

A Case Study of X University: Potential Implications for the Development of E-learning in Saudi Arabia

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Osamah Abdulwahab D. Almaghlouth



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Declaration of Authenticity

I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief, it does not contain any material previously published or written by another person except where due reference is made in the text.

Signed:  On: 31/01/2014

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 “Praise be to Allah, to Whom belong all things in the heavens and on earth: to Him be Praise in the Hereafter: and He is Full of Wisdom, acquainted with all things” (36:1, Holy Quran).*

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Abstract

The global interest in adopting e-learning to enhance educational achievement is reflected in Saudi Arabia. Online and blended learning can be more effective than simple face-to-face modes of education and this new approach is spreading. Studies have identified factors that influence the implementation of e-learning. These include the teacher's convictions, as well as the socio-economic and technological environment such as connectivity (bandwidth) and accessibility, the adequacy of telecommunications infrastructure, and the availability of a reliable power supply.

The current research aimed to inform our understanding of how e-learning is developing, at one university in Saudi Arabia. To achieve this aim, a case study was conducted at X Saudi Arabian university, chosen because it adopted e-learning relatively early in the tertiary education context, so that lessons learnt there can inform practice elsewhere. A qualitative approach was used in order to obtain rich data on the experiences of individuals and systems at the university. Data were obtained from in-depth interviews of staff, observations of practice, and analysis of institutional documents and resources. In particular, four instructors and their web-enhanced courses, supported by an e-learning centre, were considered. These four cases were chosen as examples of differing experiences and backgrounds in using e-learning at X University.

The findings stress the importance of building a strategy adapted to a specific e-learning environment and the context of the particular institution conducting e-learning. Consistent with previous research in other contexts, they highlighted the importance of the teacher's convictions about e-learning and the way they affect the

practice of e-learning in the classroom at X University. Recommendations for practice and further research are discussed.

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Chapter 1

1.0 Introduction

This research will investigate the development of e-learning at the tertiary level in Saudi Arabia, particularly at X University. The proposed research aims to support this investigation by conducting a case study of e-learning in the Saudi Arabian context, in order to add to and inform our understanding of the nature of e-learning within one institute in Saudi Arabia. Further, the research highlights the importance of building a strategy adapted to the e-learning environment and context of the institution when conducting e-learning, with a specific emphasis on improving e-learning practices. This study will propose guidance for the good practice of e-learning for educators, particularly at X University, and will also be helpful for other universities in Saudi Arabia. This guidance includes a suitable theory to underpin the use of e-learning and a practical pedagogy in order to provide a contextualised method for utilising e-learning in a Saudi classroom at the tertiary level.

The government of Saudi Arabia has invested in supporting the development of e-learning, particularly in higher education, to enhance teaching and learning. Accordingly, e-learning was introduced into universities and colleges in 2002. However, some universities began earlier while others have started more recently (see Figure 2.2). The implementation and uses of e-learning in these universities and colleges are different. Compared to other countries, such as the United States (US), the United Kingdom (UK), Canada, Australia and New Zealand, implementation is still in its early stages and work is needed to ensure that the development is on the right track. The development of the e-learning environment differs. Universities use e-learning based on their own strategies, as there is no single strategy that meets every university's needs.

This research will investigate how e-learning is developing in one university in the higher education sector in Saudi Arabia, with respect to strategies that have been used at the university, and teachers' beliefs and preparation for this mode of learning, which is blended with on-campus activities.

The research will focus on the current use of e-learning at X University, aiming to understand the process of developing an instructional design, interaction between teachers and students, delivery of e-content, and when and how the e-learning teaching mode is used. In addition, innovative practice examples will be considered. The method of e-learning (e.g. distance online learning or online learning blended with campus activities) will also be explored. Consideration will be given to the professional development background and requirements of e-learning staff members and instructors, students' background in e-learning, and instructors' beliefs regarding e-learning.

The results of this study will help to develop an environment of e-learning practices that reflects the language, culture, and religion of Saudi Arabia at X University and enhances teaching and learning, thereby assisting teachers and students to convert from a traditional mode of teaching to a new mode of teaching via e-learning.

