with the University's policy. While these changes do not replace the traditional class, as required by the policy for full-time programs at KAU, it supports both academics and students with more resources and tools and provides best teaching practices, saving time and improving learning outcomes.

4.6 Summary of the Main Findings

Qualitative findings are not directly determined by specific or group experiences, but they aim to describe the aspects that make up experiences (Polkinghorne, 2005). Hence, the aim of qualitative case study research as represented in the methodology chapter is to investigate specific phenomena by presenting a diversity of participants' opinions, attitudes and experiences. Thus, this study presents these diversities regarding the adoption and implementation of a blended learning approach at KAU from the perspectives of the academics and administrators at the University. Accordingly, the data gathered from the participants through the qualitative questionnaires and online interviews and documentary resources build a clear picture of the blended learning status at the University in order to examine the key issues that can guide the administrators and academics to implement blended learning effectively. These issues are presented in different areas such as institutional policy, infrastructure, support, adoption stages, etc. as the results of this study. It is not feasible to assess to what extent blended learning has been adopted at the University when the University has not clearly defined the policy or strategies of blended learning adoption.

To give a clear picture of the educational environment at KAU during this study, it should be noted that the first phase of the study was conducted before the Blackboard was officially implemented at the University. At this time 'ODUS' was used as a

learning management system for full-time programs, which is a specific management system designed for universities (King Abdulaziz University, 2014). However, in September 2014, by the time of the second phase of this study, the University officially adopted the Blackboard system. In general, blended learning at KAU happened at different levels. These levels included, for example, the learning management level, online resources, online interaction level, examination and testing level, mobile applications level and social sites level, as stated by the participants in this study.

The results of this study show that implemented blended learning effectively is complex and challenges which takes time and effort. In addition, the study shows the existence of some disagreement about blended learning definitions and practices at the University. These contradictions appear from the lack of clear policy and goals provided by the academic and administrator participants in this study. In addition, document resources showed different strategies and goals from three different units (DEDE, DIT and CTLD) at the University in order to support a blended learning approach. The complexity of these issues was highlighted when the administrator participants revealed their difficulties in achieving blended learning adoption at the University level, because each faculty or department varies in its needs, forcing them to adopt blended learning at the faculty level. Thus, the University requires clear strategies and supporting policy for adoption of blended learning that enables and encourages the use of different types of technology tools, depending on each faculty's needs. This will help to maintain the quality of blended learning for all faculties at the University.

To support the digital environment in an educational organisation, academics must be supported through enhancing their digital skills, experience and confidence. The academics' roles are crucial in encouraging and supporting their students to get involved in the blended environment and to support this type of learning. This is because academics' roles and encouragement will affect their students' digital skills and enhance their own competences because their experiences and confidence with technology in the educational environment critically depends on their teachers (JISC, 2011). Accordingly, knowing the academics' teaching practices and digital experience in specific environment helps in the development of teaching systems and suitable teaching practices using different technology tools, as investigated in this study.

Blended learning requires considerable support, not only in terms of the university's infrastructure and policy but also for teaching and learning of pedagogy. In addition, support is required where the technology tools, LMSs or social sites are expected to be effectively integrated across learning activities and teaching processes at the university through well planned approaches. This is clear from the factors mentioned by the participants in this study that affect their usage of technology tools.

Additionally, the University defines blended learning as an approach which is supportive to traditional learning with no changes in the traditional approach. This definition must be considered during adoption of blended learning policy and strategies. Accordingly, this study does not consider technology as a replacement for face-to-face learning but as providing tools for support and enhancing learning, as was mentioned to all the study participants.

Also, the study investigated factors that affect a blended learning approach at the University from both the academics and administrators' perspectives. The success of implementing blended learning by using technology tools did not depend on the availability or absence of the technology, or on one individual factor alone. The success of integration of blended learning was determined through a set of different factors that were interrelated, as discussed in this study. Despite the investment of the University in technology infrastructure, integration and technology equipment, using these tools in educational practice poses a challenge to the administrators and academics.

In view of constructivism, learning is a process based on constructing and building learners' own meanings from information and knowledge. Hence, the use of different technology tools provides a blended approach to allow students to build and construct their knowledge from different resources and different formats compared to what is available in the classroom. Thus, it is important to understand how blended tools are being used by academics and students and how this impacts on the educational culture from the users' perspectives.

The results of this study produced a blended learning model for use at KAU. The blended learning framework has six dimensions: the University, academics, administrators, students, pedagogical tools and social educational community, as presented in figure 4.12. Each dimension in this model represents different issues that

need to be addressed to ensure an effective blended learning implementation and learning outcomes.

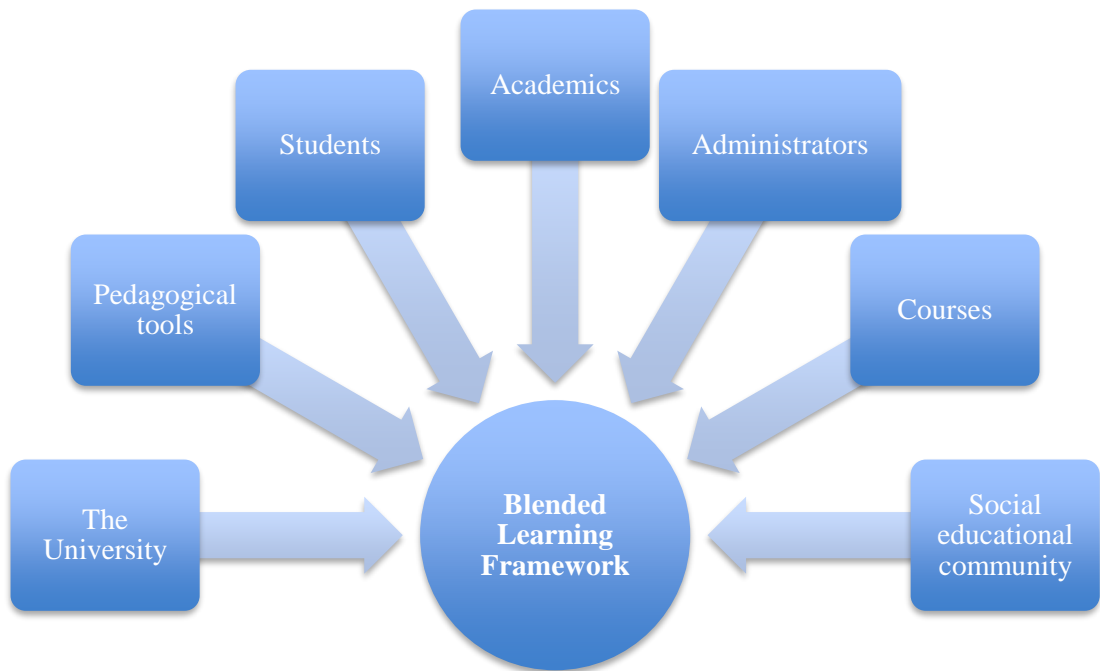


Figure 4.12: Blended learning framework

The University: the University element presents the policy and guidance for academics and students. In a blended environment, the University needs to support each faculty with detailed policy for effective blended learning planning and implementation, assessment guidance, technology tools, technical experts, and official training to increase awareness and digital skills.

In the case of Saudi universities in general, all support using technologies in education. These technologies could be tools for presenting data in the classroom, such as projectors and PowerPoint slides, or they could be systems that are used to upload and save data so that it is accessible for others using, for example, cloud systems, LMSs, social sites, etc. These technologies enhance the process of learning and teaching for both academics and students. In a blended learning environment, the online element is not just used to save or present information but also to get more resources and to interact and communicate with others to expand learning and develop communication skills. Thus, to obtain the effective advantages of blended learning, universities must provide clear policy, strategies and operational planning for blended learning

implementation. This policy must involve resource needs, course goals and objectives, potential costs, course re-design, assessment processes, technical staff, policy for training provision and supporting infrastructure. All these issues should be discussed by both administrators and academics at the University to ensure the inclusion of their opinions regarding blended learning implementation.

Administrators: The administrators at Saudi universities consider the guidance and management roles between the Saudi Ministry of Education, university's policies, and academics' teaching practices. Thus, a clear policy for blended learning implementation must be defined in order to manage this new learning approach with the academics at any university.

This study showed the effort of the administrators in various units at the university to support the use of different technology tools within teaching practice. Academics consider them the main role at the university that guide instructors with the university policy regarding blended learning implementation and are considered the main role for supporting academics with various training workshops. In fact, the administrators have revealed their goal to convert all courses at the university to E-courses.

Academics: Academics are the key element in a blended environment in Saudi universities that consider blended learning as a supportive learning approach. Thus, academics must guide and encourage their students in order to involve them in this approach. Accordingly, academics must be supported to enhance their digital skills, experience and confidence.

Consequently, in this study, the academics who have already implemented technology tools into their teaching practice believe in the importance of these tools to achieve the best learning outcomes. On the other hand, the academics who do not support blended learning have not applied any technology tools unless they are required for fully online programs.

Students: Students in this age are considered digital natives, with good skills in using technology in their daily lives. Digital native students use technology in their social lives which is a different context to the educational environment. Hence, to ensure effective blended implementation, students must be supported in their learning process

by training workshops and through provision of digital resources at the university such as using an E-library.

Courses: the nature of theoretical or practical courses affect the teaching process and a blended learning approach. During this study, the administrators revealed the target to convert all courses at the University to E-courses to get benefits of online availability.

Pedagogical Tools: This category is concerned with the selection or combination of pedagogical tools that are used as blended tools within traditional learning. To ensure the development of blended tools, the university needs to provide tools that are easy to use and accessible by all. They must be up-to-date and supported by technical experts. Accordingly, technology tools, LMSs or social sites should be chosen to support both academics and students in developing learning processes when converting from a traditional learning approach to a blended learning approach. The advantages and benefits of using these tools in education, such as the ability to structure course materials, the possibility to communicate and interact with others at any time and place, and access to a wide range of resources and information, are supported by different studies. However, the existence of technology tools in an educational environment will not enhance the learning process effectively without a clear policy and objectives for their usage. In addition, teachers' digital skills and their technical experience will also be a factor in implementing technology effectively in education because they fulfil a basic role in the learning process.

Social Educational Community: Part of a blended learning approach is to involve others from inside and outside the institutional community in the online environment and to communicate online with them. This factor highlights the importance of a social community and the social learning element as an important factor in a blended learning model. The educational environment at Saudi universities is a gender-segregated environment which is completely different than the online educational environment.

4.7 Generalization of the Findings

Qualitative research does not aim to generalize the findings but aims to provide in-depth and rich data of participants' perspectives, opinions and experiences through intensive study of one case or more (Polit and Beck, 2010). Accordingly, the findings of this

study reflect perspectives, opinions and experiences of a large community in the University. However, in this study, statistically it is impossible to generalize the results to all the academics and administrators at the KAU due to the small sample size of the study.

Consequently, the results of this work could be applied in other Saudi universities that have the same educational environment and technology tools but it is difficult to generalize the results of this study to all Saudi universities. Nevertheless, other Saudi universities could benefit from the results and enhance their environment in terms of blended learning and the digital skills of their academics. Thus, the results of the study will be useful to colleges that have recently joined KAU and may be applied to the university's policy. The results of this may show some variation depending on the thoughts of different users and the context in which it is applied.

4.8 Conclusion

In this chapter, the study findings from different data resources including qualitative questionnaires, online interviews, documents and the literature review obtained during this study have been analysed, categorized, presented and discussed. The findings reported from the academics' and administrators' perspectives represented their feedback, opinions and practices regarding blended learning at KAU. In addition, these findings are used to answering the research questions and to achieve the aims of the study by discussing the details of their responses in different categories and themes.

The importance of this chapter is that it presents different views of participants, including their reflections and perspectives about using technology tools as blended tools in the education system. In the next chapter, the implications of these findings will be discussed and the limitations of this study will also be presented.

5. Conclusion

5.1 Introduction

The steps taken in a research must be consistent with the study's aims, objectives and research questions. Also, the relevant steps must all be linked with a suitable research design and methods in order to answer the research questions effectively. Thus, some conclusions have been drawn in this chapter based on the information identified, discussed and developed during the study. Consequently, limitations, reflections, recommendations and suggestions for future research have been formulated and presented.

5.2 Summary of the Study and Main Findings

This study employed a non-theoretical approach to investigate and focus upon the academics and administrators on the implementation of technology tools, LMSs or social sites as blended tool in educational environment at King Abdulaziz University (KAU), Saudi Arabia. It aims to make sense of the nature of a blended learning approach at the University from different individual perspectives and experiences. The study used a qualitative case study research method to achieve an in-depth understanding of the target participants' perceptions, uses, attitudes and factors that influence or limit their usage in educational context from individual perspectives and different blended learning format practices. The research investigated these issues by utilising different data collection resources such as qualitative questionnaires, online interviews and documents. Then data were analysed through thematic analysis techniques that provides different levels of sub-themes. In this regard, data collection was achieved by gathering complex individual themes and statements.

5.3 Study Limitation

Although, this study was guided by a careful and systematic design, it is not free from limitations. The study is restricted to one case study 'King Abdulaziz University, Saudi Arabia' as a geographical scope and limited to the academics and administrators' perspectives regarding a blended learning approach at the time the study took place. Therefore, other issues regarding blended learning environment are not included in this

study such as topics related to students with blended learning environment. Also, the study was limited by the cultures in gender-segregated environment. This special educational environment prevented the female researcher from having face-to-face contact with the male participants during the study time.

Because this study utilised a qualitative case study approach which relies on the participants' responses, a degree of bias may be present; the study relied on the researcher's interpretations as a part of the research process. However, in order to increase the research credibility several steps were conducted.

Additionally, the limitation with online interview implies that those who do not have access to the Internet could not participate at this stage. Although, this study conducted this phase with a sufficient number of participants from both genders. Another limitation with an online interview is the disappearance of facial emotions while collecting the data. Addressing this limitation is particularly challenging, as it is difficult to replace with different tools in segregated gender environment.

This study does not aim to generalise the results to other Saudi universities due to the small group of participants compared to the number of staff at the University. But at the same time, the results of the study have the potential to apply to contexts with similar environment and educational culture. The provision of detailed description of the study implementation allows other researchers to verify the credibility of the results to their own context of study.

All the limitations stated above do not affect the value of the study, since the overall process and context of the study has been described and explained carefully and in detail. In addition, the outcomes have been justified and therefore must be referred to through the investigation's original context.

5.4 Issues during the Study

Different difficulties and issues appeared during the study.

1. Responding time for the academics and administrators' questionnaires where the Dean of graduate studies (DGS) at the University asked all target units at the University several times to fill the questionnaires and return. After two months

of distributing the questionnaires none of the male participants from all units of the University responded and returned the questionnaire. For this issue, a male member of the researcher's family visited the target units at the University and asked them directly to contribute in the study. This helped in receiving input from the male units.

2. The researcher also faced the same issue described in the previous point during back-translation technique steps which was conducted to translate the questionnaires and online interviews' questions.
3. Another issue faced during the online interview was the different time zone between the UK, where the researcher is based, and Saudi Arabia, where the participants are. In this regard, there were some difficulties in scheduling time for online interview. So, in order to get maximum number of participants in this stage, the researcher asked all the target participants to indicate a suitable time for the online interview, which gave the researcher time to prepare herself for the time agreed with the participants.
4. During the literature review and reviewing the online documentary sources provided by the university, issues with different contexts between the Arabic and English versions were raised. Hence, to reduce the problems of the different versions and contents between Arabic and English online documents, the researcher counts in this study contents of the last update, rather than choosing versions depending on a certain language.

5.5 Study Contributions and Reflections

The study makes four main contributions.

1. Firstly, regarding the methodological approach, this study conducted qualitative case study research by utilising open-ended questionnaires and online interviews which helps in several ways (Lewis and Ritchie, 2003). This approach helps in exploring, explaining, showing the impacts and reasons of specific phenomena and interactions between the individuals. It also helps in exploring broadly the differences in the contexts in which certain phenomena arise or the research issue experienced. This is conducted by identifying and engaging a range and diversity of perspectives of the participants to understand different behaviours and actions for

specific issues. Additionally, qualitative case study research helps in identifying the presence, absence and signs of specific phenomena in account of different groups in specific environment and explores how signs of specific phenomena vary between groups in order to understand different behaviours and actions. So, using a qualitative approach contributes to the blended learning area in practical and methodological terms where the literature showed a lack of studies in blended learning field with qualitative approach.

2. Secondly, regarding the knowledge approach, the review of the literature about blended learning area has showed lack of knowledge in this area especially in Saudi higher educational approach. In many ways, the findings of this study has the potential to provide administrators and decision makers at Saudi Ministry of Education and Saudi universities with comprehensive understanding of a range of educational teaching practices and technical resources used in designing a blended learning approach. It can also provide insight into critical factors that positively or negatively affect the use of different technology tools as blended tool in education. This has implications for academics already applying this type of learning and academics who teach in completely face-to-face environment. This model (section 4.6) can help change their ideas and believes and support their teaching practices by using a range of online resources in blended learning forms. Additionally, these perspectives can better clarify the University's future plans and future projects regarding a blended learning approach by enabling the administrators to make informed decisions. Also, it helps in designing more effective training courses for the academics at KAU or other similar educational institutions depending on the perceptions of different academics regarding their blended teaching practices. In this regard, it provides a clear vision about the feasibility of blended learning implementation and its effectiveness in higher education environment.
3. Additionally, in light of the study findings, policy makers at the Saudi Ministry of Education, administrators, academics and academics' trainers can practically benefit from these findings which demonstrate the perspectives of the academics and administrators regarding a blended learning approaches. The findings of this study indicate that academics have positive practices and are self-motivated, which cannot be translated to all other academics at the University. So, providing more incentives and clearly defined policy would keep this process in a positive state. To achieve this, the administrators can encourage faculties to implement blended learning by

supporting necessary technologies and infrastructure depending on the faculty's needs and its academics' perspectives. In addition, providing training workshops in order to keep the academics up-to-date on educational technologies regarding curriculums, objectives and students' needs may be highly helpful. Additionally, the findings of this study will help administrators achieve their goals and visions regarding blended learning implementation by knowing the positive and negative impacts of all factors facing both academics and administrators that could undermine this implementation. These factors will help improve the efficiency of blended learning implementation at the University by clearly identifying these obstacles in order to reduce the impediments and find a way to achieve effective blended learning implementation that fulfils the academics' needs in terms of their access, usage of technology tools and appropriate training.

4. Finally, this study is significant and contributes to the knowledge gap in blended learning area in general and in Saudi higher education in particular, as, to the best of the researcher's knowledge, no previous research has sought to investigate administrators' perspectives in terms of blended tools. So, this study is considered the first to use qualitative research approach to get the views of administrators and academics and their interrelationships at the same time from both genders and different faculties.

5.6 Study Recommendations

This section offers relevant recommendations for universities' academics and administrators or policy makers regarding the adoption of blended learning in Saudi universities.

1. Academic engagement: this research strongly recommends that academics be encouraged to utilise technology tools, learning management systems (LMSs) or social sites in their teaching system as blended tools by increasing their technical skills and attending different conferences or workshops that may help develop their blended teaching practices in their field.
2. Academic practice: the academics must encourage and motivate their students to be self-learners by using technology tools. Effective blended activities that

encourage students must be designed to enhance the traditional learning environment.