With the scale of developments in scientific and technical knowledge, the growing use of information communication technology (ICT) in education, scientific research and the effect of the information revolution, strategies need to be developed for educational development and reform, especially regarding e-learning. This is true globally and is especially true for X University in Saudi Arabia, which is the focus of this study. To benefit from developments in technology and the information revolution and to develop and promote education, the use of e-learning based on ICT

and the Internet is a clear strategic option. This requires the reorganisation of educational institutions and plans to change their systems. At the same time, if e-learning is to be put into practice in education, proper preparation is required for people who are switching from traditional modes of learning to e-learning so they can meet any challenges.

Eberle and Childress (2007) stated that US universities and colleges have adopted e-learning to accommodate an increase in the population. Students today need to be non-traditional and more mobile. Equal access is needed to e-learning, and it must be unaffected by issues of language and culture. In both e-learning and traditional learning, detailed knowledge is needed of the differences between students, and careful design of the learning material and pedagogy is needed to accommodate these differences. Further, Eberle and Childress (2007) stressed that e-learning requires a universal design of learning as a means to address cultural diversity and provide access to e-learning. Like other countries, X University in Saudi Arabia could face the same issues and accordingly, it is necessary to prepare a framework and guidance that could deal with them. This concern is the focus of the present study.

Further, this chapter outlines the background to the research and introduces the key ideas and research questions addressed in this study, as well as the scope of the research and an overview of the rest of the chapters.

1.1 Expertise and Beliefs

The stimulus for this research and the researcher's enthusiasm for the subject derive from his academic and professional background. This section briefly describes the work experience and training in education of the researcher.

The researcher has worked with the Saudi Arabian General Directorate of Education in Dammam City for around 20 years. He began in a teaching capacity and developed through further study and as an inspector of schools and a trainer of teachers. From 1995, the researcher taught computer science for five years in three Saudi Arabian public secondary schools for boys¹. In addition, he taught computer science in Al-Dammam University. Specifically, he taught pre-service teachers how to use computer technology in education and how to use the Internet in a way that could support them while they were learning. In addition, the researcher provided courses to teachers in the use of computers and the Internet as tools to help them prepare lessons, and on how to integrate these tools into their daily teaching practice. In addition, he provided the same courses to teachers chosen from a number of other schools by the advisors from the Education Technology Department of the General Directorate of Education in Dammam.

In 2002, the researcher became involved with the Education Technologies Management Department as a technology trainer in the city of Dammam. This department has provided ICT tools to schools across the primary, intermediate and secondary systems, which use these tools as teaching aids in all curriculums. ICT tools are also used to improve student abilities by using telecommunications to collaborate, publish and interact with peers, experts and other audiences, which prepares them for the e-learning environment.

As a supervisor in the Education Technology Department in Dammam from 2000 to 2005, the researcher visited schools as an advisor on ICT tools. He observed that a limited number of teachers were aware of the benefits of using the ICT technologies that had been provided for them and that had been integrated into their

¹ The schools' names were Al-Dammam, Mecca and Okaz.

classroom programmes. The researcher also noticed that many teachers were reluctant to use ICT. Because of their age, many did not want any increase in their burden. Teachers' responses indicated a lack of desire to change their method of teaching, a fear of wasting time if they used technical means, and a lack of incentives and encouragement from those responsible for the promotion of e-learning.

The researcher's familiarity with this area of educational development and his academic knowledge in the field of ICT tools has grown with the studies he has undertaken. In 2005, along with other advisors in the General Directorate of Education in Dammam and other regions, the researcher applied for a scholarship to study for a Master's degree overseas. He was fortunate to be the only advisor from Dammam selected by the Ministry of Education. He enrolled at the University of Waikato, New Zealand, to complete a Master of Education degree.

The thesis examined the perceptions of Saudi secondary school science teachers of the use of ICT tools to support teaching and learning. During the first year of Master's study, the researcher completed a postgraduate diploma in education by studying three courses by distance learning (fully online). This method of teaching and learning suggested a number of possibilities that could be applied to teaching in Saudi Arabia. From these learning experiences, the researcher gained confidence in his work with the General Directorate of Education in Dammam and seized the opportunity to challenge himself to continue his studies in this field.

The experience and knowledge that he gained forced him to reconsider his beliefs. When the researcher returned to Saudi Arabia in 2008, he started visiting schools to share his knowledge of e-learning and how teachers can prepare themselves to cope with and benefit from this new mode of learning in Saudi Arabia. He spoke with principals to encourage and motivate them and selected one teacher in

each school, who was aware of the use of ICT devices, to become a technical supporter and coordinator for the other teachers in his school. The researcher was able to persuade some principals to create a schedule for their teachers to prepare at least one lesson per week using these tools.

During the visits to different schools and some universities, the researcher observed that teachers needed to be more aware of the benefits of e-learning using ICT tools, as they could enhance teaching and learning. To achieve this, extensive professional development is needed to increase teacher skills and abilities in using ICT tools and to change their attitudes towards e-learning.

As a result of the researcher's academic background and his experience of the situation in Saudi educational institutes, he has been motivated to investigate the possibilities, issues and challenges involved in the implementation of e-learning in the higher education system at X University in Saudi Arabia. The researcher hopes to understand the nature of e-learning at one institute in Saudi Arabia, particularly at the university that has been chosen as a case study for this research.

1.2 Research Issue

In many universities that use e-learning environments, teachers appear to have difficulty activating the e-learning environment with their students. E-learning still suffers from a lack of clarity in the regulations, methods and techniques used at those universities, especially in Saudi Arabia (Al-Musa, 2002). In addition, they lack the knowledge to develop or design good practices in e-learning to enhance teaching and learning (Hussein, 2011).

Many barriers prevent teachers and staff members from being successful. They may not make a qualitative change in their style of teaching and as a result,

their teaching may not benefit from the possibilities that ICT offers (Tucker and Gentry, 2009).

However, there is a lack of technical support and a misunderstanding of the process of designing e-content (Bellás, Fontenla-Romero, Sanchez-Marono, and Becerra, 2010), as well as the aims and objectives of e-learning. The misunderstanding has occurred with staff members, teachers and students. That is, the infrastructure that would support e-learning has not been well prepared.

This study contends that e-learning that depends on the use of ICT tools needs a new kind of awareness on the part of the people that are switching from traditional modes of learning. Access to an e-learning environment continues to be an issue for tertiary teachers in Saudi Arabia. Although some teachers have identified the benefits of using e-learning and have made individual efforts to develop their use of e-learning, they have also identified barriers, including a lack of appropriate professional development, technical support, the pedagogy of e-learning and e-content design. The literature reviewed in the following section discusses a range of theories and issues to inform this study.

Therefore, there is a need for teachers to become aware of how to implement activities or applications to attract students and to facilitate the learning of their resources. This study will explore the ways in which this aim can be achieved and measured.

1.3 Research Focus

This research will examine how e-learning is developing at one university in the tertiary education sector, and how it is used by teachers. It seeks to understand how e-content and instructional design are developing by investigating a case study where the recent emergence of e-learning is likely to be at an earlier stage of

maturation (Al-Musa & Al-Mubarak, 2005). The study will focus on one Saudi Arabian University that has adopted e-learning and established an e-learning centre. An examination of the centre forms part of the case study and, in order to understand how the centre supports e-learning in university, it is complemented by four embedded cases of instructors and their web-enhanced courses and one embedded case of an e-learning centre outside the university. The four embedded cases provide examples of teachers' different experiences using e-learning with students to produce excellent results.

This research will focus on the interaction between instructors and students, the processes of how to develop e-content, the delivery of e-content, and when and how the e-learning teaching mode is used. In addition, innovative practice examples will be considered. The research will also explore whether e-learning was distance-based online learning or online learning blended with campus activities. There will be a discussion of the professional development background and requirements of e-learning for staff members and teachers, and the background of e-learning for students.

Part of this research will focus on teachers' in regard to the utilisation of e-learning and how their beliefs might influence their classroom practices. To understand the similarities and differences between different teaching practices, it is useful to examine how e-learning has developed at the chosen university.

1.4 Rationale of This Research

This research is significant for:

1. understanding the nature of e-learning at one university in Saudi Arabia;
2. understanding the strategies used to practice e-learning at X University;
3. providing guidance for the good practice of e-learning for teachers.

This research will assist Saudi Arabia's support staff, teachers and students, who are moving from a traditional mode of teaching towards e-learning in this particular university, so they can adopt e-learning that reflects the language and culture of their country.

The skills required by tertiary teachers, students and staff to enhance teaching and learning will be discussed, as well as the effect of e-learning on teacher-student interactions. The results of the study will give valuable insight that could be usefully applied to other universities in Saudi Arabia (Bell, 2005), and may guide and assist future researchers, policy makers, and educators to benefit from those lessons, and assist in the development of the e-learning environment in education. The results will also contribute information towards effective decision making and planning in future projects.