3. Institutional policy: develop well-defined and clear policy and instructions for integrating technology tools as blended models in learning environment. In this regard, the successful implementation of technologies in education needs careful planning and depends fundamentally on an appropriate and well-defined policy developed by administrators or policy makers (Jhurree, 2005). Additionally, this policy should be defined with groups of administrators and academics from each department or faculty. So, in the case of Saudi universities and full-time programs policies, moving from completely traditional learning to blended learning without losing the advantages of full physical interactions and without reducing academics and students' presence at the universities require effective course design and motivational factors to support the academics and students engagement in this approach.
4. Institutional rewards: blended learning policy must be planned for both academics and students with some reward and recognition, and a marking system to encourage the use of these tools either inside or outside classroom time. Their effectiveness should also be measured and improved according to specific roles and criteria through multiple methods to assess and evaluate these tools and find appropriate use of technology resources.
5. Institutional training: in addition, develop clear and well-defined policy for the academics' training workshops about a blended learning approach in order to increase their technical skills and help them in designing blended learning courses. These workshops must be customised for each department or faculty with trainers from the same field, to get maximum benefits.
6. Institutional infrastructure: to implement successfully a blended learning approach, the University as an educational organisation should be willing to offer sufficient resources, communication and feedback channels and ensure equal access to technology tools for both academics and students by improving the University's digital infrastructure and tools in the classrooms or computer labs.
7. Institutional responsibility: the findings of this study show overlapping roles within the University units in digitalising and supporting blended learning. This leads to suggestion of establishing one unit for supporting academics' digital

skills and also supports them in their blended teaching process rather than distribute it for several units inside the University.

5.7 Future Research

Several opportunities for future research in this area are suggested below based on the results of this study:

1. As this study was conducted at KAU in Saudi Arabia, further research could be conducted to investigate the views of academics and administrators in other Saudi universities. The results of these studies could be used as a basis for developing and improving different technology tools, LMSs or social sites as a blended tool in higher education.
2. Studies may be conducted to compare two or more educational cultures in Saudi universities in terms of using technologies as blended tool. This type of research will help to better understand how blended tools could affect different educational cultures.
3. While there are studies deal with students in blended learning environment, still there is lack of studies regarding students in this type of learning in Saudi universities in general and in KAU in specific.
4. Studies that address the research limitations may also present an opportunity for future research.

5.8 Conclusion

This chapter has provided a summary of the study in terms of its aims, research questions, research methodology and design, findings, study limitations, contributions, implications and recommendations for future research.

The study discussed the perspectives of relevant academics and administrators regarding a blended learning approach, educational culture and factors that affect a blended learning approach. The research was conducted by applying multiple types of data collection tools. The data generated were analysed using thematic analysis approach. The extracted data led to conclusions that answered the research questions and achieved the research aims. The outcome contributes to knowledge as well as

methodological aspects. Furthermore, future research with recommendations has been presented.

This study was undertaken through six main steps, including:

1. Identification of research gaps.

During this step, the researcher identified the topic to study, research problem to be resolved as well as justification for the research.

2. Reviewing the literature.

In this step, the researcher reviewed previous studies from Saudi Arabia and examined different resources to explore and understand the area of study.

3. Specifying the research purpose.

After reviewing the literature, the researcher identified and narrowed the research topic. Following this, the research objectives, study locations, methodology, participants and data collection tools were identified.

4. Collecting required data.

This step was important in order to answer the research questions, select participants, obtain permission to conduct the research, contact the participants, and gather relevant information.

5. Analysing the collected data.

This step involved data translation, organisation, breakdown, assignment to themes and categories.

6. Interpreting and reporting the data.

The last step represents in presented data in tables and graphs and explained its meaning in light of the literature review.

In conclusion, this study bridges the gap in the literature by contributing to the innovations in Saudi higher education, where the perceptions of academics and administrators from both genders (in Saudi universities) were not previously investigated. In addition, it contributes to the methodological approach in the field where very few studies (in the Saudi context) have been conducted in qualitative terms.

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Appendices

Appendix A – Academics' Questionnaire – First Pilot Study

Academics' Demographical Questions

Part 1: Demographic Information	الجزء الأول: المعلومات الشخصية
1. Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	1. الجنس: <input type="checkbox"/> ذكر <input type="checkbox"/> أنثى
2. Age: <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> 41-50 <input type="checkbox"/> 51-60 <input type="checkbox"/> ≥ 61	2. العمر: <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> 41-50 <input type="checkbox"/> 51-60 <input type="checkbox"/> 61≤
3. Position: <input type="checkbox"/> Academic <input type="checkbox"/> Administrator <input type="checkbox"/> Trainer or workshop's designer	3. الوظيفة: <input type="checkbox"/> عضو هيئة تدريس <input type="checkbox"/> عميد أو إداري مسؤول <input type="checkbox"/> مدرب دورات تدريبية أو مصمم لها
4. Job title and role: -----	4. المسمى الوظيفي والتخصص: -----
5. Work experience: ----- years.	5. سنوات الخبرة: ----- سنة
6. Email (optional):	6. الإيميل (إختياري):

Computer Skills Questions

Part 2: Computer and Internet Background (<u>In your work</u>)	الجزء الثاني: خلفية الكمبيوتر و الإنترنت (في العمل)
7. Do you have access to a desktop computer, laptop, mobile phone, etc.: <input type="checkbox"/> at home <input type="checkbox"/> at KA <input type="checkbox"/> elsewhere ----- <input type="checkbox"/> none.	7. هل لديك إتصال بالحاسب الآلي المكتبي, اللابتوب, أجهزة الهاتف المحمول, أو غيرها في: <input type="checkbox"/> المنزل <input type="checkbox"/> جامعة الملك عبدالعزيز <input type="checkbox"/> مكان آخر ----- <input type="checkbox"/> ليس لدي إتصال

<p>8. Do you have access to the Internet:</p> <p><input type="checkbox"/> at home <input type="checkbox"/> at KAU</p> <p><input type="checkbox"/> elsewhere <input type="checkbox"/> No, go to question 11</p>	<p>8. هل لديك إتصال بشبكة الإنترنت:</p> <p><input type="checkbox"/> المنزل <input type="checkbox"/> جامعة الملك عبدالعزيز</p> <p><input type="checkbox"/> مكان آخر <input type="checkbox"/> ليس لدي إتصال, انتقل للسؤال 11</p>
<p>9. On average, how many hours a day do you have access to the Internet? ----- hours.</p>	<p>9. في المتوسط, كم ساعة تقضيها في اليوم الواحد بالإتصال بالإنترنت؟ ----- ساعة</p>
<p>10. On average, how frequently do you have access to your website, blog, Facebook page, twitter, etc.</p> <p><input type="checkbox"/> daily <input type="checkbox"/> weekly <input type="checkbox"/> monthly</p> <p><input type="checkbox"/> never</p>	<p>10. في المتوسط, هل تتصل بموقعك الشخصي, البلوج "المدونة", الفيسبوك, تويتر, غير ذلك</p> <p><input type="checkbox"/> يومياً <input type="checkbox"/> أسبوعياً <input type="checkbox"/> شهرياً</p> <p><input type="checkbox"/> لا أتصل مطلقاً</p>

11. Please rate the level of skills you have in the following computer applications and Internet tools where:

1=poor 2=Fair 3=Good 4=Very Good 5=Excellent

11. الرجاء تقييم مستوى مهاراتك في كلاً من تطبيقات الحاسب وأدوات الإنترنت حيث أن:

1=ضعيف 2=مقبول 3=جيد 4=جيد جداً 5=ممتاز

Information	Rating					المعلومات
Web searching using search engines (e.g. Google, Yahoo, etc.) to find out about a subject.	1	2	3	4	5	البحث على شبكة الإنترنت باستخدام محركات البحث (مثل جوجل، وياهو، وغيرها) لمعرفة المزيد عن موضوع ما.
Using online learning materials (e.g. tutorials, E-books, lecture notes, etc.).	1	2	3	4	5	استخدام مواد التعلم عبر الإنترنت (مثل الدروس التعليمية، الكتب الإلكترونية، المحاضرات، غير ذلك).
Using social species or web forums to find out about a subject.	1	2	3	4	5	استخدام المساحات الاجتماعية أو المنتديات على شبكة الإنترنت لمعرفة المزيد عن موضوع ما.
Using an electronic library or portal to find out about a	1	2	3	4	5	استخدام المكتبة الإلكترونية لمعرفة المزيد عن موضوع ما.

subject.						
Online registration (e.g. event, job, conference, workshop, etc.).	1	2	3	4	5	التسجيل أونلاين (مثل الأحداث المهمة، وفرص العمل، المؤتمرات، ورش العمل، غير ذلك).
Software						البرامج
Using word processing programs (e.g. Word, pages, etc.).	1	2	3	4	5	استخدام برامج معالجة النصوص (مثل وورد، بيجز، غير ذلك).
Using Spreadsheets or data analysis programs (e.g. Excel, Numbers, etc.).	1	2	3	4	5	استخدام برامج جداول البيانات أو برامج تحليل البيانات (مثل إكسل، نمبرز، غير ذلك).
Using design tools (e.g. graphics, web design, animations).	1	2	3	4	5	استخدام أدوات التصميم (مثل جرافيكس، برامج تصميم مواقع الإنترنت، والرسوم المتحركة).
Presentation						العرض
Using slideshow programs (e.g. PowerPoint, Keynotes, Prezi, etc.) to present information.	1	2	3	4	5	استخدام برامج عرض الشرائح (مثل بور بوينت، كي نوت، بريزي، وغير ذلك) لتقديم المعلومات.
Using a personal web page, wiki or blog to present information.	1	2	3	4	5	استخدام الموقع الإلكتروني الشخصي، ويكي أو البلوج "المدونة" في تقديم معلومات.
Communication						التواصل
Sharing photos, or other digital materials using (e.g. Flickr, Facebook, twitter, etc.).	1	2	3	4	5	مشاركة الصور أو المواد الرقمية الأخرى باستخدام (مثل فلكر، الفيسبوك، تويتر، وغير ذلك).
Send and receive an E-mail (consider attachments).	1	2	3	4	5	إرسال و تلقي البريد الإلكتروني "الإيميل" (مع المرفقات).
Using online discussion forum to share ideas with others.	1	2	3	4	5	استخدام منتديات النقاش لتبادل الأفكار مع الآخرين.

Using video or audio conference (e.g. Skype, Web conference, Anymeeting, etc.).	1	2	3	4	5	استخدام الفيديو أو الصوت لحضور مؤتمرات اونلاين (مثل سكايب، ويب كونفرينس، اني مييتينج، وغير ذلك).
Accessing course materials (e.g. slides, notes, podcasts) via VLE 'virtual learning environment' or MLS 'mobile learning systems'.	1	2	3	4	5	الوصول إلى المواد المستخدمة للمادة العلمية (مثل الشرائح، والملاحظات، التسجيل الصوتي) عن طريق أدوات التعلم الافتراضية أو أنظمة تعلم الجوال.
Assessment						التقييم
Taking a computer-based test or examination.	1	2	3	4	5	التعامل مع الاختبارات الإلكترونية.
Submitting materials for assessment online.	1	2	3	4	5	تقديم المواد للتقييم عبر الإنترنت.
Mobile						الجوال
Learning via a mobile phone or PDA.	1	2	3	4	5	التعلم عن طريق الهاتف المحمول أو المساعد الشخصي الرقمي.
Text messaging and social use.	1	2	3	4	5	الرسائل النصية واستخدامها اجتماعياً.
Access to the Internet for social use.	1	2	3	4	5	الوصول إلى شبكة الإنترنت للاستخدام الاجتماعي.
Access to the Internet for learning use.	1	2	3	4	5	الوصول إلى شبكة الإنترنت للإستخدام في التعليم.
Technical						التقنية
Solving technical problems.	1	2	3	4	5	حل المشاكل التقنية.
Learn new technologies easily.	1	2	3	4	5	تعلم التقنيات الجديدة بسهولة.
Keep up with important, new technology.	1	2	3	4	5	مواكبة التقنيات الجديدة الهامة.

Cognitive						المعرفة
Confidence with search and my skills in obtaining information from the web.	1	2	3	4	5	الثقة بالبحث ومهاراتي في الحصول على المعلومات من شبكة الإنترنت.
Familiarity with web issues (e.g. plagiarism, security issues).	1	2	3	4	5	الإلمام بقضايا الويب (على سبيل المثال قضايا الانتحال, قضايا الأمن).
Overall						الشكل العام
Overall digital learning competency.	1	2	3	4	5	الكفاءة التقنية في التعليم بشكل عام.

No	Question	Answer الإجابة	السؤال
12	<p>Does the KAU offer any training, sessions, seminars or conferences on how to use (or effective use of) the following learning technologies tools: VLE, E-assessment tools, plagiarism prevention and detection, electronic voting system, web 2.0 tools, blended learning, web conferencing, or other.</p> <p>If yes, please provide some information regarding the previously mentioned training sessions such as: session's contents and duration.</p>		<p>هل توفر جامعة الملك عبد العزيز أي من: دورات, سيمينار أو مؤتمرات حول كيفية استخدام (أو مدى فعالية) أدوات التقنية التعليمية مثل: أدوات التعلم الافتراضي (VLE), أدوات التقييم الإلكتروني, برامج كشف ومنع الغش, نظم التصويت الإلكتروني, أدوات الويب 2.0, التعليم المدمج, مؤتمرات عبر الإنترنت, أو غير ذلك.</p> <p>إذا كانت الإجابة نعم, يرجى تقديم بعض المعلومات عن الدورات التدريبية السابقة المذكورة مثل: محتوى الدورة و مدتها.</p>

13	<p>Which digital learning technology tools or programs other than those mentioned previously have you used for the purpose of learning and teaching that you feel work well and that support your work as an academic member?</p>		<p>أي من أدوات التقنية التعليمية الرقمية أو برامج أخرى غير تلك التي سبق ذكرها قد استخدمته لغرض التدريس أو التعليم و تشعر أنك تعمل به بشكل جيد ويدعم عملك كعضو هيئة تدريس؟</p>
14	<p>In what ways have you/do you develop your competencies in digital learning technologies or tools? e.g. face-to-face training, self-taught, following online instructions, etc.</p>		<p>ما هي الطرق التي تقوم بها لتطوير كفاءتك في مجال برامج أو أدوات التقنية التعليمية الرقمية؟ على سبيل المثال التدريب المباشر، التعلم الذاتي، إتباع التعليمات أونلاين، أو غير ذلك.</p>
15	<p>How has your use of digital learning technologies changed in the past five years?</p>		<p>كيف تغير استخدامك للتقنيات التعليمية الرقمية في السنوات الخمس الماضية؟</p>
16	<p>How do you expect your use of digital learning technologies to change in the future in the educational system?</p>		<p>كيف تتوقع التغير في استخدامك للتقنيات التعليمية الرقمية في المستقبل في النظام التعليمي؟</p>

17	<p>Which social network sites do you have an account with?</p> <p>If do not have, what would you consider as your main reason(s) for not having any social network sites account? Then go to the question 28.</p>		<p>أي من مواقع الشبكات الاجتماعية لديك حساب فيها؟</p> <p>إذا لم يكن لديك، ما السبب الرئيسي أو الأسباب الخاصة بك لعدم وجود أي حساب في مواقع الشبكات الاجتماعية؟ ثم انتقل إلى السؤال 28.</p>
18	<p>If you have an account in one of the social network sites, do you use it in teaching purposes?</p> <p>If no, what is the reason(s) for not trying use it in education, then go to the question 28.</p>		<p>إذا كان لديك حساب في أحد مواقع الشبكات الاجتماعية، هل تستخدمه في عملية التدريس؟</p> <p>إذا كانت الإجابة لا، ما هو السبب أو الأسباب لعدم محاولة استخدامه في عملية التعليم، ثم انتقل إلى السؤال 28.</p>
19	<p>Why did you decide to supplement your classroom teaching with using social network sites?</p>		<p>لماذا قررت دعم التدريس في الفصول الدراسية باستخدام مواقع الشبكات الاجتماعية؟</p>
20	<p>What effect, if any, do you feel social network sites have had on the education community in which you work?</p>		<p>هل هناك تأثير إن وجد من مواقع الشبكات الاجتماعية على المجتمع التعليمي الذي تعمل فيه؟</p>
21	<p>Would you consider social network sites to be a relevant academic endeavour?</p> <p>If yes, explain please.</p>		<p>هل تجد في مواقع الشبكات الاجتماعية علاقة أكاديمية؟</p> <p>الرجاء الشرح إذا كانت الإجابة نعم.</p>

22	Do you consider your use of social network sites in learning and teaching to be an essential or supplementary method?		هل تعتبر استخدامك لمواقع الشبكات الاجتماعية في التعلم و التدريس طريقة تكميلية أم أساسية؟
23	Have you assessed your students after using social network sites? If yes, explain please.		هل قمت بتقييم طلابك بعد استخدام مواقع الشبكات الاجتماعية معهم؟ إذا كانت الإجابة بنعم، الرجاء الشرح.
24	What is the best thing you have found in using social network sites as educational tools?		ما أفضل شيء وجدته في استخدام مواقع الشبكات الاجتماعية كأدوات تعليمية؟
25	What are the downsides that you have found in using social network sites for educational purposes?		ما هي السلبيات التي وجدتها في استخدام مواقع الشبكات الاجتماعية كأداة تعليمية؟
26	What are the new skills you have gained regarding using social network sites for educational purposes?		ما هي المهارات الجديدة التي اكتسبتها باستخدامك لمواقع الشبكات الاجتماعية كأداة تعليمية؟

27	<p>What are the changes that you have noticed in the learning and teaching process, due to the use of social network sites as a supplement/integral to your course?</p>		<p>ما هي التغييرات التي لاحظتها في عملية التعلم أو التدريس عند استخدام مواقع الشبكات الاجتماعية كأداة أساسية أو تكميلية للمادة الدراسية؟</p>
28	<p>How effective do you think using social network sites would be in the education system?</p> <p><input type="checkbox"/> Very effective</p> <p><input type="checkbox"/> Effective <input type="checkbox"/> Neutral</p> <p><input type="checkbox"/> Somewhat effective</p> <p><input type="checkbox"/> Not effective at all</p>		<p>كيف تجد فعالية استخدام مواقع الشبكات الاجتماعية في نظام التعليم؟</p> <p><input type="checkbox"/> فعالة جدا <input type="checkbox"/> فعالة</p> <p><input type="checkbox"/> متعادلة <input type="checkbox"/> إلى حد ما فعالة</p> <p><input type="checkbox"/> غير فعالة على الإطلاق</p>
29	<p>Has your department had to develop a policy to address the use of social network sites in teaching?</p> <p>If yes, explain please.</p>		<p>هل وضع قسمك الذي تنتسب إليه سياسة أو خطة لإستخدام مواقع التواصل الاجتماعي في التدريس؟</p> <p>إذا كانت الإجابة نعم, الرجاء التوضيح.</p>