1.5 Research Questions

To achieve the aim of this research — namely, *How is e-learning developing at one university in the higher education sector in Saudi Arabia?* — the following questions are posed. The first research question is, 'To what extent does the practice of e-learning at X University in Saudi Arabia match the guidelines provided by the university?' The second research question is, 'What influence do teachers' pedagogic beliefs have on the practice of e-learning at the university?' Those questions are broken down into the following sub-questions:

- 1) How is e-learning developing at X University?
- 2) What does X University do to accommodate e-learning?
- 3) What professional development is needed at X University? How are these needs being met?
- 4) What support staff work with teachers and students to support e-courses at X University?

- 5) What are the current pedagogical beliefs of educators relating to e-learning?
- 6) What conditions are necessary for developing e-learning programmes that serve needs, cultures and contexts at X University?
- 7) Do teachers believe that e-learning has a significant role in teaching?
- 8) What are teachers' practices with e-learning?

1.6 Thesis Structure and Overview

This section will introduce the general structure of the rest of this paper by providing a summary of each chapter. The next two chapters examine the literature in the e-learning environment and teachers' beliefs towards e-learning. Chapter 2 describes existing practices of e-learning in Saudi Arabia. Chapter 3 presents the literature review on the e-learning environment.

Chapter 4 will discuss the research methodology, introduce the research design and discuss the three phases. The sampling selection will be described, followed by a full explanation of the pilot study, the research data sources, the methods used to collect the data and the techniques used to analyse the data. The measures taken to ensure high-quality research will be outlined, in addition to the ethical issues surrounding participation in the research. Chapter 5 provides the results from phase two, and Chapter 6 presents the discussion, implications and conclusions.

Chapter 2

2.0 Existing Practices of E-learning in Saudi

The previous chapter provided an overview of the research conducted. In this chapter, the researcher will focus on the existing practice of e-learning in Saudi Arabia. This chapter is presented in six sections: the Saudi Arabia country and people, Saudi educational context, Tertiary education, Examples of existing practices of e-learning in Saudi universities, E-learning challenges faced by the universities, and a Summary.

2.1 Saudi Arabia – Country and People

The kingdom of Saudi Arabia is considered the largest country in the Arabian Gulf region. Located in the southwest corner of Asia, at the crossroads of Europe, Asia, and Africa, Saudi Arabia's land area embraces approximately 2,250,000 square kilometres (868,730 square miles). The Red Sea lies on the west side of the country, the Arabian Gulf, the United Arab Emirates, and Qatar on the east, Jordan, Iraq and Kuwait in the north, and Yemen and Oman in the south (see Figure 2.1) (Saudi National e-Government Portal, 2014).

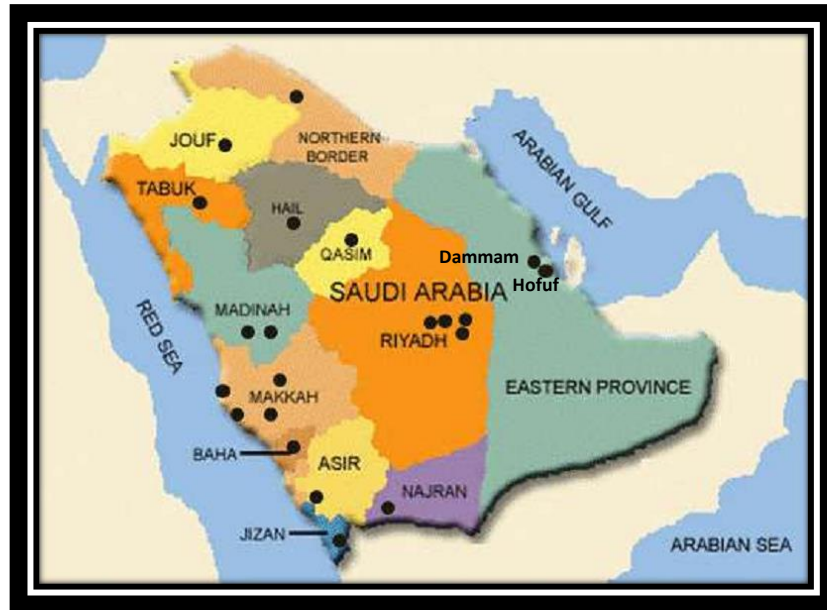


Figure 2.1. Map of Saudi Arabia including capital and major cities (Source of the original map is Saudi National e-Government Portal, 2014).

According to the Central Department of Statistics and Information in Saudi Arabia (2014), the Saudi population totalled 29,994,277 people in 2013; 20,271,058 of these are Saudi and the rest are of various nationalities. Young people represent 60 percent of the population (under 25 years of age).

Saudi Arabia is governed by Islamic Sharia Law and the system of government is based on the Shura, a consultative council which has similar functions to those of the US congress. Saudi Arabia includes more than 20 large cities or towns, and each city includes a number of governorates. Riyadh City is the capital of the Kingdom of Saudi Arabia (Saudi National e-Government Portal, 2014).

King Abdulaziz established the Kingdom of Saudi Arabia in 1932 and since that date, its development has been astonishing. Saudi Arabia became a major oil producer in 1938, with the result that it has become a modern country within a very short time. Two sacred mosques, in Mecca and Medina, have given Saudi Arabia an important position in the Islamic world. The official language of the country is

Arabic, although English is also widely spoken and understood (Saudi National e-Government Portal, 2014).

Saudi culture is strongly influenced by the fact that it is the birthplace of Islam. The segregation of the sexes, obligatory in the culture and according to societal norms, influences all aspects of life, including education. The educational environment is gender-segregated in accordance with Islamic law, as will be explained later in this chapter (Saudi National e-Government Portal, 2014).

2.2 Saudi Arabia Educational Context

In this section, specific events that have occurred in the Saudi education system will be described to place this research in the context of the country's ongoing development. This includes a description of the nature and context of the Saudi educational system and the King Abdullah project, together with sub-projects introduced into Saudi schools and universities and the barriers to their implementation.

A detailed analysis of educational developments and of the researcher's experience in this process is provided in Table 2.1.

Table 2.1

Timeline of education system development for the Ministry of Education and the Ministry of Higher Education in Saudi Arabia

Year	National	Personal
1953	Establishment of the Ministry of Education	
1975	Establishment of the Ministry of Higher Education	
1976	Comprehensive school system in public schools: <ul style="list-style-type: none"> Implemented in boys' schools—begins in four cities (Riyadh, Mecca, Dammam and Jeddah), then expands throughout the country 	

	<ul style="list-style-type: none"> • Students to complete 120 hours of compulsory specialisation and 30 hours of optional modules • Students can specialise in subjects appropriate to them and choose appropriate materials they want to study • Students can study during summer 	
1984–1989	<p>‘Developed School System’ introduced:</p> <ul style="list-style-type: none"> • Diversity of programmes available • Computers introduced as a subject of study 	
1989	<ul style="list-style-type: none"> • Traditional Education System • A return to this system but using the programmes available in the Developed School System 	
1995–2000		Work experience as a teacher of computer science in three secondary schools: Al-Dammam, Mecca and Okaz
2000	<ul style="list-style-type: none"> • Supply of computer labs and ICT tools to schools 	<ul style="list-style-type: none"> • Worked with Ministry of Education as a Supervisor of computer technology and Head of Computer Technology & Maintenance • Supervised computer subject teachers during their teaching • Held vocational training courses for teachers in the use of computers
2001	<ul style="list-style-type: none"> • E-learning centres established at some universities 	
2003	<ul style="list-style-type: none"> • Arab Open University established 	
2004	<p>Developed School System (New):</p> <ul style="list-style-type: none"> • A return to the Developed School System but with changes to meet requirements of technology development • System mixes two programmes—the Developed School System + Traditional School System 	
2005		<ul style="list-style-type: none"> • Completed Master’s degree in New Zealand: ‘Saudi science teachers’ perception of the use of ICT tools to enhance teaching and learning’
2007	<ul style="list-style-type: none"> • King Abdullah Bin Aziz Project for the development of public education—both undergraduate and tertiary education • E-learning in Saudi schools: e-classrooms established in many schools throughout the public school system • Science and ICT—Computer Based Labs Project established in many secondary schools using high-technology ICT tools with established software 	