<p>30</p>	<p>What were any barriers or difficulties to academics in using digital learning technologies, if any, that you encountered? e.g. Lack of key support, lack of technical assistance.</p> <p>If nothing go to the question 32.</p>		<p>ما هي بعض العوائق أو الصعوبات لأعضاء هيئة التدريس في استخدام تقنيات التعليم الرقمية التي واجهتكم، إن وجدت؟ على سبيل المثال عدم وجود الدعم الرئيسي، الافتقار إلى المساعدة التقنية. إذا لم توجد عوائق أو صعوبات، أنتقل للسؤال 32.</p>
<p>31</p>	<p>And how did you overcome the barriers, if any?</p>		<p>كيف تغلبت على هذه العوائق أو الصعوبات، إن وجدت؟</p>
<p>32</p>	<p>What strategies would you recommend for using social network sites or digital learning technologies to be scaled up in the educational community? Please provide a justification for your response.</p>		<p>ما الإستراتيجيات التي تقدمها كنصيحة لإستخدام شبكات المواقع الاجتماعية أو أدوات التقنية الرقمية في التعليم للإستمرار في الارتقاء بالمجتمع التعليمي؟ يرجى تقديم مبرر لإجاباتكم.</p>

<p>33</p>	<p>Is there anything more you would like to add?</p> <p>I will analyse your data and those of others and will be submitting a report in two or three months. I will be happy to send you a copy to review at that time if you are interested.</p> <p>Thank you for your time.</p>		<p>هل هناك أي إضافات ترغب في ذكرها.</p> <p>سوف أقوم بتحليل البيانات في غضون شهرين أو ثلاث و سأكون سعيدة إذا رغبتم بنسخة من ذلك.</p> <p>شكراً لوقتكم.</p>
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Appendix B – Administrators’ Questionnaire – First Pilot Study

Administrators’ Demographic Questions

Part 1: Demographic Information	الجزء الأول: المعلومات الشخصية
1. Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	1. الجنس: <input type="checkbox"/> ذكر <input type="checkbox"/> أنثى
2. Age: <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> 41-50 <input type="checkbox"/> <input type="checkbox"/> 51-60 <input type="checkbox"/> ≥ 61	2. العمر: <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> 41-50 <input type="checkbox"/> <input type="checkbox"/> 51-60 <input type="checkbox"/> 61≤
3. Position: <input type="checkbox"/> Academic <input type="checkbox"/> Administrator <input type="checkbox"/> Trainer or workshop’s designer	3. الوظيفة: <input type="checkbox"/> عضو هيئة تدريس <input type="checkbox"/> عميد أو إداري مسؤول <input type="checkbox"/> مدرب دورات تدريبية أو مصمم لها
4. Job title and role: -----	4. المسمى الوظيفي: -----
5. Work experience: ----- years.	5. سنوات الخبرة: ----- سنة
6. Email (optional):	6. الإيميل (إختياري):

No	Question	Answer الإجابة	السؤال
7	<p>Does the KAU offer any training, sessions, seminars or conferences on how to use (or how effective use of) the following learning technologies tools: VLE, E-assessment tools, plagiarism prevention and detection, electronic voting system, web 2.0 tools, blended learning, web conferencing, or other.</p> <p>If yes, please provide some information regarding the previous mentioned training sessions such as: session's contents and duration.</p>		<p>هل توفر جامعة الملك عبد العزيز أي من: دورات, سيمينار أو مؤتمرات حول كيفية إستخدام (أو مدى فعالية) أدوات التقنية التعليمية مثل: أدوات التعلم الافتراضي (VLE), أدوات التقييم الإلكتروني, برامج كشف ومنع الغش, نظم التصويت الإلكتروني, أدوات الويب 2.0, التعليم المدمج, مؤتمرات عبر الإنترنت, أو غير ذلك.</p> <p>إذا كانت الإجابة نعم, يرجى تقديم بعض المعلومات عن الدورات التدريبية السابقة المذكورة مثل: محتوى الدورة و مدتها.</p>

8	<p>Please describe the compulsory or optional aspects of your current position that are designed to develop or enhance the 'digital learning technologies' or 'digital pedagogy' or 'blended learning' of the academics.</p>		<p>الرجاء ذكر دورك الإلزامي أو الإختياري في تطوير أو تحسين "تقنية التعليم الرقمية" أو "علم أصول التدريس الرقمي" أو "التعليم المدمج" لأعضاء هيئة التدريس.</p>
9	<p>Are there any formal development requirements for the academics before they become involved in blended learning workshops or blended course delivery in the University?</p> <p>If yes, could you describe any requirements?</p>		<p>هل هناك أي متطلبات إجبارية لعضو هيئة التدريس قبل المشاركة في دورات التعليم المدمج أو تطبيق مناهج التعليم المدمج في الجامعة؟</p> <p>إذا كانت الإجابة نعم، هل يمكن وصف هذه المتطلبات؟</p>
10	<p>What other provision or plan does the University make for the academics' development in blended learning?</p>		<p>ما وجهة نظر أو الخطط الأخرى للجامعة لتطوير أعضاء هيئة التدريس في التعليم المدمج؟</p>

<p>11</p>	<p>Do you participate in the ‘social network sites’ or ‘blended learning’ workshops implemented by the Deanship of E-learning and distance education?</p> <p>If no, go to the question 16.</p> <p>If yes:</p> <p>a. Can you describe your role regarding ‘social network sites’ or ‘blended learning’ workshops?</p> <p>b. Is there a plan or a strategy for these workshops? Explain please.</p> <p>c. Why did the University decide to implement the ‘social network sites’ and ‘blended learning’ workshops?</p>		<p>هل شاركت في الدورات التدريبية عن "مواقع الشبكات الإجتماعية" أو "التعليم المدمج" التي تنفذها عمادة التعليم الإلكتروني والتعليم عن بعد؟</p> <p>إذا كانت الإجابة لا، انتقل إلى السؤال 16.</p> <p>إذا كانت الإجابة نعم:</p> <p>أ. الرجاء وصف دورك في دورات "مواقع الشبكات الاجتماعية" أو "التعليم المدمج"؟</p> <p>ب. هل هناك خطة أو استراتيجية لهذه الدورات؟ يرجى الشرح.</p> <p>ج. لماذا قررت الجامعة تنفيذ دورات تدريبية عن "مواقع الشبكات الاجتماعية" و "التعليم المدمج"؟</p>
<p>12</p>	<p>What contents or tools should be discontinued in these workshops? Why?</p>		<p>ما المحتوى أو الأدوات التي يجب إيقافها في هذه الدورات؟ ولماذا؟</p>

13	<p>What would you do differently (include or remove digital learning technologies or pedagogies) in the next workshops? Please explain why.</p> <p>If there are, what limits you from including or removing these contents from the past workshops?</p>		<p>ما الذي سيكون مختلف (إضافة أو حذف تقنيات تعليمية أو أدوات رقمية) في الدورات القادمة؟ ولماذا؟ إذا كان هناك تغيير، ما الذي حدك من إضافته أو إلغائه في الدورات السابقة؟</p>
14	<p>Do you implement a method for measuring the effect of 'social network sites' workshops implementation? If yes, what were the results?</p>		<p>هل قمت بتضمين طريقة لقياس فعالية إقامة دورات "مواقع الشبكات الإجتماعية"؟ إذا كانت الإجابة نعم، فما هي نتائج فعالية هذه الدورات؟</p>
15	<p>Has your department or Deanship had to develop a policy to address the use of social network sites in teaching? If yes, explain please.</p>		<p>هل وضع قسمك أو العمادة التي تنتسب إليها سياسة أو خطة لإستخدام مواقع التواصل الإجتماعي في التدريس؟ إذا كانت الإجابة نعم، الرجاء التوضيح.</p>

16	<p>How effective do you think using social network sites would be in the education system?</p> <p><input type="checkbox"/> Very effective <input type="checkbox"/> Effective</p> <p><input type="checkbox"/> Neutral</p> <p><input type="checkbox"/> Somewhat effective</p> <p><input type="checkbox"/> Not at all effective</p>		<p>كيف تجد فعالية استخدام مواقع الشبكات الاجتماعية في نظام التعليم؟</p> <p><input type="checkbox"/> فعالة جدا <input type="checkbox"/> فعالة</p> <p><input type="checkbox"/> متعادلة <input type="checkbox"/> إلى حد ما فعالة</p> <p><input type="checkbox"/> غير فعالة على الإطلاق</p>
17	<p>What effect, if any, do you feel the social network site workshops had on the educational community in which you work? e.g. Changes in communication.</p> <p>If not effective at all:</p> <p>What would be needed to consider social network sites as effective as an educational tool? or what makes social network sites effective in the educational sector?</p>		<p>ما تأثير فعالية (إن وجد) دورات مواقع الشبكات الاجتماعية على المجتمع التعليمي الذي تعمل فيه؟ مثلاً: تغيير في مجال التواصل.</p> <p>إن لم يكن هناك تأثير على الإطلاق:</p> <p>كيف يمكن إعادة النظر لمواقع الشبكات الاجتماعية لتكون فعالة كأداة تعليمية؟ أو ما الذي يجعل مواقع الشبكات الاجتماعية فعالة في قطاع التعليم؟</p>
18	<p>What strategies would you recommend for using social network sites or digital learning technologies to be scaled up in the educational community?</p> <p>Please provide a justification for your response.</p>		<p>ما الإستراتيجيات التي تقدمها كنصيحة لإستخدام شبكات المواقع الاجتماعية أو أدوات التقنية الرقمية في التعليم للإستمرار في الارتقاء بالمجتمع التعليمي؟ يرجى تقديم مبرر لإجاباتكم.</p>

19	<p>What do you see as the barriers or difficulties to the academics using digital learning technologies?</p>		<p>ما العوائق أو الصعوبات التي تحول دون أعضاء هيئة التدريس عن استخدام تقنيات التعليم الرقمية؟</p>
20	<p>What do you see as the main barriers which limit you/your team in supporting the development of 'digital learning technologies' or 'digital pedagogy'? e.g. Lack of key support, lack of technical assistance or other.</p>		<p>ما الحواجز أو العوائق الرئيسية التي تحدك أو تحد فريق العمل في دعم وتطوير "تكنولوجيات التعليم الرقمية" أو "علم أصول التدريس الرقمي"؟ مثل: عدم وجود الدعم الرئيسي أو الافتقار إلى المساعدة التقنية, أو غير ذلك.</p>
21	<p>How did you overcome these barriers, if any?</p>		<p>كيف تغلبت على هذه الصعوبات, إن وجدت؟</p>
22	<p>Are the academics prepared for the implementation of social network sites in education? Describe. If not, why?</p>		<p>هل أعضاء هيئة التدريس مجهزين لتفعيل استخدام مواقع الشبكات الإجتماعية في التعليم؟ أوصف. إذا كانت الإجابة لا, لماذا؟</p>

<p>23</p>	<p>Is there anything more you would like to add?</p> <p>I will analyse your data and those of others and will be submitting a report in two or three months. I will be happy to send you a copy to review at that time if you are interested.</p> <p>Thank you for your time.</p>		<p>هل هناك أي إضافات ترغب في ذكرها.</p> <p>سوف أقوم بتحليل البيانات في غضون شهرين أو ثلاث و سأكون سعيدة إذا رغبتُم بنسخة من ذلك.</p> <p>شكراً لوقتكم.</p>
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Appendix C – Trainers and Training Workshops’ Designers

Questionnaire – First Pilot Study

Trainers and Workshops’ Designer Demographical Questions

Part 1: Demographic Information	الجزء الأول: المعلومات الشخصية
1. Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	1. الجنس: <input type="checkbox"/> ذكر <input type="checkbox"/> أنثى
2. Age: <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> 41-50 <input type="checkbox"/> 51-60 <input type="checkbox"/> ≥ 61	2. العمر: <input type="checkbox"/> 30-21 <input type="checkbox"/> 40-31 <input type="checkbox"/> 50-41 <input type="checkbox"/> 60-51 <input type="checkbox"/> <input type="checkbox"/> $61 \leq$
3. Position: <input type="checkbox"/> Academic <input type="checkbox"/> Administrator <input type="checkbox"/> Trainer or workshop’s designer	3. الوظيفة: <input type="checkbox"/> عضو هيئة تدريس <input type="checkbox"/> عميد أو إداري مسؤول <input type="checkbox"/> مدرب دورات تدريبية أو مصمم لها
4. Job title and role: -----	4. المسمى الوظيفي: -----
5. Work experience: ----- years.	5. سنوات الخبرة: ----- سنة
6. Email (optional):	6. الإيميل (إختياري):

Part 2: Training Workshops Designer or trainers' Questions

الجزء الثاني: أسئلة مدربي الدورات التدريبية أو مصممي الدورات

No	Question	Answer الإجابة	السؤال
7	<p>Do you participate in the 'social network sites' or 'blended learning' workshops implemented by the Deanship of E-learning and distance education?</p> <p>If yes,</p> <p>a. Can you describe your role regarding 'social network sites' or 'blended learning' workshops?</p> <p>b. Is there a plan or a strategy for these workshops? Explain please.</p>		<p>هل شاركت في الدورات التدريبية عن "مواقع الشبكات الإجتماعية" أو "التعليم المدمج" التي تنفذها عمادة التعليم الإلكتروني والتعليم عن بعد؟</p> <p>إذا كانت الإجابة نعم:</p> <p>أ. الرجاء وصف دورك في دورات "مواقع الشبكات الاجتماعية" أو "التعليم المدمج"؟</p> <p>ب. هل هناك خطة أو استراتيجية لهذه الدورات؟ يرجى الشرح.</p>
8	<p>Would you consider social network sites to be a relevant academic endeavour?</p> <p>If yes, please describe.</p>		<p>هل تجد في مواقع الشبكات الاجتماعية علاقة أكاديمية؟</p> <p>أوصف إذا كانت الإجابة نعم.</p>

<p>9</p>	<p>How effective do you think using social network sites would be in the education system?</p> <p><input type="checkbox"/> Very effective</p> <p><input type="checkbox"/> Effective</p> <p><input type="checkbox"/> Neutral</p> <p><input type="checkbox"/> Somewhat effective</p> <p><input type="checkbox"/> Not effective at all</p>		<p>كيف تجد فعالية استخدام مواقع الشبكات الاجتماعية في نظام التعليم؟</p> <p><input type="checkbox"/> فعالة جدا <input type="checkbox"/> فعالة</p> <p><input type="checkbox"/> متعادلة</p> <p><input type="checkbox"/> إلى حد ما فعالة</p> <p><input type="checkbox"/> غير فعالة على الإطلاق</p>
<p>10</p>	<p>What effect, if any, do you feel social network sites have had on the educational community in which you work?</p>		<p>هل هناك تأثير إن وجد من مواقع الشبكات الاجتماعية على المجتمع التعليمي الذي تعمل فيه؟</p>
<p>11</p>	<p>It is likely that the academics joined the 'social network sites' or 'blended learning' workshops arrive with varying backgrounds and competencies in terms of digital literacies or digital learning technologies skills. Do you offer any differentiated support to compensate for this on the workshops?</p> <p>If yes, what?</p>		<p>من المتوقع, أن أعضاء هيئة التدريس المشاركين في دورات "مواقع الشبكات الاجتماعية" أو "التعليم المدمج" تختلف خلفياتهم وكفاءاتهم من حيث مهارة التعليم الرقمي أو التعامل مع تقنيات التعليم الرقمية.</p> <p>هل تقدم أي دعم إضافي لهم في هذا النوع من الدورات؟</p> <p>إذا كان الجواب نعم، ما نوع الدعم المقدم؟</p>

12	<p>Are participants in the workshops asked to consider how their own range of digital literacies or learning technologies can be applied to learning, teaching or research?</p> <p>If yes, give an example please?</p>		<p>هل يسأل المشاركون في هذه الدورات عن كيفية تطبيق مهاراتهم التقنية الرقمية أو تقنيات التعليم في التدريس والتعلم أو البحث؟ إذا كان الجواب نعم، الرجاء إعطاء مثال لذلك.</p>
13	<p>Are participants in the workshops asked how they develop digital literacies or learning technologies of their students?</p> <p>If yes, example please.</p>		<p>هل يسأل المشاركون في هذه الدورات عن كيفية تطوير المهارات التقنية الرقمية أو تقنيات التعليم لطلابهم؟ إذا كان الجواب نعم، الرجاء إعطاء مثال لذلك.</p>
14	<p>Are there other aspects of digital literacies or learning technologies that you would like to include if there was a time opportunity in the next workshops?</p> <p>If there are, what and when?</p>		<p>هل هناك جوانب أخرى من المهارات الرقمية أو تقنيات التعليم التي ترغب أن تدرجها إذا كان هناك وقت في الدورات القادمة؟ إذا كان هناك ماذا ومتى؟</p>

15	<p>Do you implement a method for measuring the effect of social network site workshops implementation? If yes, what were the results?</p>		<p>هل قمت بتضمين طريقة لقياس فعالية إقامة دورات "مواقع الشبكات الإجتماعية"؟ إذا كانت الإجابة نعم, فما هي نتائج فعالية هذه الدورات؟</p>
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16	<p>What strategies would you recommend for using social network sites or digital learning technologies to be scaled up in the education community?</p> <p>Please, provide a justification for your response.</p>		<p>ما الإستراتيجيات التي تقدمها كنصيحة لإستخدام شبكات المواقع الاجتماعية أو أدوات التقنية الرقمية في التعليم للإستمرار في الارتقاء بالمجتمع التعليمي؟ يرجى تقديم مبرر لإجابته.</p>
17	<p>What strategies or tools should be discontinued in these workshops?</p> <p>And why?</p>		<p>ما هي الاستراتيجيات أو الأدوات التي يجب إيقافها في هذه الدورات؟ ولماذا؟</p>
18	<p>What do you see as the barriers or difficulties to academic staff using digital learning technologies?</p>		<p>ما العوائق أو الصعوبات التي تحول دون أعضاء هيئة التدريس عن استخدام تقنيات التعليم الرقمية؟</p>

19	<p>What do you see as the main barriers which limit you/your team in supporting the development of 'digital learning technologies' or 'digital pedagogy'?</p> <p>e.g. Lack of key support, Lack of technical assistance or other.</p>		<p>ما الحواجز أو العوائق الرئيسية التي تحدك أو تحد فريق العمل في دعم وتطوير "تكنولوجيات التعليم الرقمية" أو "علم أصول التدريس الرقمي"؟</p> <p>مثل: عدم وجود الدعم الرئيسي أو الافتقار إلى المساعدة التقنية، أو غير ذلك.</p>
20	<p>How did you overcome the barriers, if any?</p>		<p>كيف تغلبت على هذه الصعوبات، إن وجدت؟</p>
21	<p>Are the academics prepared for implementing social network sites in education? Describe. Why, if not?</p>		<p>هل أعضاء هيئة التدريس مجهزين لتفعيل استخدام مواقع الشبكات الإجتماعية في التعليم؟ أوصف. إذا كانت الإجابة لا، لماذا؟</p>

22	<p>What other provisions or plans does the University make for the academics' development in blended learning?</p>		<p>ما وجهة نظر أو الخطط الأخرى للجامعة لتطوير أعضاء هيئة التدريس في التعليم المدمج؟</p>
23	<p>Are there any formal development requirements for the academics before they become involved into blended learning workshops or blended courses delivery in the University?</p> <p>If yes, could you describe any requirements?</p>		<p>هل هناك أي متطلبات إجبارية لعضو هيئة التدريس قبل المشاركة في دورات التعليم المدمج أو تطبيق مناهج التعليم المدمج في الجامعة؟ إذا كانت الإجابة نعم، هل يمكن وصف هذه المتطلبات؟</p>
24	<p>Is there anything more you would like to add?</p> <p>I will analyse your data and those of others and will be submitting a report in two or three months. I will be happy to send you a copy to review at that time if you are interested.</p> <p>Thank you for your time.</p>		<p>هل هناك أي إضافات ترغب في ذكرها.</p> <p>سوف أقوم بتحليل البيانات في غضون شهرين أو ثلاث و سأكون سعيدة إذا رغبتم بنسخة من ذلك.</p> <p>شكراً لوقتكم.</p>

Appendix D - Academics' Questionnaire - Second Pilot Study

Academics' Questions

No	Question	الإجابة	السؤال
1	<p>Please could you tell me about your educational culture and your usage of digital technology or social sites, if any, in your teaching system.</p> <p>If not use: why not use any digital or social site in your educational system?</p>		<p>هل يمكن وصف بيئة التدريس الخاصة بك و استخدامك لأدوات التقنية إن وُجد.</p> <p>إذا لم تكن تستخدم أي من الأدوات: فما السبب الذي يمنعك من ذلك؟</p>
2	<p>How do you rate your use of digital tools competency in your teaching system</p> <p><input type="checkbox"/> Poor <input type="checkbox"/> Fair</p> <p><input type="checkbox"/> Good <input type="checkbox"/> Very good</p> <p><input type="checkbox"/> Excellence</p>		<p>كيف تقييم مهاراتك التقنية في التدريس:</p> <p><input type="checkbox"/> ضعيف <input type="checkbox"/> معتدل</p> <p><input type="checkbox"/> جيد <input type="checkbox"/> جيد جداً</p> <p><input type="checkbox"/> ممتاز</p>
3	<p>In what ways have/do you develop your competencies in digital learning technologies or tools?</p>		<p>ماهي الطرق التي تعتمد عليها لتطوير مهاراتك التقنية؟</p>
4	<p>How have digital learning technologies changed in your teaching culture or your educational environment?</p>		<p>كيف غيرت تقنيات التعليم في بنية التدريس أو التعليم الخاصة بك؟</p>

5	Do you consider your use of digital learning tools in learning and teaching to be essential or supplementary methods?		هل تعتبر استخدامك لأدوات التقنية أساسياً أم جزء تكميلي؟
6	What is encouraging you to use any digital tool or social sites in your teaching system?		ما الحوافز التي تدفعك لتضمين أدوات التقنية أو مواقع التواصل الاجتماعي في التدريس؟
7	What were some of the barriers or difficulties in using digital learning tools or social sites, if any, that you encountered in your teaching system?		ما الصعوبات التي واجهتك أثناء استخدام أدوات التقنية أو التواصل الاجتماعي في عملية التدريس؟
8	<p>Is there anything more you would like to add?</p> <p>I will analyse your data and those of others and will be submitting a report in two or three months. I will be happy to send you a copy to review at that time if you are interested.</p> <p>Thank you for your time.</p>		<p>هل هناك أي إضافات ترغب في ذكرها؟</p> <p>سوف أقوم بتحليل البيانات في غضون شهرين أو ثلاث و سأكون سعيدة إذا رغبتكم بنسخة من ذلك.</p> <p>شكراً لوقتكم.</p>

Demographic Questions

	Part 2: Demographic Information	الجزء الثاني: المعلومات الشخصية
9	Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	الجنس: <input type="checkbox"/> ذكر <input type="checkbox"/> أنثى
10	Age: <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> 41-50 <input type="checkbox"/> 51-60 <input type="checkbox"/> ≥ 61	العمر: <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> 41-50 <input type="checkbox"/> 51-60 <input type="checkbox"/> ≥ 61
11	Position:	الوظيفة:
12	Field of specialization:	التخصص:
13	Teaching experience: ----- years	سنوات الخبرة: ----- سنة
14	Email (optional):	الايمل (إختياري):

Appendix E - Administrators' Questionnaire - Second Pilot Study

Administrators' Questions

No	Question	الاجابة Answer	السؤال
1	Please describe your role in developing or enhancing academics' digital literacy skills or using technology tools in their teaching system. Give an example of these tools		الرجاء ذكر دورك في عملية تطوير أو تحسين أعضاء هيئة التدريس تقنياً لإستخدام أدوات التقنية في التدريس. الرجاء ذكر مثال للأدوات المستخدمة
2	From your perspective, how has digital learning technology or social sites changed the educational culture or environment in the University?		من وجهة نظرك، كيف غيرت تقنيات التعليم و مواقع التواصل الإجتماعي من البيئة التعليمية في الجامعة؟
3	Do you consider using digital learning tools in teaching in the University to be essential or supplementary methods?		هل تعتبر استخدام أدوات تقنية التعليم في التدريس عملية تكميلية أم أساسية؟
4	What is the future vision or goal of your 'Deanship or centre' regarding using digital learning tools in teaching in the University?		ماهي رؤية العمادة أو المركز المستقبلية إتجاه تضمين أدوات تقنية التعليم في عملية التدريس في الجامعة؟

5	<p>From your perspective of view, what do you see as the barriers or difficulties which limit the use of digital learning tools or social sites in teaching?</p>		<p>من وجهة نظرك، ماهي العوائق أو الصعوبات التي تحد من استخدام أدوات التقنية في التدريس؟</p>
6	<p>Is there anything more you would like to add?</p> <p>I will analyse your data and those of others and with be submitting a report in two or three months. I will be happy to send you a copy to review at that time if you are interested.</p> <p>Thank you for your time.</p>		<p>هل هناك أي اضافات ترغب في ذكرها؟</p> <p>سوف أقوم بتحليل البيانات في غضون شهرين أو ثلاث و سأكون سعيدة إذا رغبتم بنسخة من ذلك.</p> <p>شكراً لوقتكم.</p>

Demographic Questions

	Part 2: Demographic Information	الجزء الثاني: المعلومات الشخصية
7	Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	الجنس: <input type="checkbox"/> ذكر <input type="checkbox"/> أنثى
8	Age: <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> 41-50 <input type="checkbox"/> 51-60 <input type="checkbox"/> ≥ 61	العمر: <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> 41-50 <input type="checkbox"/> 51-60 <input type="checkbox"/> ≥ 61
9	Position:	الوظيفة:
10	Field of specialization:	التخصص:
11	Work experience: ----- years	سنوات الخبرة: ----- سنة
12	Email (optional):	الايمل (إختياري):

Appendix F – Academics' Questionnaire – Actual Study (First Phase)

مهارات أعضاء هيئة التدريس في استخدام أدوات التقنية للتعليم المدمج في التعليم العالي في المملكة العربية السعودية

جامعة الملك عبد العزيز كنموذج دراسة

Academic Staff Digital Literacies for Blended Pedagogy in Higher Education in Saudi Arabia

King Abdulaziz University as a Case Study

أخي الفاضل/ أختي الفاضلة عضو هيئة التدريس حفظكم الله

السلام عليكم ورحمة الله وبركاته وبعد

تقوم الباحثة بدراسة عنوانها: " التحقيق في مهارات أعضاء هيئة التدريس في استخدام أدوات التقنية ومواقع التواصل الاجتماعي في المواد القائمة على التعليم المدمج في الجامعات السعودية " كمتطلب تكميلي لنيل درجة الدكتوراة من جامعة دي مونتفورت ببريطانيا

والباحثة إذ تشكر وتثمن لكم كريم فضلكم وقبولكم المشاركة في تعبئة هذه الاستبانة والتي قد تستغرق 10 دقائق للإجابة عليها، والتي لا تتطلب ذكر الاسم أو أي معلومات خاصة، وجميع البيانات المقدمة منكم ستبقى سرية وتستخدم فقط لأغراض البحث العلمي. تأمل الباحثة تعاونكم في جمع البيانات والمعلومات لإتمام هذه الدراسة، سائلين المولى أن يجعل مجهودكم في ميزان حسناتكم.

This questionnaire is conducted as part of a PhD research project. The purpose of this questionnaire is to investigate current academic staff digital literacy for blended learning in higher education in Saudi Arabia. It will take 10 minutes to fill out this questionnaire. There is no identifying information; the data will be kept confidentially.

Shireen Saifuddin

الباحثة / شرين سيف الدين

Media Technology department

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ملاحظة:

يقصد بمصطلح **أدوات التقنية**: أي برنامج أو أداة يهدف إلى مزيد من التواصل و التفاعل مع طلاب الانتظام أو للحصول على مصادر إضافية أو معلومات يتم إستخدامها كوسيلة إضافية خارج وقت المحاضرة (تفاعل إضافي) مثل : أنظمة إدارة التعليم (مارز, MyKAU) و التفاعل عبر البريد الإلكتروني (الإيميل), و تطبيقات الجوال مثل (الواتس اب).

مواقع التواصل الإجتماعي: مواقع التواصل على الإنترنت كالفيسبوك, المدونات, تويتر, والمستخدم لغرض التدريس و ليس استخدام شخصي

Digital technology tools: any program or tool used as additional educational tools (outside class time) to increase communication and activities with full-time students or to get different resources and more information. For example Learning management systems (LMSs) (Marz, MyKAU), the interaction via E-mail or phone applications (WhatsApp).

Social web sites: such as Facebook, blogs and Twitter used as educational tool not a personal usage.

No	Question	Answer الإجابة	السؤال
1	<p>Do you use any of digital tools or social web sites as an additional educational tool in your teaching system or to interact with your students?</p> <p>If your answer is 'No' go to the question number 8.</p>		<p>هل تستخدم أي من أدوات التقنية أو مواقع التواصل الإجتماعي كوسيلة إضافية في عملية التدريس والتفاعل مع الطلاب؟</p> <p>إذا كانت الإجابة "لا" انتقل إلى السؤال رقم ٨.</p>
2	<p>Please could you tell me about your educational culture and how your usage of digital technology tool or social sites, in your teaching system. Give an example of these tools please.</p>		<p>هل من الممكن التحدث عن كيفية أو طرق إستخدامك لوسائل التقنية المختلفة أو مواقع التواصل الإجتماعي في التدريس مع ذكر مثال للأدوات المستخدمة.</p>

3	How do you rate your using of digital tools or social sites competency in your teaching system (not personal use)	<input type="checkbox"/> Poor (ضعيف) <input type="checkbox"/> Fair (عادي) <input type="checkbox"/> Good (جيد) <input type="checkbox"/> Very good (جيد جداً) <input type="checkbox"/> Excellence (ممتاز)	كيف تقيم نفسك في استخدامك لوسائل التقنية أو مواقع التواصل الاجتماعي في عملية التدريس (ليس استخدام شخصي)
4	In what ways have you/do you develop your competencies in digital learning tools or social sites in your teaching system?		ما هي الطرق التي تستخدمها لتطوير كفاءتك التقنية في استخدام أدوات التقنية أو مواقع التواصل الاجتماعي في التدريس؟
5	How has your use of digital learning technology or social sites changed in your teaching system or your educational culture?		كيف غير استخدامك لوسائل التقنية أو مواقع التواصل الاجتماعي في نظام تدريسيك؟

6	Do you consider your use of digital learning tools or social sites in learning and teaching to be essential or supplementary method?		هل تعتبر إستخدامك لوسائل التقنية أو مواقع التواصل الإجتماعي في التدريس من الأساسيات أو المكملات؟
7	What is encouraging you to use any digital tool or social sites in your teaching system?		ما الدافع لك لإستخدام أي من أدوات التقنية أو مواقع التواصل الإجتماعي في نظام التدريس الخاص بك؟
8	What were some of the barriers or difficulties in using digital learning tools or social sites, if any, that you encountered in your teaching system?		ما الصعوبات أو العوائق التي تواجهك عند إستخدامك لأدوات التقنية أو التواصل الإجتماعي في عملية التدريس؟

Demographic Questions

9	Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	الجنس: <input type="checkbox"/> أنثى <input type="checkbox"/> ذكر
10	Age: <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> 41-50 <input type="checkbox"/> 51-60 <input type="checkbox"/> ≥ 61	العمر: <input type="checkbox"/> ٥٠-٤١ <input type="checkbox"/> ٤٠-٣١ <input type="checkbox"/> ٣٠-٢١ <input type="checkbox"/> ٦١ ≤ <input type="checkbox"/> ٦٠-٥١
11	Position:	الوظيفة:
12	College affiliates:	الكلية التابعة لها:
13	Field of specialization:	التخصص:
14	Teaching experience: ----- years	سنوات الخبرة: _____ سنة
15	Email (optional):	الإيميل (إختياري):
16	<p>Is there anything more you would like to add?</p> <p>I will analyse your data and others and submit a report in two or three months. I will be happy to send you a copy to review at that time if you are interested.</p> <p>Thank you for your time.</p>	<p>هل هناك أي إضافات تود إضافتها؟</p> <p>سأقوم بتحليل البيانات في خلال شهرين وسأرسل نسخة من التقرير لك إذا أحببت.</p> <p>شكراً لك.</p>

Appendix G – Administrators’ Questionnaire – Actual Study (First Phase)

مهارات أعضاء هيئة التدريس في استخدام أدوات التقنية للتعليم المدمج في التعليم العالي في المملكة العربية
السعودية

جامعة الملك عبد العزيز كنموذج دراسة

Academic Staff Digital Literacies for Blended Pedagogy in Higher Education in Saudi
Arabia

King Abdulaziz University as a Case Study

أخي الفاضل/ أختي الفاضلة حفظكم الله

السلام عليكم ورحمة الله وبركاته وبعد

تقوم الباحثة بدراسة عنوانها: "التحقيق في مهارات أعضاء هيئة التدريس في استخدام أدوات التقنية ومواقع
التواصل الاجتماعي في المواد القائمة على التعليم المدمج في الجامعات السعودية " من وجهة نظر القائمين على
تطوير عضو هيئة التدريس تقنياً كمتطلب تكميلي لنيل درجة الدكتوراة من جامعة دي مونتفورت ببريطانيا

والباحثة إذ تشكر وتثمن لكم كريم فضلكم وقبولكم المشاركة في تعبئة هذه الاستبانة والتي قد تستغرق 10 دقائق
للإجابة عليها، والتي لا تتطلب ذكر الاسم أو أي معلومات خاصة، وجميع البيانات المقدمة منكم ستبقى سرية
وتستخدم فقط لأغراض البحث العلمي. تأمل الباحثة تعاونكم في جمع البيانات والمعلومات لإتمام هذه الدراسة،
سائلين المولى أن يجعل مجهودكم في ميزان حسناتكم.

This questionnaire is conducted as part of a PhD research project. The purpose of this
questionnaire is to investigate current academic staff digital literacy for blended
learning in King Abdulaziz University from administrators’ point of view. It will take
10 minutes to fill out this questionnaire. There is no identifying information; the data
will be kept confidentially.

Shireen Saifuddin

Media Technology department

De Montfort University

الباحثة / شرين سيف الدين

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ملاحظة:

يقصد بمصطلح أدوات التقنية: أي برنامج أو أداة يهدف إلى مزيد من التواصل و التفاعل مع طلاب الإنتظام أو للحصول على مصادر إضافية أو معلومات يتم إستخدامها كوسيلة إضافية خارج وقت المحاضرة (تفاعل إضافي) مثل : أنظمة إدارة التعليم (بلاك بورد, مارز, MyKAU) و التفاعل عبر البريد الإلكتروني (الإيميل) و تطبيقات الجوال مثل (الواتس اب).

مواقع التواصل الإجتماعي: صفحات التواصل على الإنترنت ومن أمثلتها الفيسبوك, المدونات, تويتر والمستخدم لغرض التدريس وليس استخدام شخصي.

Digital technology tools: any program or tool used as an additional educational tool (outside class time) to increase communication and activities with full-time students or to get different resources and more information. For example Learning management systems (LMSs) (Blackboard, Marz, MyKAU), interaction via email or phone applications (WhatsApp).

Social web sites: such as Facebook, blogs and Twitter used as educational tool not personal usage.

No	Question	Answer الإجابة	السؤال
1	<p>Please describe your role in developing or enhancing the academics' digital literacy skills or using technology tools and social sites in their teaching system.</p> <p>Give an example of these tools.</p>		<p>الرجاء ذكر دورك في عملية تطوير أو تعزيز مهارات أعضاء هيئة التدريس لإستخدام أدوات التقنية المختلفة أو مواقع التواصل الإجتماعي في عملية التدريس.</p> <p>مع ذكر مثال لهذه الأدوات.</p>
2	<p>From your perspective, how do digital learning technology tools or social sites change the educational culture or environment in the University?</p>		<p>من وجهة نظرك، كيف تُغير أدوات التقنية أو مواقع التواصل الإجتماعي في العملية التعليمية أو البيئة الجامعية؟</p>

3	<p>Do you consider using digital learning tools in teaching in the University to be essential or supplementary methods?</p> <p>And why?</p>		<p>هل تعتبر استخدام وسائل التقنية أو مواقع التواصل الإجتماعي من الأساسيات أو الكماليات في عملية التدريس؟</p> <p>ولماذا؟</p>
4	<p>What is the future vision or goal of your 'Deanship or centre' regarding using digital learning tools or social sites in teaching in the University?</p>		<p>ما هي الرؤية المستقبلية أو الهدف الخاص ب (العمادة أو المركز) فيما يتعلق باستخدام أدوات التقنية أو مواقع التواصل الإجتماعي في عملية التدريس بالجامعة؟</p>
5	<p>From your perspective, what do you see as the barriers or difficulties which limit from developing using digital learning tools or social sites with the academics' members?</p>		<p>من وجهة نظرك, ما الصعوبات أو العوائق التي تواجهك في تطوير استخدام وسائل التقنية أو مواقع التواصل الإجتماعي لأعضاء هيئة التدريس؟</p>

Demographic Questions

6	Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female	الجنس: <input type="checkbox"/> ذكر <input type="checkbox"/> أنثى
7	Age: <input type="checkbox"/> 21-30 <input type="checkbox"/> 31-40 <input type="checkbox"/> 41-50 <input type="checkbox"/> 51-60 <input type="checkbox"/> ≥ 61	العمر: <input type="checkbox"/> ٢١-٣٠ <input type="checkbox"/> ٣١-٤٠ <input type="checkbox"/> ٤١-٥٠ <input type="checkbox"/> ٥١-٦٠ <input type="checkbox"/> ≤ ٦١
8	Position:	الوظيفة:
9	Field of specialization:	التخصص:
10	Deanship or college affiliates:	العمادة أو الإدارة التابعة لها:
11	Work experience: ----- years	سنوات الخبرة: _____ سنة
12	Email (optional):	الإيميل (إختياري):
13	<p>Is there anything more you would like to add?</p> <p>I will analyse your data and others and submit a report in two or three months. I will be happy to send you a copy to review at that time if you are interested.</p> <p>Thank you for your time.</p>	<p>هل هناك أي إضافات تود ذكرها؟</p> <p>سأقوم بتحليل البيانات خلال شهرين و سأرسل نسخة من التقرير لك إن أحببت.</p> <p>شكراً لوقتك.</p>

Appendix H – Academics' Online Interview Questions (Pilot Study)