	<ul style="list-style-type: none"> • Establishment of the National Center of E-learning and Distance Learning, which serves both the Ministry of Education and the Ministry of Higher Education 	
2008	<ul style="list-style-type: none"> • Software and hardware installed—Ministry of Education begins supplying schools with electronic books • Smart Schools introduced (continuation of King Abdullah Project with new school model) 	<ul style="list-style-type: none"> • Began working with the Ministry of Education as an e-learning supervisor
2009	<ul style="list-style-type: none"> • There are 24 universities, 4 private universities and 17 colleges geographically distributed throughout the regions of the Kingdom 	<ul style="list-style-type: none"> • Began PhD study: ‘The Effective Use of e-Learning in the Sciences: A Case Study in Saudi Arabia’
2011	<ul style="list-style-type: none"> • A new online university is established (Saudi Electronic University). 	

Note: Fields shaded in grey indicate developments in higher education.

In Saudi Arabia, the education system includes both public and higher education. The Ministry of Education is responsible for all undergraduate education and distributes funds to each General Directorate of Education according to the size of the directorate, which is relative to the number of schools in each directorate’s district. Girls’ and boys’ directorates are organised separately. Schools in the public education system—for both girls and boys—are classified into Aramco company schools, public schools, small schools in rented premises and private schools. It should be noted that Aramco is a large oil company that supports the government, through the Ministry of Education, by building schools in different cities around the Kingdom of Saudi Arabia (KSA). Further, it prepares those schools by providing all of the necessary equipment and is responsible for maintenance work at the schools.

As illustrated in the education timeline in Table 2.1 above, the Saudi Arabian Ministry of Higher Education, established in 1975, was founded to supervise higher education in the country. The Ministry of Higher Education is responsible for all tertiary education and supports all colleges and universities that are geographically located in the Kingdom regions. These universities come under the oversight of the

Ministry of Higher Education but enjoy a high level of independence in both administrative and academic contexts.

The education system in Saudi Arabia progresses through a number of stages of learning. Students are able to start school at the age of six by entering kindergarten, which lasts for 2 years. This is followed by the primary level (6 years), the intermediate level (3 years) and high school (3 years). Following high school, both female and male students can continue their education at university. The first degree usually takes 4 years to complete, but may take longer depending on the specialisation or discipline chosen by the student. Beyond a postgraduate degree, higher education includes a Master's degree (2 years) and doctoral study (4 years or more). There are many institutes and colleges available that provide opportunities for students to engage in specific fields of industry or technical work, commerce or medicine. Figure 2.2 provides a diagram of the Saudi Arabian system that was updated in 2009 by the researcher (Alhamed, Zayadah, Alotabi and Motawli 2007, p. 85).