No	Question	الأسئلة
1	Does the University or your faculty have a clear and articulated mission or policy plan for its blended learning approach?	هل الجامعة أو الكلية التابعة لك لديها خطة واضحة لسياسة التعليم المدمج؟
2	How do administrators/University/faculty support a blended learning approach?	كيف تدعم الجامعة، الكلية أو القسم التعليم المدمج؟
3	How do you assist with the quality of the course?	كيف تقييم جودة مادتك؟
4	How you describe training courses provided by the University?	كيف تصف الدورات التدريبية المقدمة من الجامعة؟
5	What is the University policy regarding using technology tools in your teaching approach?	ماهي خطة الجامعة لتضمين وسائل التقنية في التدريس؟

6	<p>Have you attended any training or workshops about using technology tools or social sites in teaching?</p> <p>If yes: how many? How useful was it?</p>	<p>هل قمت بحضور اي من الدورات التدريبية المقدمة من الجامعة عن تضمين أدوات التقنية أو مواقع التواصل الإجتماعي في التدريس؟</p> <p>إذا كانت إجابتك نعم: كم عدد الدورات التي حضرتها؟ و كيف تم الإستفادة منها؟</p>
7	<p>If you use any technology tools in your teaching, please describe how you use this tool.</p>	<p>إذا كنت تستخدم أي من وسائل التقنية في تدريسك، هل يمكن وصف طريقة إستخدامك لها</p>
8	<p>As an academic staff, is there a process to make comments regarding these tools to the administrators or the University?</p>	<p>كعضو هيئة تدريس، هل هناك أي عوائق لإستخدامك للتقنية يمكن توجيها للإداريين أو الجامعة؟</p>
9	<p>How do you describe blended learning compared to a completely face-to-face approach?</p>	<p>كيف يمكن أن تصف التعليم المدمج مقارنة بالتعليم التقليدي؟</p>
10	<p>What motivates you to use these tools?</p> <p>Does your faculty/University encourage or force you to use technology tools?</p>	<p>ماالمحفزات التي تدفعك لإستخدام التقنية في التدريس؟</p> <p>هل الكلية أو الجامعة تدعمك في ذلك؟</p>
11	<p>What do you think the future will be regarding technology tools in education?</p>	<p>ما توقعاتك لمستقبل التقنية في التعليم؟</p>
12	<p>Do you have any opinion about whether blended learning would be good for education?</p>	<p>هل لديك أي اقتراحات لتحسين التعليم المدمج؟</p>

13	What are the positive/negative things you have personally witnessed regarding blended learning?	ما الصعوبات / الإيجابيات التي واجهتها شخصياً إتجاه ممارسة التعليم المدمج؟
14	Would you like to add anything else related to the subject discussed that has not been mentioned?	هل ترغب بإضافة اي معلومات عن هذا الموضوع لم تُناقش خلال هذا الحوار؟

Demographical Questions

NO	Demographic Information	المعلومات الشخصية
15	Gender	الجنس
16	Position	المسمى الوظيفي
17	Age Group	المرحلة العمرية
18	Faculty	الكلية
19	Discipline	التخصص
20	Number of years of experience	سنوات الخبرة

Appendix I– Administrators’ Online Interview Questions (Pilot Study)

No	Question	الاسئلة
1	Does the University have a clear and articulated mission or policy plan for its blended learning approach?	هل الجامعة لديها خطة واضحة لسياسة التعليم المدمج؟
2	How do administrators/University/faculty support a blended learning approach?	كيف يتم دعم التعليم المدمج من خلال الاداريين، الجامعة أو الكلية؟
3	What is your role in your Deanship/centre?	ما هو دورك في العمادة / المركز؟
4	What is the policy of providing training workshops for the academics? How are the topics or tools selected?	ما هي سياسة تقديم الدورات التدريبية لأعضاء هيئة التدريس؟ كيف يتم اختيار المواضيع لهذه الدورات؟
5	How would you describe the academics’ use of technology in their teaching approach? Do you encourage or force them to use it?	كيف يمكنك وصف استخدام أعضاء هيئة التدريس للتقنية خلال تدريسهم؟ هل تقدم دعم لهم لأستخدام هذه الادوات في التدريس؟

6	What are the main issues you face regarding the academics' use of technology tools?	ما أهم العوائق التي تواجهك خلال دعم أعضاء هيئة التدريس لإستخدام أدوات التقنية؟
7	In regard to blended learning, what do you think the future will be?	بالنسبة للتعليم المدمج، ما توقعاتك للمستقبل في هذا المجال؟
8	What is the process when an academic faces a technical issue while using technology tools?	ما الخطوات المعمولة عندما يواجه الاكاديمي اي مشكلة أثناء استخدامه لأدوات التقنية؟
9	What is the role of the Ministry of Education in the University's decision to adopt blended learning? Or was the decision purely a University decision?	ما هو دور وزارة التعليم لدعم سياسة الجامعة للتعليم المدمج؟ أو هل قرار التعليم المدمج كان من الجامعة فقط؟
10	How are the trainers chosen for the training workshops?	كيف يتم إختيار المدربين للدورات التدريبية؟
11	Do you have any opinion about whether blended learning is good for education?	هل لديك اي تصورات للتحسين من وضع التعليم المدمج؟
12	What are the positive/negative things you have personally witnessed regarding blended learning?	ما الصعوبات / الإيجابيات التي واجهتها شخصياً إتجاه دعم التعليم المدمج؟
13	Would you like to add anything else related to the subject discussed that has not been mentioned?	هل ترغب بإضافة اي معلومات عن هذا الموضوع لم تُناقش خلال هذا الحوار؟

Demographical Questions

No	Demographic Information	المعلومات الشخصية
1	Gender	الجنس
2	Position	المسمى الوظيفي
3	Age Group	المرحلة العمرية
4	Deanship/Centre	العمادة / المركز
5	Discipline	التخصص
6	Number of years of experience	سنوات الخبرة

Appendix J – Online Interview Consent Form

Dear academic staff / administrator

Thank you for agreeing to be interviewed as part of this study. The online interview is a part of my PhD study requirements at De Montfort University, UK. Any observation or information obtained through this interview will only be used for the purpose of this study with your permission by agreeing to that and will be stored securely.

The research is titled ‘Investigating of Academic Staff and Administrators’ Perceptions of Blended Pedagogies at Saudi Universities; King Abdulaziz University as a Case Study’, and it mainly aims to investigate perceptions of academic staff and administrators regarding a blended learning approach at KAU.

In this study, a blended learning approach is defined as a learning approach that combines face-to-face learning (students must physically attend the class at a specific time) and online learning. In the online approach, the academic staff can contact and interact with their students via one or more tools such as LMSs (Blackboard), social web sites (Facebook, Twitter, YouTube), KAU forums, academic personal website, Skype, mobile applications (WhatsApp) or any other web 2.0 tools that provide synchronous or asynchronous interaction with students to support the traditional learning approach.

The online interview will take approximately 30-40 minutes. The researcher will ask you questions related to the topic of the study and wait for your response to each question. The interview includes two sections. The first section is open-ended questions related to blended learning aspects at the University. The second section is demographic questions.

Your participation is voluntary and you are free to withdraw from the interview at any time. You have the right to refuse to answer any question. If you notify me of your withdrawal, all identifiable data will be destroyed.

The interview will be recorded automatically by an online platform used to conduct this interview (WhatsApp or Skype) by its terms and conditions. Only the researcher has access to the data provided in the interview. Any summary of the interview’s content or

direct quotations from your responses that will be available in this study will be anonymized, and information in the interview that could identify you is not revealed. In addition, all the interview content will be destroyed after the study is finished except what can be saved in the online software according to its terms and conditions. The information gained from this interview will only be used for the purpose of this study; it will not be used for any other purpose and will not be recorded in excess of what is required for the research. However, the researcher assures you that no identifiable personal information will be revealed in any publication of the results of this study unless authorized by you.

The interview will be transcribed and translated into English by the researcher. The researcher will ensure the translation of the interview with independent translators without giving them any personal information. There will not be any identifying names or personal information on the interview transcripts. The data will then be coded and the key to the code will be locked.

You are welcome to ask the researcher any questions that occur to you before, during or after the interview. If you have further questions once the interview is completed, you are encouraged to contact the researcher. If any of this is not clear or further information is required, please ask at any time.

Researcher

Shireen Saifuddin (PhD candidate)

De Montfort University, UK

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Appendix K – Online Interview Consent Form (Arabic)

عزيزي عضو هيئة التدريس / الإداري

اشكر لك قبولك لإجراء هذه المقابلة والتي هي من متطلبات إكمالي لبحث الدكتوراة بجامعة دي موننفورت – بريطانيا. أود أن الفت إنتباهك أن أي ملاحظة أو معلومات سأحصل عليها خلال هذه المقابلة لن تُستخدم إلا بموافقة منك و ستُستخدم فقط لغرض البحث العلمي و ستحفظ بأمان.

هذا البحث بعنوان "التحقق من تصورات أعضاء هيئة التدريس و الإداريين حول أدوات التعلم المدمج في الجامعات السعودية؛ جامعة الملك عبد العزيز كحالة دراسية". البحث يهدف إلى إستقصاء تصورات أعضاء هيئة التدريس و الإداريين بجامعة الملك عبد العزيز حول التعليم المدمج.

في هذه الدراسة يقصد بالتعليم المدمج بأنه التعليم الذي يدمج التعليم التقليدي (حضور إلزامي للطلاب في الجامعة في وقت معين) مع التعليم الإلكتروني. حيث في التعليم الإلكتروني يتواصل و يتفاعل عضو هيئة التدريس مع الطلاب من خلال أداة أو أكثر مثل: برامج الإدارة التعليمية (بلاك بورد), مواقع التواصل الاجتماعي (الفيسبوك, تويتر, يوتيوب), منتديات الجامعة, الموقع الأكاديمي لعضو هيئة التدريس, سكايب, تطبيقات الجوال (الواتساب) أو أي أداة أخرى من أدوات الويب 2.0 والتي تقدم التفاعل المتزامن أو الغير متزامن مع الطلاب لدعم عملية التعليم التقليدي.

هذه المقابلة قد تستغرق من 30-40 دقيقة. ستقوم الباحثة بطرح اسئلة متعلقة بموضوع البحث و تنتظر إجابتك على كل سؤال. المقابلة تتكون من جزئين. الجزء الأول عبارة عن أسئلة مفتوحة متعلقة بالتعليم المدمج في الجامعة. الجزء الثاني عبارة عن اسئلة شخصية.

مشاركتك في هذا البحث هي تطوعية و لك حرية الإنسحاب من المقابلة في أي وقت. ولك أيضاً الحق في رفض الإجابة عن أي سؤال. إذا رغبت بالإنسحاب من المقابلة فإن جميع المعلومات التعريفية الخاصة بك ستحذف.

هذه المقابلة ستسجل تلقائياً من قبل البرنامج المستخدم للمقابلة (سكايب أو واتساب) حسب شروط و ضوابط البرنامج. لا يحق لأي شخص فيما عدا الباحثة الإطلاع على بيانات هذه المقابلة أو الوصول إليها. أي ملخص من هذه المقابلة أو إقتباس مباشر منها موجود في البحث سيكون مجهول الهوية و لن يحتوي على أي بيانات شخصية تكشف عن هويتك. جميع محتوى هذه المقابلة سيتم حذفه نهائياً بعد الإنتهاء من هذه الدراسة ماعدا البيانات التي ستحفظ عند شركة البرنامج المستخدم للمقابلة (سكايب أو واتساب) حسب شروط و ضوابط البرنامج. جميع البيانات في هذه المقابلة ستستخدم لغرض هذه الدراسة ولن تُستخدم لأي غرض آخر ولن يتم تسجيل أي بيانات خارجة عن موضوع البحث. لذلك تؤكد لك الباحثة سرية معلوماتك الشخصية و أي نشر لهذا البحث لن يحتوي على أي معلومات تكشف هويتك إلا بإذن منك.

سوف يتم تدوين هذه المقابلة و ترجمتها إلى اللغة الإنجليزية من قبل الباحثة. و للتأكد من جودة الترجمة, فإن الباحثة ستشارك البيانات مع مترجمين مختصين من غير ظهور أي معلومات شخصية لك. و هذا يضمن عدم معرفة المترجمين لأسمك أو هويتك من خلال قراءة بيانات المقابلة المدونة. بعد ذلك سيتم ترميز البيانات و ستُحفظ بأمان. بإمكانك طرح أي سؤال للباحثة قبل, أثناء أو بعد المقابلة. إذا لديك أي اسئلة إضافية بعد الإنتهاء من المقابلة يمكنك التواصل مع الباحثة من خلال وسائل التواصل المعطاة لك. يمكنك الإستفسار عن أي أمر غير واضح بالنسبة لك أو طلب معرفة أي معلومات إضافية في أي وقت.

الباحثة

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Appendix L – Online Interview Notes

ID: ----

Date: ----

Start Time: ----

End Time: ----

Online interview tool: -----

Notes:

Appendix M – Academics’ Online interview Questions – Actual Study

Academics’ Interview Questions

No	Questions	الأسئلة
1	<p>Does your faculty have a clear and articulated mission or policy plan for implementing a blended learning approach?</p> <p><i>The researcher defines the meaning of blended learning</i></p> <p>Could you explain that in more detail please?</p>	<p>هل لدى قسمك أو كليتك خطة أو رؤية واضحة لدعم التعليم المدمج؟</p> <p>هل يمكن توضيح ذلك بتفاصيل أكثر؟</p> <p>التعليم المدمج: دمج التعليم التقليدي (نظام الإلتزام و الحضور) بالتقنية التفاعلية بين الطالب و الأستاذ خارج أوقات المحاضرة عبر مواقع التواصل الإجتماعي أو عبر برامج إدارة التعليم مثل بلاكبود</p>
2	<p>How do you integrate technology into the curriculum you teach?</p> <p>Could you describe with an example please?</p>	<p>كيف تقوم بدمج التقنية في المادة التي تقوم بتدريسها؟</p> <p>هل يمكن التفصيل بمثال؟</p>
3	<p>What is the impact of the University or faculty academic staff development strategy on your teaching practice or culture?</p> <p>Could you explain this in more detail?</p>	<p>ماهو تأثير دعم القسم أو الجامعة على تدريسك؟</p> <p>هل يمكن التوضيح أكثر؟</p>
4	<p>What motivates you to use these tools in your teaching practice?</p>	<p>ما الحافز لك لإستخدام التقنية في التدريس؟</p>
5	<p>How do you continuously improve your blended learning course?</p>	<p>كيف تقوم بالتطوير أو التحسين المستمر للمنهج المدمج لمادتك؟</p>

6	<p>What are the main issues or barriers you face regarding implementing blended learning in your courses?</p> <p>What do you do to overcome these barriers?</p>	<p>ماهي أهم المشاكل و المعوقات التي تواجهك لإستخدام التقنية (التعليم المدمج) في مادتك؟</p>
7	<p>Would you like to add anything else related to the subject discussed that has not been mentioned?</p> <p>Thanks for your cooperation and your time.</p>	<p>هل هناك أي إضافة تود إضافتها لإثراء النقاش في التعليم الدمج؟</p> <p>شكراً لتعاونك و وقتكم</p>

Demographic Questions

No	Demographic Questions	معلومات شخصية
1	Gender	الجنس
2	Position	الدرجة الوظيفية
3	Age Group	الفئة العمرية
4	Faculty	الكلية
5	Discipline	التخصص
6	Number of years of experience	سنوات الخبرة

Appendix N – Administrators’ Online interview Questions – Actual Study

Administrators’ Interview Questions

No	Questions	الأسئلة
1	<p>Does the DEDE, DIT or CTLD have a clear and articulated mission or policy plan to implement a blended learning approach?</p> <p><i>The researcher explains the meaning of blended learning.</i></p> <p>Please describe in more detail.</p>	<p>هل لدى العمادة / المركز خطة أو رؤية لإدراج التعليم المدمج في الجامعة؟</p> <p>هل يمكن التوضيح أكثر؟</p> <p>التعليم المدمج: دمج التعليم التقليدي (نظام الإنتظام و الحضور) بالتقنية التفاعلية بين الطالب و الأستاذ خارج أوقات المحاضرة عبر مواقع التواصل الإجتماعي أو عبر برامج إدارة التعليم مثل بلاكبورد.</p>
2	<p>What is your role in supporting a blended learning approach?</p> <p>OR</p> <p>What is your role in supporting the academics’ digitally?</p>	<p>ما هو دورك في العمادة / المركز لدعم التعليم المدمج في الجامعة؟</p> <p>أو</p> <p>ما هو دورك في العمادة/ المركز لدعم عضو هيئة التدريس تقنياً؟</p>
3	<p>How do you assess the academics’ teaching practice of a blended learning approach?</p>	<p>كيف تُقيم أداء عضو هيئة التدريس في التدريس عبر نظام التعليم المدمج؟</p>
4	<p>What are the main advantages you face in regards to the academics’ use of technology tools in their teaching?</p>	<p>ما أهم الإيجابيات التي تراها من خلال إستخدام عضو هيئة التدريس للتقنية في التدريس؟</p>

5	<p>What are the main issues or barriers you face in implementing a blended learning approach or supporting technology use in education?</p> <p>What do you do to overcome these barriers?</p>	<p>ما أهم المعوقات/ الصعوبات التي تواجهك لتطبيق التعليم المدمج أو تعزيز استخدام التقنية في التعليم؟</p> <p>كيف تعمل لتواجه هذه الصعوبات؟</p>
6	<p>Would you like to add anything else related to the subject discussed that has not been mentioned?</p> <p>Thank you for your time and cooperation.</p>	<p>هل هناك أي إضافات تود إضافتها لموضوع التعليم المدمج لم نتطرق لها؟</p> <p>شكراً لوقتكم و مشاركتكم</p>

Demographic Questions

No	Demographic Questions	المعلومات الشخصية
1	Gender	الجنس
2	Position	الدرجة الوظيفية
3	Age Group	الفئة العمرية
4	Deanship/Centre	العمادة/المركز
5	Discipline	التخصص
6	Number of years of experience	سنوات الخبرة

Appendix O – Example of Administrator Online Interview

ID: AA5

Date: 2 January 2017

Start Time: 7:00 p.m **End Time:** 8:21 p.m (1 hour and 21 minutes)

Online interview tool: WhatsApp (Text and Audio)

Shireen: Hi, thanks for taking part in my research, I will send you the consent form and wait for your response.

AA5: Yes, I agree.

Shireen: Firstly, I would like to know if you are academic staff at the University or an administrator?

AA5: I am assistant professor in the European languages department at the faculty of art and the head of development and quality unit at the DEDE.

Shireen: Does your role at the DEDE as administrator involve work in developing academic staff digitally?

AA5: Yes, this is the basis of my role at the DEDE. I do training on blended learning and learning technologies. I am a certified trainer from the Blackboard Company. I do training as a basic thing for my job in the CTLD and other units in the University and outside the University.

Shireen: Great. I noticed from interviews with academic staff at the University that most of them thought that training workshops provide by the DEDE are specialised for academics who teach distance learning students or external students. So, as an administrator at the DEDE, does the DEDE have a plan for academics who teach full-time students to develop them digitally?

AA5: Since 2014, the DEDE has adopted a project strategy aimed to convert all curricula for full-time programmes to E-curricula through the Blackboard system. That same year, we started plans for training and five campaigns for faculty and we have trained more than 700 academics in the same year from the male and female sections. Every year we repeat this process and we do special programmes for scientific faculties and for theoretical faculties, aiming to define blended learning for full-time programmes.

Also, we do organised training and campaigns for students and academics. You can find that on the DEDE website. Also, we cooperate with the CTLD to offer several programmes for all members at the University.

Shireen: Okay, how does the DEDE choose programmes or the technology tools provided in the training workshops? What is the process for this planning?

AA5: We have done several training workshops called ‘blending technology in learning’ since 2014 for academics who teach full-time students. Before that, we distributed ‘TNA’ questionnaire to look for academics’ needs regarding E-learning or applications that could be used for blended learning, for example, Blackboard, virtual classes, etc.

Shireen: Okay, I noticed from the interviews with academics that some of them attended Blackboard training workshops and they use it only for external or distance learning students, not for full-time students. How can academics know that this programme or tool can be used for full-time students, especially academics from the art faculty who teach all types of programmes provided by the University?

AA5: Every training workshop is customised for a specific sample of academics. And when we advertise any training, we list who can attend this workshop and the registration form shows that. Academics who register for our training workshop from the art faculty are very few in number and most of them do not attend after registration. Also, few of them activate the Blackboard system. Academics from computer, medical and science faculties are who mostly attend it and are active in the Blackboard system.

Shireen: Does the DEDE have statistical reports for those who use the Blackboard system and which faculties activate it?

AA5: Yes, we have an analytical tool to provide periodic reports for every faculty, and we send these reports to all faculties to encourage them to use the system and to find out if they need more training or not. Before the analytical tool, we printed the log files from the system and did the analysis manually.

Shireen: Okay, from these analytical reports, how do you evaluate academic staff's digital skills?

AA5: As I mentioned before, we are not aiming to evaluate academics' digital skills. Computer, medical and science faculties started encouraging their academic members to implement technology and E-learning in their full-time programmes. For example, the computing faculty does its exams through the E-exam system and all activity and course syllabi are uploaded on the Blackboard system to make it easier for the fresher students. Other faculties ask us now about systems to help them in their field. Actually, some faculties put the content of courses on the system with no interaction while other faculties do the opposite. And some faculties get benefits from the virtual class through the Blackboard system in synchronous interaction form. So, every faculty focuses on what its needed from the system depending on their educational ideas.

Sometimes we do focus groups with analysis to ask about academics' needs in addition to asking them during the training workshops.

Shireen: Does the DEDE aim to make blended learning compulsory in the future or just encourage academics to use technology in their teaching?

AA5: We generalised using the Blackboard system to all faculties at the University in 2014, and it is not compulsory to use. It is not even compulsory in the international universities that we work with. If you mean is there a plan for blended learning in the future at the University, yes, we plan for that, but academics who will teach in a blended way must know exactly what process they will use and what application they will use for blending.

Shireen: Really, I am confusing the terms E-learning and blended learning at the University. Sometimes you mean by E-learning a fully online approach and sometimes you mean blended learning. So, it takes me time to know exactly what you mean by that.

AA5: Yes, we have this problem in using the term. But even at the level of the Ministry of Education there have been no blended learning programmes authorised until now. It is difficult for any Ministry, university or educational institution to advertise blended learning programmes on their websites, so there is none and that is what we avoid doing. It is true what you said about using the term E-learning but we try to differentiate between the terms E-learning and blended learning by putting icons beside each training workshop to indicate if this training workshop is for E-learning programmes or for external students or full-time students. Additionally, when we do faculty campaigns, we customise each training workshop to indicate the target group that will benefit from this training.

Shireen: I noticed recently the E-learning unit at the faculty of home economics. It is named E-learning but they mean blended learning and I am confused between the role at this unit and your role at the DEDE. So, what is the difference, for example, between the Blackboard system workshop provided by the DEDE, CTLD and the E-learning unit at the faculty of home economics?

AA5: Valid point really. At the beginning of the adoption of blended learning, let's say in 2014 through the Blackboard system, we asked each faculty to employ an ambassador for E-learning to make contact with the DEDE. Then we did special courses for all E-learning ambassadors from all faculties through Blackboard to discuss the system, updates and plans for the future. So, for any update in anything regarding the system, we could contact them through Blackboard and also through the WhatsApp group to be available for them. So, every faculty started to change their organisational structure to add E-learning activities. However, it is an administrative hierarchy, so some faculties published a new unit supervised by the ambassador. But until now there are still differences between faculties.

Regarding the faculty of home economics, I am a member of the advisory committee there. So, every faculty is independent and has its administrative hierarchy. But as I said before, some faculties published a new unit to activate E-learning.

Shireen: Okay, are there other E-learning units in other faculties? Because I did not notice any of them on the University's website.

AA5: As I mentioned to you before, some faculties published an E-learning unit and inserted it under the development unit or inserted it under the vice dean of the faculty. It is not a requirement of the DEDE to publish an E-learning unit, we just ask for an ambassador for each faculty that we can contact about any issue, for example, training information, customised training packages or any updates.

I have looked at your research topic and I think you focus on four points:

1. How do we support E-learning or blended learning through the Blackboard system?
2. How do we support blended learning through other applications available, what based application or whatever?
3. How do we support E-learning through, for example, social media?
4. How do we support E-learning institution adoption? Like to say to faculties that this is a new project you have to adopt and these are the steps to do that.

Regarding the Blackboard system, we do training packages and we look for that at the end of semester or year by doing analysis. We do not aim from this analysis to evaluate each faculty, but we aim to see if they are using the system in an effective way or not. Regarding social media, it is still not used by faculties.

Regarding supporting blended learning through other applications, we generate a series of training workshops named 'blended technology with learning'. It is like distributive technologies or distributive applications and E-learning. We do these training workshops during the year. So, we repeat the training packages during the semester and at the end of each year we distribute it to TNA to look at academics' needs and edit the training packages. Or sometimes we add some faculties' needs because some faculties ask for a specific application, so we try to do training in what they ask for. This is all according to my knowledge since 2014 and after when I joined the Deanship.

Since 2014, we have activated the Blackboard system and virtual classes. We have started a campaign for training workshops on web applications and collaboration with the CTLD during the year (twice a semester), as faculties need.

Finally, regarding how we support E-learning institution adoption or blended learning adoption, in 2014 and once every year after that we visit faculties and meet with

leadership (faculty vice dean, faculty development vice, ambassador of E-learning) and some of the academics who use the system and some who have resistance to using it. We create focus groups from these members to discuss the institutional adoption of the system and advantages for good education outcomes. We show them how using technology gives them documented evidence, and really they will not find such documented evidence in any other way.

We have other systems such as the E-exam, and at the end of each E-exam we do analysis and send the statistical report results to the faculty with information that clarifies where there were mistakes and good things in the exam. For example, some errors happen due to mistakes in some questions.

So, in general, we apply blended learning on different levels, for example, E-learning management systems level, examinations and testing level. We have QuestionMark software, which is a different independent platform that supports this area.

Shireen: What different training workshops other than Blackboard does the DEDE offer for academic staff to develop their digital skills?

AA5: As I mentioned before, we offer a series of training workshops about implementing technology in teaching software and tools. You can find a section for all information about these workshops on the DEDE website. On the website you will find training package contents and goals for every training course we present in an engaging style and good manner. For example, we offer augmented reality applications, which help academics teach their students how they could use technologies to present their work in posters, for example, which is a good way to have more engagement for students. Also, we offer training workshops for designing interactive videos because these types of videos are a trend now in the E-learning approach. Recently, we offered open educational resources because there is interest in these resources at the national level.

So, we did not offer just applications, but it's like a mixture of philosophy and applications because otherwise there is no success in this area. So, we have open education resources, we have augmented reality, we have packages about using the virtual world like Second Life and the Kernel-based virtual machine. We did

customised packages for specific programmes as requested from faculties. It is difficult to mention all programmes here but you can find all these applications on the online website in PowerPoint format. We have packages that are accessible to beginner users and those who are advanced users. For example, we did training workshops on how to capture the screen and record, and applications on how to use augmented reality applications in education, for example.

Shireen: Okay, as an administrator at the DEDE, what advantages do you feel personally when you train academic staff to help them use technologies in their teaching approach?

AA5: Okay, to be honest, you have like three types of educators who attend the training workshops. There is the educator who attends the training because it is open training and I can come and I can go with the certificate, for example. This is unfortunately a very recognisable number. Also, other types of educators come to workshops to learn and by the end of each semester, when we do the analytic work, we found that this type of educator will give us suggestions and most of them are from faculties I mentioned before. There is rising interest from some faculties like the home economics faculty and faculty of economics and administration and some departments in the arts and humanities faculty for specific purposes for them.

Educators who come to learn and show interest in this area always ask for more information. For example, some ask how to use equations in specific systems or ask about systems other than Blackboard or how they can apply cooperative learning through Blackboard or other systems. Finally, for the third group of educators who attend the workshops, it's like they are coming just to tell you that they are not going to do it and they are going to tell you this is not successful and the students are lazy and and and. So, you find those people and you find triple issues in controlling because they are not there for student success, they are just pressing for change that cannot be. I'm trying to be to the point and honest in recording these three kinds of reflections about training.

But actually, what I care about is those people who come to learn; however small of a group they are. They come to learn and give us their suggestions and opinions. Some of them start to implement mobile applications in their teaching process. In the faculty of

medicine, academics use the Blackboard system through their mobiles. So, they are doing things that make us happy and are promising for students. If some academics do not believe that students are at the centre of the learning process, then okay they are not coming here for training, they are just coming for plying on.

Shireen: Okay, personally as an administrator at the DEDE, what barriers face you when you try to implement technologies in the education process?

AA5: I do not think there are barriers. It is right I have opinions on the types of educators but this does not cause a problem for us. If I say at the system level, the system is active for all faculties with no problems. I notice that faculties are now active and publish E-learning units to encourage their academics to use the system and ask us for training workshops. There is some resistance from some educators, but actually there is a change. We started with some academics who resisted change and now they are trying to change and asking us for the next training workshops.

Appendix P – Example of Administrator Online Interview (Arabic)

ID: AA5

Date: 2 January 2017

Start Time: 7:00 p.m End Time: 8:21 p.m (1 hour and 21 minutes)

Online interview tool: WhatsApp (Text and Audio)

Ethical form :Shireen

AA5: موافق

Shireen: السلام عليكم ورحمة الله مرحبا د. (name) و جزاك الله خير على قبول المشاركة. بس مبدئياً عشان أنا متلخبطة في الموقع الوظيفي على أساس أ. (name) قالت لي إنك بتعطي دورات عندهم. فانا ماني عارفة إنتي عضو هيئة تدريس ولا تابعة لعمادة التعليم عن بعد أو لمركز التطوير في لخبطة فياريت توضيحي لي بس الموقع الوظيفي (29s).

AA5: استاذ مساعد بقسم اللغات الاوروبية بكلية الاداب ورئيسة قسم الجودة والتطوير بعمادة التعلم الالكتروني والتعليم عن بعد.

Shireen: ما شاء الله، طيب هل عملك كإدارية في رئاسة قسم الجودة و التطوير بالعمادة له علاقة بعمل الدورات الخاصة بتطوير أعضاء هيئة التدريس تقنياً زي البلاكورد أو أي تقنية أخرى ممكن يستخدموها أعضاء هيئة التدريس في التعليم (18s).

AA5: نعم بشكل اساسي بقد دورات في التعلم المدمج / تقنيات التعليم/ و انا مدرب معتمد من شركة البلاكورد و بقد دورات بشكل دوري كجزء من مهام عملي في مركز تطوير التعليم الجامعي وغيره من الجهات داخل الجامعة وخارجها.

Shireen: أوك ممتاز ما شاء الله. الله يعطيك العافية. طيب مبدئياً أنا راح أتناقش معاك بصفتك رئيسة قسم الجودة والتطوير بعمادة التعليم الإلكتروني. فابغى أعرف عمادة التعليم الإلكتروني يعني أغلب لمن أجي بأتكلم و

سويت مقابلات مع أعضاء هيئة التدريس تحسي إنه هما الدورات يلي بتقدمها إنها خاصة بطلاب التعليم عن بُعد. أنا جزئيتي بأتكلم هل عمادة التعليم الإلكتروني لها علاقة أو عاملة خطة لإدراج blended learning أو إستخدام أي تقنية للتعليم مستهدفة أعضاء هيئة التدريس يلي بيدرسوا طلاب الإنتظام أو لا بس هي عمادة عملها خاص بطلاب التعليم عن بعد (48s).

AA5: من ٢٠١٤ والعمادة تبنت مشروع استراتيجي بتحويل المقررات تبع الانتظام لمقررات الكترونية من خلال بلاكورد وفي نفس العام بدينا خطة تدريبية وخمس حملات للكليات وتم تدريب فوق ٧٠٠ عضو في نفس السنة من شطري الطلاب والطالبات.

وكل عام نكرر نفس البرامج وصرنا نقدم برامج مخصصة للكليات العلمية والنظرية للتعريف بالتعلم المدمج لطلاب الانتظام.

وكمات حملات ودورات موجهة الطالبات وللقيادات. موجود ع موقعنا كل ما يتعلق بها. فيه كمان شراكة مع مركز تطوير التعليم نقدم برامج من خلالها للجميع.

Shireen: طيب هذا من خلال ما يخص يلي هي تحويل مقررات الإنتظام إلى مقررات إلكترونية من خلال البلاكورد. طيب بالنسبة للتقنيات الأخرى هل هناك في خطة معينة للعمادة إنها بتعمل إدراج لهذه التقنيات وكيف بالضبط بتحدد عناوين الدورات التي بتقدمها وموجهة لمين و خاصة يلي بتكون للأساتذة يلي بيدرسوا طلاب الإنتظام مش تعليم عن بعد (31s).

AA5: بنقدم سلسلة من الدورات تحت مسمى "دمج التقنية في التعليم" من عام ٢٠١٤ موجهة لفئة الاساتذة في برامج الانتظام. يسبقها توزيع استبانة TNA لتحديد الاحتياجات التدريبية في موضوعات التعلم الإلكتروني وكذلك التطبيقات الممكنة توظيفها في التعلم المدمج بغض النظر توافقت مع البلاكورد او كانت في مجال التقنيات الحديثة مثل الواقع المعزز والعوالم الافتراضية. على موقعنا معلومات عنها ايضا.

Shireen: أوك ممتاز. طيب بالنسبة للدورات التي تقدمها العمادة. لأنه عملت أنا مقابلات مع أعضاء هيئة التدريس في كليات زي الآداب مثلاً عشان عندهم طلاب إنتساب فيقولوا حضرنا البلاك بورد بس بيستفيدوا منه لطلاب الإنتساب مش للإنتظام. فأنا كيف أعرف كعضو هيئة تدريس إنه هذه الدورة ممكن أستفيد منها مع طلاب الإنتظام مو بس أختصرها لطلاب الإنتساب (31s).

AA5: هي دورات مخصصة customized ويعلن عنها وتحدد الفئات مسبقا ونعمل قبلها حملات للكليات. وحتى واجهة التسجيل توضح الفئات. اخترتي عينة غير مناسبة كلية الاداب ما يسجل منهم الا قلة جدا و لا يحضرون و تفعيل النظام عندهم معدلاته منخفضة. الحاسبات والطب و العلوم اكبر الكليات المستفيدة حسب هذا التسلسل.

Shireen: طيب يعني عندكم في العمادة إحصائية مين يلي بيستخدم النظام وكيف أعرف مدى تفعيله في الكليات (8s).

AA5: موجود نظام اناليتك مفعول ويعطينا مثل هذه المعلومات بشكل دوري ويرسل فيها تقارير احصائية للكليات مع خطاب للتحفيز كمان و اذا هم يحتاجوا دورات او لا. قبل تفعيل الاناليتك كنا نسحب ال log files تبع النظام ونحن نعمل التحليل يدويا.

Shireen: طيب من خلال هذا التحليل كيف تقدري تقييمي استخدام النظام In general في الجامعة بالنسبة للإنتظام (8s).

AA5: مثل ما ذكرت لك مسبقا مع ان الهدف ليس تقييم الكليات فان الملاحظ ان الكليات التي ذكرتها مسبقا بدأت بنفسها تشجع عضواتها بشكل منظم على تبني التعلم الالكتروني في برامج الانتظام. فمثلا كلية الحاسبات اصبحت تجري اختبارات الدورية من خلال النظام وكافة الانشطة والمحتوى مرفوع خاصة للتسهيل على طلاب التحضيري والكليات الاخرى صاروا يسألونا كيف ممكن يفعلو بلدنق بلوكات معينة تساعد في تخصصاتهم يعني تعلمنا معاهم كيف نجعل النظام optimal يخدم ويخدم منهج تربوي معين. كليات لاحظنا من خلال التحليل انها تركز فقط ع توفير المحتوى دون الاهتمام بالتفاعل وكليات اخرى العكس وكليات استفادت من نظام الفصول الافتراضية المدمج مع بلاكبودر بشكل تفاعل متزامن.

يعني كل كلية ركزت ع احتياجها من النظام في اطار فكرة تربوية في ذهنهم.

مع التحليل بنعمل فوكس قروب من فترة لفترة وخلال الدورات كمان بنسال عن الاحتياجات.

للأمانة لازال الاقبال محدود ولكن مباشر.

Shireen: أوك. هل هدف العمادة إنه النظام هذا يعمم لكل الكليات أو هو مبدأ بس ك guide أو إنه بس تشجيع استخدام لا أكثر. يعني هل سيكون إجباري في وقت من الأوقات (18s).

AA5: هو already معمم من ٢٠١٤ و ما في شي اجباري حتى في الجامعات العالمية اللي بنشتغل معاها بالذات في مجال تطبيق الانظمة. اظن قصدك هل سيصبح هناك برامج تعلم مدمج في الجامعة؟ طبعا هناك خطط لذلك و حينها الاستاذ اللي حيدرس فيها سيكون على بيبة ومطالب باستخدام النظام او تطبيقات متاحة في حينه لتحقيق نواتج تعلم البرنامج.

لاحظت إنه في يعني عندك دمج بين يلي هو استخدام البلاك بورد أو أي نظام تعلم و عملية إنه برامج أو تفعيل برامج التعلم الإلكتروني أو التعلم المدمج.

These are like two difference things

فيعني بيغالك تفرقي في هذا الموضوع (15s).

Shireen: أنا يلي بأقصده في دراستي يلي هو التعليم المدمج. بس أنا بأحاول أشوف ايش التقنيات يلي بيستخدموها أعضاء هيئة التدريس يلي بيدرسوا إنتظام إنهم يتبنوا التعليم المدمج رغم إنها فكرة لسه ماهي متواجدة يعني في الجامعة. فيعني بأشوف ايش الأدوات يلي متاحة في الجامعة زي البلاك بورد بس برضه ما بأشوف استخدام له. بأحاول أشوف هل في مواقع تواصل إجتماعي ممكن يتفاعلوا مع الطلاب, أي اداة يعني. بأحاول اشوف التصور العام كيف أعضاء هيئة التدريس بيستخدموا التعليم المدمج ما أقصد شي بالتعليم الإلكتروني أنا بالعكس أنا متلخبطة من موقع الجامعة بأشوف كلمة التعليم الإلكتروني بس في النهاية أجي أشوف مرة أحياناً يقصدوا بها يلي هو التعليم عن بعد يلي هي خاص بطلاب التعليم عن بعد ومرة يقصدوا بيها تعليم مدمج بس ما احسه active في الجامعة. فالموضوع كمصطلح باللغة العربية كمان ضائع في الموقع, فهذا هو يلي مسبب اللخبطة فأحاول بالذات إنه مقابلاتي مع أعضاء هيئة التدريس بأشوف هم ايش بيستخدموا عشان أقدر أتفاهم بعد كده (1:15).

AA5: المشكلة يلي عندنا في عملية استخدام المصطلح زي ما ذكرتي إنه لسه على مستوى وزارة التعليم ما في إتراف بمسارات أو مساقات لتعلم مدمج. فمن الصعب إنه أي وزارة أو جامعة أو مؤسسة تعليمية تعمل على موقعها إنه والله عندنا برنامج تعلم مدمج there is not فهذه النقطة يلي كنا بنتقاداتها. بالفعل موجود كلمة التعلم الإلكتروني بس بنفرق بينها يعني عاملين icons مفرق فيها إنه والله هذا تعليم عن بعد و هذا إنتساب و هذا تعلم إلكتروني. و طبعا حملاتنا بتوضح هذا الموضوع لمن بنروح للكليات و بنعمل customization للpackages , training packages بتوضح في الموضوع فهذه نقطة برضه (38s).

Shireen: أوك. زي مثلاً حالياً جديد اكتشفته وهو طلع صح يمكن هذا الترم يعني بدأوا نشطوه يلي هو وحدة التعلم الإلكتروني في كلية الإقتصاد المنزلي. الاسم وحدة التعلم الإلكتروني ولمن جيت أقرأ لقيت إنها تعلم مدمج وقابلت وحدة من هناك فتعلم مدمج. فبرضه فيه لخبطة و ماني عارفة ليش هما عاملين وحدة تعلم الكتروني وأنتم عمادة التعلم الإلكتروني و هذولا بيعطوا بلاكبود و أنتم بتعطوا بلاكبود و مركز التطوير بيعطي بلاك بورد. ففي برضه لخبطة في هذا الموضوع ماني عارفة ايش الفرق بينهم, البلاك بورد بين الثلاث جهات. ايش العلاقة بين الثلاث جهات كمان (41s).

AA5: Valid point really

نحن طلبنا في بداية ما تفعل التعلم المدمج خلينا نقول مجازاً في 2014 بوجود النظام يلي هو البلاكبود طلبنا من كل كلية إنها تعين منسقة للتعلم الإلكتروني تكون هيا ال- ambassador تبعنا نعمل معاها contact, عملنا على البلاكبود كورس خاص لهؤلاء المنسقات بحيث إنه any update في السيستم ولا any update في الفكر التربوي يلي بنشتغل عليه بيكون available to them. طبعا غير الواتساب groups and things like. النقطة الأساسية إنه قالت الكليات أوك أنا حادخل هذا في الهيكله تبعي. زي ما قلت لك هيا عملية التراتبية الإدارية نعملها في الهيكله تبعنا فعملوا وحدات منفصلة بعضهم عملوا لها منسقات. يعني لسه مختلف الوضع على مستوى ال- (سكنت). بالنسبة لكلية الإقتصاد المنزلي أنا عندهم في اللجنة الإستشارية, عضو في اللجنة الإستشارية تبعهم. ف I know إنه كل كلية بتحاول إنها هيا زي كأنها independent collage لها عميدة خاصة فيها و كله يعني لها

هيكلتها المنفصلة. بس بالفعل في وحدات مختصة في التعلم الإلكتروني في الكليات هدفها إنها تفعل التعلم الإلكتروني (1:05).

Shireen: يعني في وحدات غير وحدة التعلم الإلكتروني يلي في كلية الإقتصاد المنزلي في كليات ثانية. لأنه صراحة ما شفت في الموقع اونلاين يعني ولا جاني خبر عنها (10s).

AA5: زي ما قلت لك في كليات سوتها عملتها وحدات و ادمجتها تحت وحدات التطوير عندها. أو خلقتها يعني تابعة مباشرة لوكالة الكلية. هدفهم فقط إنهم ينشؤوا وحدة. يعني is not a requirement من قبلنا ما طلبنا هذا الموضوع. طلبنا فقط منسقة أو ambassador للتعلم الإلكتروني لتشجيع التعلم الإلكتروني و تطبيقاته في الإنتظام. و تكون هيا اللنك يعني زي liaison officer بنحاول نعطي من خلالها أي معلومات على التدريب, أي معلومات عن الـ customize packages, أي معلومات جديدة زي ما قلت لك و updates.

في نقطة انا شفت الـ research topic تبعتك فإنتي الآن زي كأنك تبغي تشتغلي و تبغي تشوفي

How do we support E-learning or blended learning من خلال البلاك بورد

other applications available what based من خلال How do we support blended learning application or whatever and How do we support E-learning through for example social media and how do we support E-learning institution adoption إنه والله this like a project you have to adopt it and these are steps?. This is what we do like 4 steps or 4 things ok.

بالنسبة للبالكبورد زي ما حكيتك بنعمل يلي هيا training packages و we look for at the end of semester مثلاً أو year بنعمل يلي هيا الـ analytics بنشوف يلي هيا النتائج تبعت الكليات ليس الهدف إنه التمييز بين الكليات بس بنشوف هل بيستأثروه بالشكل الصحيح أو لا. بالنسبة للسوشيال ميديا و سواها still مافي إقبال من قبل الكليات عليها (1:34).

AA5: بالنسبة لموضوع يلي هي قلنا البلاكبورد و السوشيال ميديا, قلنا يلي هيا other applications هذه عندنا سلسلة في البداية سمينها سلسلة التقنيات الثورية أوك. It is like distributive technologies or distributive applications and E-learning

ناس قالوا لنا ميد ثورية and just it is مستحدثة or whatever سمينها دمج التقنية في التعليم. و صرنا بنقدمها على مدار العام يعني في الـ 2 semesters بنعمل repeat للـ packages وكل نهاية سنة بنعمل TNA خلاص يلي هيا دراسة الإحتياجات و بنعدل في الـ packages أو بنحط حسب طلبات الكليات لأنه الكليات يقولك أحيانا عندنا تطبيق معين نبغى نستخدمه ادرجوه في برامجكم التدريبية فصرنا بندرجه. طبعاً my knowledge is من 2014 وما بعد إنه I joined the Deanship of E-learning 2014.

فأنا باعطيكي حسب الداتا يلي عندي. 2014 تفعل برنامج البلاكورد واتفعلت معاه الكوالبوريت يلي هو نظام الفصول الافتراضية و بدأينا حملة التطبيقات يلي هيا training on web applications حتى معانا شراكة في مركز التطوير الجامعي بنقدم من خلالهم سلسلة يلي هيا دمج التقنية في التعليم بشكل تقريبا سنوي أو حتى twice a semester حسب طلبهم حسب إحتياج يلي هيا ال(سكتت) (1:16).

Shireen: ممتاز

AA5: بالنسبة لأخر موضوع يلي هو how do we support الكليات في يلي يسمونه E-learning adoption .or blended learning adoption

في سنة 2014 وكمان اتكررت مرتين تقريبا ومازلنا بنعملها بس once a year إنه بنزور الكليات بنجتمع مع يلي بينسهم القيادات يلي هم مين: وكلية الكلية و وكلية التطوير في الكلية و كمان يلي هما صارت الآن زي ما ذكرتي وحدة التعلم الإلكتروني أو منسقات التعلم الإلكتروني و عينة مختارة زي ال focus group كده من عضوات هيئة التدريس يلي هما عملوا implementation وناس ما عملوا implementation أو عندهم زي ما نقول resistant يعني نختارهم كده نقوة. فنجيبهم كلهم مع بعض ونحكيهم ايش هو ال institution adoption ايش فوائده على مخرجات التعلم, ايش فوائده بالنسبة للإعتماد الأكاديمي وغير هذه من المواضيع يلي هيا مهمة بالنسبة لهم. يعني موضوع الإعتماد الأكاديمي critical. بنقولهم إنه والله البلاك بورد or any other implementation الـ E-learning or blended learning applications. هذا بيعمل support و تعزيز لمخرجات البرنامج تبعكم, بيعطيكم documented evidence really you will not find such documented evidence in any other way. يعني من الصعب. يعني الآن صارت يلي هيا التحليل زي ما قلت لك يلي هو من خلال البلاك بورد بيعملوا فيه تقرير و بنرسله لهم. عندنا أنظمة أخرى مثل أنظمة الإختبارات الإلكترونية في نهاية كل إختبار بيجري في السيميستر لكل كلية ما مثلاً بنطلع تقرير إحصائي عنه و بنرسله للكليات نقولها ها these are your mistakes and these are the good points. الـ mistakes هذه كانت بسبب إنه الأسئلة مثلاً ما كان فيها عشوائية, الأسئلة فيها أخطاء. يعني ترى الـ blended learning عندنا مو بس على مستوى learning system management أيضا على مستوى يلي هو testing و examination. فعندنا برنامج الآن يلي هو QuestionMark يمكن قد سمعتي عنه فـ it is different independent platforms which support this area (1:55).

Shireen: الله يعطيكي العافية والله أخذت منك معلومات صراحة قد ما سويت مقابلات مع أعضاء هيئة تدريس ما أخذتها منهم فكنتي مصدر جيد والله الحمد (12s).

طيب مبدئيا ممكن تقولي لي يلي هيا عمادة التعليم الإلكتروني ايش ممكن تقدم دورات أخرى غير البلاكورد إنها ممكن support to blended learning (11s).

AA5: زي ما ذكرت لك عندنا يلي هيا سلسلة دورات دمج التقنية في التعليم هيا عبارة عن مجموعة من الدورات. ترا لو دخلتي الموقع حتلاقي عن التدريب سيكشن كامل حتى في الحقائب التدريبية و أهدافها يعني معمولة in

engaging style and manner. مثلاً من الدورات عندنا دورة عن الواقع المعزز و تطبيقاته بنعلم عضوات هيئة التدريس كيف ممكن يستخدموا هذه التطبيقات يلي هيا rising على قولتهم. فيعلموا الطلبة كيف يستخدموها في الـ posters في الأشياء هذه يلي هيا تكون more engaging for the students. عندنا مثلاً دورات عن يلي هو تصميم الـ video التفاعلي because interactive videos هذه صارت trend يعني في الـ E-learning. عندنا مثلاً دورات الآن حديثاً عن يلي هو open educational resources because على مستوى البلد في اهتمام في هذا الموضوع. يعني ماهي دوراتنا فقط في مجال يلي هيا applications it's like a mixture of philosophy and applications because otherwise using the system. So, we have like open education resources, we have arasma for AR this Augmented Reality, we have again packages about using virtual world like second life customized training and Canavano, these things., What else, we have packages في مواضيع زي مثلاً يلي هيا كيف تستخدمي يلي هيا الـ connect والأشياء هذه في التعليم. يعني تطبيقات حديثة أنا مستحيل إني الخصها كلها في وقت واحد. بس زي ما قلت لك انتي ممكن تدخلين اونلاين على الموقع و في عندك يلي هيا قائمة بلي هيا مفعلة الآن في هذا السميستر حتجديها يعني على هيئة بوربوينت موجودة بداءً من التطبيقات المبسطة هذه النقطة يلي عندنا نأخذ بنعمل يلي هيا packages which can be accessible by beginner users and those who are advance users. حتلقي دورات مثلاً how to capture the screen and recorded and applications on for example how to use augmented reality applications in education (2:11).

Shireen: أوك الله يعطيك العافية. طيب د. (name) من خلال إعطائك للدورات كيف ممكن تشوفي الإيجابيات شخصياً كمدرسة وإنتي بتدريهم إنه تستخدموا تقنية معينة في التدريس (16s).

AA5: أوك. To be honest you have like 3 types of educator هما بيحضروا معاك في الدورات. There is a educator هو يلي جاي بس عشان إنه I can come I can go with training and open, وفي كمان the certificate for example والله this unfortunately a very recognizable number. وفي كمان يلي هما الأساتذة يلي هما جابين جابين بالفعل عشان يتعلموا و زي ما قلت لك لمن بنعمل الإحصائيات حقت التدريب في نهاية السميستر ونشوف مين يلي أعطانا suggestions, مين يلي طلب و كذا بنجدهم بالفعل يلي هيا الكليات يلي ذكرت لك إياها. مع إنه في raising interest في كليات زي الإقتصاد و الإدارة, زي مثلاً يلي هيا الإقتصاد المنزلي, زي مثلاً كليات يلي هيا بعض الكليات الآداب أو بعض الأقسام في كليات الآداب لأهداف معينة عندهم. بس otherwise you feel إنه هذا النوع موجود يلي هو يلي مهتم و بيحاول إنه يطلب منك معلومات زيادة حتى الكليات العلمية وصلوا إلى مرحلة إنه كيف بنستخدم المعادلات, كيف بنعمل هذا في الأنظمة, طيب اعطونا application ممكن نستخدمه غير البلاكورد. application ممكن نستخدمه عشان نعمل كذا وكذا, اعطونا معلومات كيف نطبق مثلاً التعلم التعاوني من خلال البلاكورد أو من خلال استخدام أي application آخر. عندنا الـ third punch of people يلي بيحضروا معاك هو it's like there are coming just to tell you that we are not going to do it and we are going to tell you this is not successful

you find those people and you find triple and the students are lazy and and and
there are not there for student success there are just to إنه هما in controlling in fact
presses change which cannot be, I'm try to be to the point and honest in recording these
those people who come three kinds of reflections لكن يلي يهمني إنه
however small group they are يلي هما يجوا بييعطونا ملاحظاتهم و بييعطونا و بيشتغلوا. بعضهم بدأ
مبادرات حتى في الـ mobile learning. يعني كلية الطب بدأت في الـ mobile learning من خلال البلاكيبورد
لأنه في الـ application mobile للبلاكيبورد. فكان بيغوا يعملوا يلي هيا مادة علمية تكون customized for
mobile learning. They are doing things which make us happy and promising for
students وتساعد الـ students. فـ students at the center of learning if they do not believe that
process, then Ok they are not coming here for training, they are just coming for plying
(2:29) on

Shireen: صح كلامك والله أنا لاحظت كمان كلية الطب ما شاء الله يعني ما في أحد فيهم ما يستخدم حاجة يعني
إلا ما يشاركو الطلاب بأي تقنية يعني. رغم إنه كذا إجتماعياً يعني مجتمعياً عرفياً ما أحس إنه ممكن هما أكثر عمقاً
علمياً كده و بحث لكنهم ما شاء الله عليهم active في موضوع التقنية يعني ما كنت متخيلة هذا الموضوع (27s).

طيب برضه شخصياً كمدربة هل شفتي أشياء يعني معوقات تواجهك من خلال إنني أطبق نظام معين أو تقنية معينة
بس هي كإدارية مش كمعوقات تواجهك من أعضاء هيئة التدريس (20s).

AA5: مافي يعني حتى بالرغم إنه في عندي reflections على أنواع المتدربين لكن في المحصلة النهائية هما
بيجوا ما يبسببوا لنا المعوقات يلي هيا الإدارية يلي بتتحدثي عنها. يعني على مستوى مثلاً تطبيق النظام، النظام
شغال لكل الكليات لكل عضو هيئة يعني من هيئة التدريس مفعول النظام. بس إلى الآن ماشفت. بالعكس أنا بأشوف
الوكيلة مثلاً تبعت الكلية إنها مرة ready و بتعمل خطة و بتحفز يلي هيا مثلاً وحدة التعلم الإلكتروني أو المنسقة تبع
التعلم الإلكتروني إنها تشجع العضوات و بيطلبوا مننا مثلاً كعمادة إنه نسوي لهم تدريب. فإلى الآن ماني شايقة يعني

there is openness, we try new as administrator speaking there is no resistance
things. هيا الـ resistance تحسي دائماً دائماً على مستوى الـ educator وليس إنه هو resisting, no
because they do not understand فعشان كده بنقوم نشرح. يعني إنه والله there is a change و بدأنا
نعطي دورات على أساس هذا الموضوع يلي هو بينقولهم إيش يعني المهاجر الرقمي و digital native و الأشياء
هذه. بنشرح لهم بنحاول نربطها فيهم يعني كمان بنقولهم إيش أنماط تعلمكم، أنماط تعلمكم كذا وكذا و كذا. طيب إنتم
كيف بتقولوا أنا نمط تعليمي مختلف ومع ذلك we do not acknowledge this fact with students فتحسي
إنه لا. والله بدينا مع عينات يعني كانوا غير متقبلين لبعض التغييرات و انتهينا بانهم يعني they are try غير إنهم
بيعملوا piloting بنشجعهم بنقولهم أوك join us in this project next semester مثلاً we are activate it
a pilot study مع 12 من أعضاء هيئة التدريس و تطبيق الـ ابليكيشن من خلال البلاكيبورد وجدنا readiness
صراحة ما اتوقعناها. طبعاً readiness على مستوى العضو يلي هو مشارك و readiness على مستوى الجهة

يلي هو تابع لها. فما حسيت إنه في ديك المعوقات الإدارية. لازم يكون في مثلاً يلي هي الرسميات والتراتبية مثلاً في المخاطبات وما اشبه بس سوى ذلك ما (2:09) I have not pass by this.

Shireen: ابوة يس هو هذا يلي أنا أقصده. يعني غالباً الإداريات يعني ما شاء الله الله يعطيكم العافية سواء في عمادتكم أو في مركز التطوير بيعطوا كل جهودهم. لكن تجي تشوفي من جهة عضو هيئة التدريس, عضو هيئة التدريس لا والله يا أنه يكون ما شاء الله نشيط يا إنه في جهة أخرى يُلقى اللوم يا إنه بيقول مثلاً الجامعة ماهي مهياً أو إنه مافي نت عندنا مهياً أو إذا ما القى اللوم على الجامعة بيلقي اللوم على الطالب يعني, إنه الطلاب ما بيستخدموا الطلاب ما يغيروا الطلاب بس يبغوا يحضروا. أو مثلاً الطلاب لو عملنا لهم جزئية اونلاين ممكن يكتسلوا الحضور ما عاد يحضروا الجامعة. فتحسي حلقة الوصل في عضو هيئة التدريس هو يا بيلقي اللوم على الإدارة أو بيلقي اللوم على الطلاب يعني (53s).

عموماً الله يعطيك العافية, ابغى أعرف إذا ما عندك مانع عدد سنوات الخبرة (8s).

AA5: أوك بالنسبة لسنوات الخبرة 15 years and counting which is drastic but anyway عملنا تقريباً 3 أو 4 دراسات كانت وحدة منهم initial perceptions لأعضاء هيئة التدريس عن النظام تبع التعلم الإلكتروني فـ It's available if you want it, other studies about second life and 2 studies about training من خلال البلاكورد لأعضاء هيئة التدريس فـ we have a bunch of studies لها علاقة يلي أعتقد مقارنة أو كذا في الدراسة (39s).

Shireen: الفئة العمرية ٢٠ - ٣٠

٣١ - ٤٠

٤١ - ٥٠

٥١ - ٦٠

فوق ٦٠

AA5: الفئة العمرية يس 43 حادخل في أي فئة يعني 41-50

فـ if you have any questions أي مشكلة بالعكس جزاكي الله خير يعني ساعدتيني في أشياء معينة في ذهني but I want it to understand that أكثر الأشياء يلي بأقولها ترا وفي أشياء غيرها موجود ترى على الموقع يعني ممكن you can refer to them as resources or whatever

Ok thank you very much and have a fun time

Shireen: Thanks and ask about participants and studies

The End

Appendix Q – Examples of Themes Generated from the Administrators’ Questionnaire Responses

First Question

Administrator ID	Administrators’ Answers	Comments
<p>Q1: Please describe your role in developing or enhancing the academics’ digital literacy skills or using technology tools and social sites in their teaching system. Give an example of these tools.</p>		
A1	<p>Provide <u>training</u> [<i>training</i>] for academic staff <u>by</u> [<i>method</i>] helping them to use <u>LMSs</u>, which helps them to manage the learning process and [<i>method</i>] how to use <u>social sites</u> in the learning process and give <u>support</u> [<i>support</i>] to them <u>when</u> they face difficulties with any system.</p>	<p>* Two themes appear as a role of the administrator:</p> <ol style="list-style-type: none"> 1. Training by two methods. 2. Support in situation. <p>* LMSs and social sites mentioned as a technology used in education.</p>
A2	<p>Work in unit of training and human development to <u>train</u> [<i>training</i>] academic staff [<i>about</i>] how to use distance-learning systems such as: <u>Blackboard</u>, <u>EMES</u>, <u>Centra</u> (virtual class) and <u>E-exams</u>.</p>	<p>* One theme: training.</p> <p>* LMSs used at KAU: Blackboard, EMES, Centra and E-exam.</p> <p>The administrator works in the unit of training and human development</p>
A3	<p>Prepare and deliver training workshops [<i>training</i>], which relate to [<i>about</i>] designing E-curriculum.</p> <p>Support [<i>support</i>] the academic staff</p>	<p>* Two themes appear as a role of the administrator:</p> <ol style="list-style-type: none"> 1. Training about designing E-curriculum

	<p>[when] during all the analysis and designing e-curriculum levels.</p> <p>Technology tools: <u>Blackboard</u>, <u>course sites</u>, <u>lesson builder</u>.</p>	<p>2. Support in situation.</p> <p>Technology tools used at KAU:</p> <p>Blackboard, course sites and lesson builder.</p>
A4	<p>Works in the unit of blended learning and works to train [training] academic staff how to [about] design and mix the course with <u>Blackboard</u> and deliver help [support] for any individual question or issue from them and support [support] them in designing and teaching processes.</p>	<p>The administrator works in the unit of support-blended learning.</p> <p>* Two themes appear as a role of the administrator:</p> <ol style="list-style-type: none"> 1. Training on designing courses with Blackboard 2. Support in different situations. <p>Blackboard mentioned as a technology tool in education.</p>
A5	<p>Training [training] the academic staff in different learning management systems such as <u>Blackboard</u> and developing programmes [programme], which support academic staff in the teaching process.</p>	<p>* Two themes appear as a role of the administrator:</p> <ol style="list-style-type: none"> 1. Training on different LMSs. 2. Programme software that supports the teaching process. <p>Blackboard mentioned as a technology tool in education.</p>
A7	<p>Training [training] academic staff how to [about] use different technical tools</p>	<p>* Two themes appear as a role</p>

	<p>and programmes such as: <u>Blackboard</u>, virtual classes (<u>Centra</u>) and other systems provided by the Deanship</p> <p>Support [<i>Support</i>] them when they face any problem before, during or after using these systems.</p>	<p>of the administrator:</p> <ol style="list-style-type: none"> 1. <i>Training</i> on different LMSs such as Blackboard and Centra. 2. <i>Support</i> during use of LMSs.
A8	<p>In 2010, I started a series of training sessions on using <u>Web 2.0</u> tools including <u>social media</u> tools in education; my co-workers hosted these sessions for all the instructors. Then, I became the head of E-learning programmes, then the head of development at DEDE, and I carried on presenting sessions [<i>training</i>] such as: <u>Web 2.0</u> tools in education, <u>social media</u>, <u>Second Life</u>, <u>mobile app</u>, Augmented reality app etc.</p>	<p>* One theme: <i>training</i>.</p> <p>* Technology tools mentioned: Web 2.0, social media, Second Life and mobile applications.</p>
A9	<p>Training workshops [<i>training</i>].</p>	<p>* One theme: <i>training</i>.</p>
A10	<p>Training and workshops [<i>training</i>]</p>	<p>* One theme: <i>training</i>.</p>
A11	<p>Development (<u>ODUS Plus</u>) system [<i>programme</i>].</p> <p>Technical support [<i>support</i>] for self-service for academic staff, create user guide and develop SSB pages.</p>	<p>* Two themes appear as a role of the administrator:</p> <ol style="list-style-type: none"> 1. <i>Programme</i> ODUS Plus system and development. 2. <i>Support</i> academic staff by providing services, creating user guide. <p><u>ODUS Plus</u> mentioned as LMSs.</p>

A12	Provide training and workshops [<i>training</i>] about [<i>about</i>] how to develop a personal academic website and use it to communicate with students and take advantages of the <u>Marz</u> system in creating an active website and publishing news, or advertising in the personal academic website.	* One theme: <i>training</i> . <u>Marz</u> mentioned as LMSs for personal website.
A15	Provide training workshops [<i>training</i>] about <u>social sites</u> .	* One theme: <i>training</i> . <u>Social sites</u> mentioned.
A16	Provide training workshops [<i>training</i>]. <u>E-mail</u> .	* One theme: <i>training</i> . <u>E-mail</u> mentioned.
A17	Technical laboratory help [<i>support</i>] for training academic staff.	* One theme: <i>support</i> during the workshops.
A18	Training [<i>training</i>] how to [<i>about</i>] use tools, which helps in extracting reports and statistics.	* One theme: <i>training</i> .
A19	Supplement [<i>support</i>] academic staff with new technology which helps them in teaching, such as <u>Blackboard</u> , and put their files [<i>support</i>] and courses in online storage, provide [<i>support</i>] wireless network to cover all the University units to help teachers and students using the Internet and to use distance learning.	* One theme: <i>support</i> . * <u>Blackboard</u> mentioned.
A20	Supervise [<i>support</i>] on training workshops about using technology tools; explain [<i>training</i>] some software and how to use it.	* Two themes appear as a role of the administrator: 1. <i>Supports</i> by supervising. 2. <i>Training</i> .

A21	Strengthen skills of academic staff by using all technology tools such as PCs, Internet, software and training [<i>training</i>] to develop their teaching and researching skills, such as: <u>PowerPoint</u> , <u>Excel</u> , <u>Word</u> , <u>Internet</u> , etc.	* One theme: <i>training</i> . <u>PowerPoint</u> , <u>Excel</u> , <u>Word</u> , and <u>Internet</u> mentioned.
A22	Training [<i>training</i>] academic staff how [<i>about</i>] to use the <u>Blackboard</u> system.	* One theme: <i>training</i> . <u>Blackboard</u> mentioned.
A24	Prepare [<i>support</i>] training and workshops about using digital tools for academic staff and students and train [<i>training</i>] the academic staff about E-learning in teaching.	* Two themes appear as a role of the administrator: 1. <i>Support</i> by preparation for training. 2. <i>Training</i> .
A25	Provide [<i>support</i>] essential tools and PCs for developing.	* One theme: <i>support</i> by providing essential tools.
A26	A member of developing and training [<i>training</i>] academic staff skills in the faculty.	* One theme: <i>training</i> .

Answers (Themes)	Participants	Category	Description	Frequency
Provide training	A1, A12, A16, A18, A20, A21, A22	Training	Theme 'training' assigned to any action or behaviour by the administrators to improve academic	18
Train the academics	A2, A4, A5, A7			
Prepare training	A3, A24			
Deliver training	A3			
Present sessions	A8			

Provide workshops	A9, A10, A15		staff's digital skills.	
<u>Develop academic staff's technical skills</u>	<u>A26</u>			
Give support	A1	Supporting	Theme 'support' assigned to verbs that refer to any type of assistance or help to academic staff	8
Support during analysis and designing E-curriculum	A3			
Deliver help	A4			
Support academic staff	A7			
Technical support	A11, A17			
Create user guide	A11			
Supplement by new technology	A19			
Provide essential tools	A25			
Develop programmes	A5, A11			



Word Frequency Generated Regarding the Administrators' Roles

Second Question

Q2: From your perspective, how do digital learning technology tools or social sites change the educational culture or environment in the University?		
A1	<p>Easy communication [Communication] between the teacher and students.</p> <p>Curriculum availability [Availability] any time.</p> <p>Increase interactions [Interaction] by providing different tools, be self-learning and develop different skills.</p> <p>Serve different learning styles [Learning style].</p>	<p>* Four themes appear as changes in educational culture:</p> <ol style="list-style-type: none"> 1. Communication becomes easy between users. 2. Availability of curriculum. 3. Interaction between users. 4. Different learning styles.
A2	<p>Radical change, because it is easy for the new generation and easy to exchange information [Information], which changes faster than before.</p>	<p>* One theme appears: information, which becomes easy and fast to exchange.</p>
A3	<p>Gives big chance for more interaction [interaction].</p> <p>Easy-to-deliver information [information] to students in the digital era.</p>	<p>* Two themes appear:</p> <ol style="list-style-type: none"> 1. Increase interaction. 2. Deliver information easily to students.
A4	<p>It is a tool to increase communication [communication] with students; especially nowadays, students use it daily in different areas other than learning.</p> <p>Using these tools in education increases interactivity [interaction] and increase students' technical usage.</p>	<p>* Two themes appear:</p> <ol style="list-style-type: none"> 1. Increase communication with students. 2. Increase interaction.

A5	It increases learning efficiency [<i>Learning efficiency</i>] if it is used in an effective way.	* One theme appears: <i>learning efficiency</i> .
A7	Make education process [<i>Learning efficiency</i>] easier and increase activation [<i>Interaction</i>] and keep up with the digital age [<i>Digital age</i>], which is not boring.	* Three themes appear: 1. Increase <i>learning efficiency</i> by making education process easy. 2. Increase <i>interaction</i> . 3. Keep up with <i>digital age</i> .
A8	Classrooms are flipped [<i>Learning style</i>], more informal learning [<i>Learning style</i>] takes place, more collaboration and student-student interaction [<i>Interaction</i>], authentic environment [<i>Learning efficiency</i>] (especially if simulations are used).	* Three themes appear: 1. Change in <i>teaching style</i> in which classrooms are flipped and informal learning take place. 2. Increase <i>interaction</i> between students. 3. <i>Learning efficiency</i> appears in authentic education environment.
A9	Not related to answer.	No theme.
A10	Link academic courses with <u>social sites</u> to interact [<i>Interaction</i>] about any subject and open a big discussion area.	* One theme appears: 1. <i>Interaction</i> about courses and open a discussion. <u>Social sites</u> mentioned as a tool to interact.

<p>A11</p>	<p>(Communication tools such as <u>Blackboard</u>, <u>E-mail</u>, <u>Academic gate</u> and <u>mobile app</u>)—all these support communication [<i>Communication</i>] between students and teachers.</p>	<p>* One theme appears:</p> <ol style="list-style-type: none"> 1. Support <i>Communication</i> by using different tools <p><u>Blackboard</u>, <u>E-mail</u>, <u>academic gate</u> and <u>mobile app</u> mentioned as tools to support communication.</p>
<p>A12</p>	<p>Make communication [<i>Communication</i>] easier and faster.</p>	<p>* One theme appears:</p> <ol style="list-style-type: none"> 1. Make <i>communication</i> easier and faster.
<p>A15</p>	<p>Easy communication [<i>Communication</i>] and fast access to information [<i>Information</i>].</p>	<p>* Two themes appear:</p> <ol style="list-style-type: none"> 1. Make <i>communication</i> easy. 2. Fast access to <i>information</i>.
<p>A16</p>	<p>Increase communication [<i>Communication</i>], make learning [<i>Learning efficiency</i>] easier and follow current development [<i>Digital age</i>].</p>	<p>* Three themes appear:</p> <ol style="list-style-type: none"> 1. Increase <i>communication</i>. 2. Learning becomes easier, which affects <i>learning efficiency</i>. 3. Follow current <i>digital age</i> development
<p>A17</p>	<p>Help in spreading information [<i>Information</i>] very fast.</p>	<p>* One theme appears:</p> <ol style="list-style-type: none"> 1. Spreading <i>information</i>

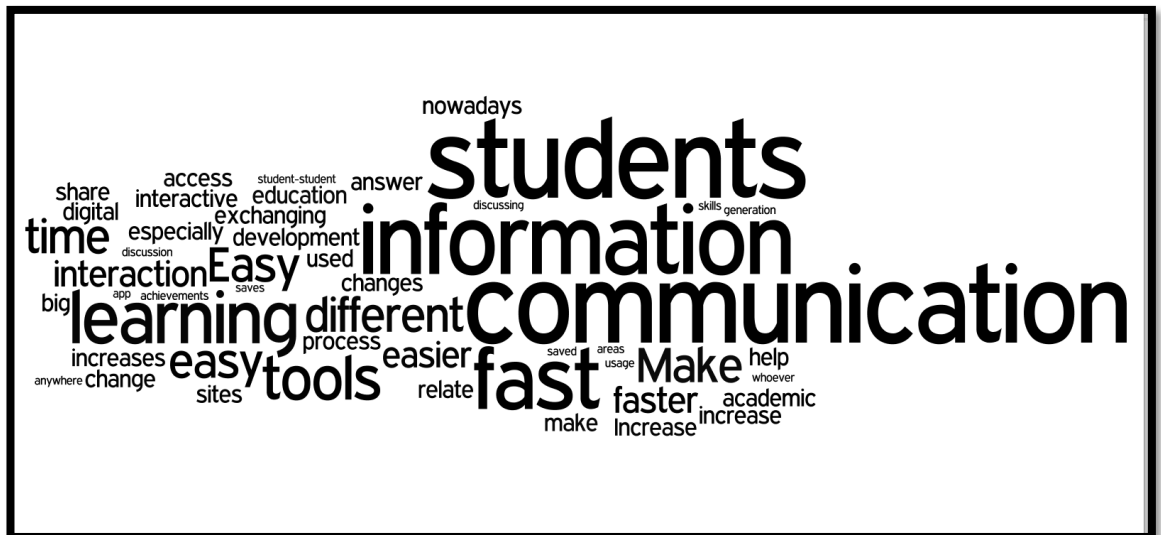
		very fast.
A18	Easy access to information [<i>Information</i>], group interaction [<i>Interaction</i>], information [<i>Information</i>] development and freedom of expression [<i>Expression</i>].	* Three themes appear: 1. Easy access to <i>information</i> and <i>information</i> development. 2. Group <i>interaction</i> . 3. Freedom of <i>expression</i> .
A19	Make interaction [<i>Interaction</i>] easy between academic staff and students, fast in doing homework [<i>Time</i>]; provide all files needed by students, which helps them to study anytime and anywhere [<i>Availability</i>].	* Three themes appear: 1. Easy <i>interaction</i> between staff and students. 2. Save <i>time</i> by doing homework fast. 3. <i>Availability</i> of files anytime and anywhere.
A20	Leads to extra communication [<i>Communication</i>], saves time [<i>Time</i>] and reach achievements faster [<i>Time</i>].	* Two themes appear: 1. Increase <i>communication</i> . 2. Save <i>time</i> by reaching achievements faster.
A21	Big changes in fast communication [<i>Communication</i>], fast response [<i>Interaction</i>], time saved [<i>Time</i>], less effort and more quality [<i>Learning efficiency</i>].	* Four themes appear: 1. Fast <i>communication</i> . 2. Fast <i>interaction</i> by fast responses. 3. Save <i>time</i> .

		4. Increase <i>learning efficiency</i> by less effort and more quality.
A22	<u>Social sites</u> are a link between people who share the same interests and share information [<i>Information</i>], discussing and exchanging experiences [<i>Interaction</i>]. Digital tools help in delivering and exchanging information [<i>Information</i>] very fast and strengthening it.	* Two themes appear: 1. Quickly share <i>information</i> . 2. Increase <i>interaction</i>
A24	Not related to answer.	No theme
A25	Positive change—nowadays we rely on these tools 90% to communicate [<i>Communication</i>] with whoever needs the service.	* One theme appears: 1. Dependence on technology tools in <i>communication</i> .
A26	Make communication [<i>Communication</i>] with students easy and fast and make the learning process more interactive [<i>Interaction</i>].	* Two themes appear: 1. Easy and fast <i>communication</i> with students. 2. Increase <i>interaction</i> in learning process.

Answers (Themes)	Participants	Category	Description	Frequency
Easy communication	A1, A12, A15, A26	Communication	Theme 'communication' assigned to the word 'communication' in the text, which refers to exchanging information by technology tools	11
Increase communication	A4, A16			
Support communication	A11			
Faster communication	A12, A21, A26			
Extra communication	A20			
To communicate	A25			
Curriculum availability	A1	Availability	Theme 'Availability' assigned to the word 'availability' in the text, which refers to the time and place of tools being available.	2
Files availability	A19			
Increase interaction	A1, A4, A7	Interaction		10
More interaction	A3, A8, A26			
To interact	A10			
Group interaction	A18			
Make interaction easy	A19			

Fast response	A21			
Develop self-learning	A1	Self-learning		1
Different learning styles	A1	Learning styles	Learning status	2
Flipped classrooms	A8			
Informal learning	A8			
Easy to exchange information	A2, A22	Information	Dealing with information	6
Easy to deliver information	A3			
Fast access to information	A15, A22			
Spread information very fast	A17			
Easy access to information	A18			
Information development	A18			
Share information	A22			
Share experience	A22			
Increase learning efficiency	A5			
Easy education process	A7			
Authentic environment	A8			
Learning easier	A16			
More quality	A21			
Keep up with	A7	Digital age		2

digital age				
Follow current development	A16			
Freedom of expression	A18	Expression		1
Fast in doing homework	A19	Time		3
Save time	A20, A21			
Faster achievement	A20			



Word Frequency Generated Regarding Changes in the Educational Culture

Appendix R – Examples of Themes Generated from the Academics Questionnaire Responses in the NVivo

Name	Sources	References
T-Educational Culture Change	0	0
Arrangement	1	1
Better	5	5
Communication	14	15
Easy	10	10
Effort	1	1
Encouragement	3	3
Enhance relationship	1	1
Fast	2	2
Help	1	1
Increase capabilities	1	1
Increase knowledge	1	1
Information	1	1
Interactive	9	9
Interesting	3	3
Learning affect	0	0
More reading	1	1
No educational cluter change	1	1
Not much	1	1
Preparation	1	1
Students	0	0
Time	9	11
T-Goals	0	0
T-importance	0	0
T-Technologt tools	0	0
T-Technology skills rate	0	0
T-Usage	0	0

Themes generated from the Academics' Questionnaires Responses organized in the NVivo 11.