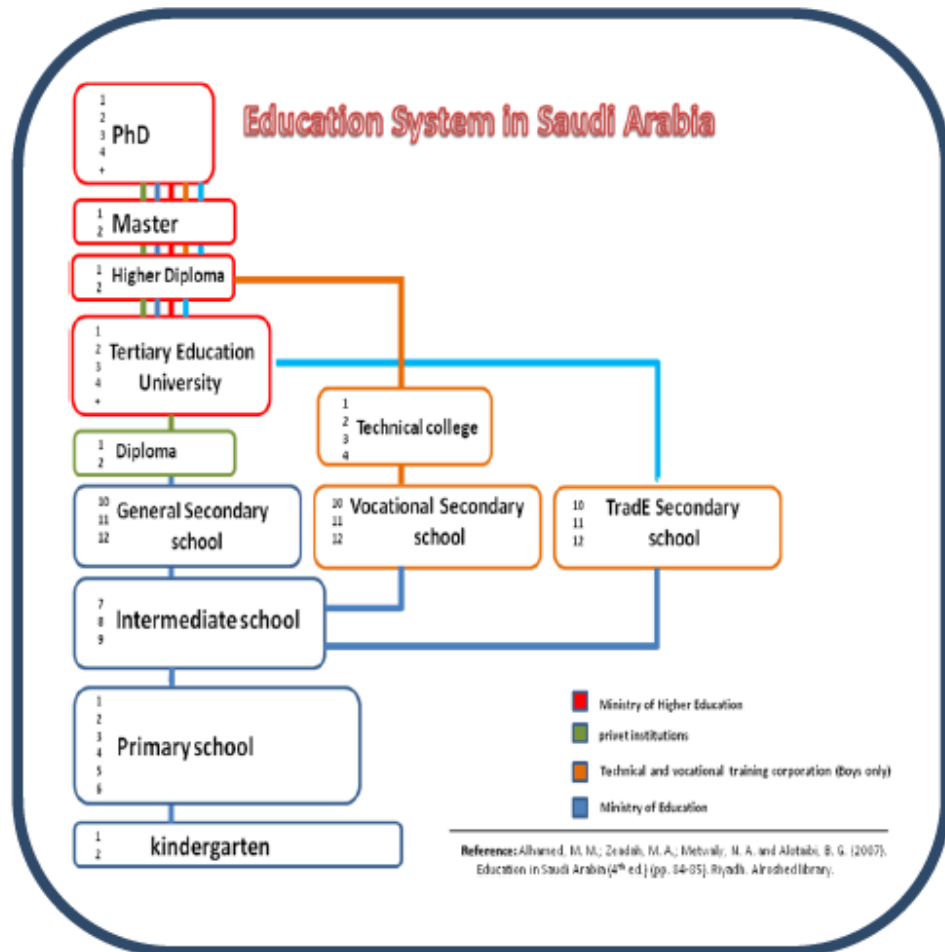


Figure 2.2. Diagram of the Saudi Arabian education system.

2.2.1 King Abdullah's project for the development of education.

In 2007, the government in Saudi Arabia began a major project, initiated by King Abdullah, which covered both public education and higher/tertiary education.

2.2.2 General and public education.

The Ministry of Education identified 39 stages in the project, including professional development programmes in curriculum development for teachers, improvements in the educational environment and extra-curricular activities for more than five million students in all types of schools (Ministry of Education, 2008). The implementation of this project required the preparation of curricula and electronic books, the building and integration of technical standards into the curriculum, and

curriculum development at all stages, from kindergarten to secondary school. The cost of implementing this programme, including hardware and software, was 11 billion riyals (US\$293 million).

The Saudi government's goals are to blend ICT with education and to improve the e-learning environment in response to global trends in the use of technology. Therefore, the King Abdullah project focuses on preparing an infrastructure that includes the latest ICT tools in education, such as broadcasting visuals in one direction, broadcasting visual and audio in both directions, educational programmes on the Internet and CDs, interactive programmes for personal computers, educational programmes on DVDs and the integration of these technologies to direct the process of curriculum decisions and meet students' needs (Ministry of Education, 2008).

The ministry identified nine steps to improve the educational environment, including linking all schools via high-speed digital communication, providing networks in schools with the necessary servers and providing portable computers (laptops) to each teacher for lesson preparation (Ministry of Education, 2008).

2.2.3 The Internet and communication in Saudi Arabia.

According to *A Comprehensive study on the state of ICT Market Development in Saudi Arabia*, published by the Communications and Information Technology Commission (2010), the Internet was established in Saudi Arabia in 1999 and since that date has been expanded throughout the kingdom of Saudi Arabia with a high rate of increasing use. This study showed that the percentage of Internet usage was 40 percent at the time. The Communications and Information Technology Commission (2013), indicated in their report that the Internet is used by more than

half of the Saudi population, approximately 16.4 million, which equals 55 percent of the population.

One reason for this growth is that the majority of Saudis are young people, as mentioned earlier. Furthermore, ADSL (Asymmetric Digital Subscriber Line) connections were introduced to the country and became available for homes and businesses, including all universities, in the main metropolitan areas in Saudi Arabia (The Communications and Information Technology Commission, 2013).

Additionally, the Saudi government has realised the importance of introducing technology in all government sectors to build an e-government. Consequently, this technology is widely used in these sectors, including the Ministry of Education, the Ministry of Health, the Ministry of the Interior, and the Ministry of the Economy and Trade. The government has established different departments and programmes to support these initiatives and facilitate their services among its people, including the King Abdul-Aziz city of technology and science, and the Yesser programme, a government programme providing electronic services for Saudi people by using the Internet (E-government Programme, 2014).

The Saudi government is eager to develop the country in all its sectors, including the education sector. Table 2.2 below provides a timeline of the development of e-learning in Saudi Arabia and shows how the utilisation of e-learning was developed and is developing, passing through various stages.

For example, in 1984 computers were introduced into schools, then in 2000 laptop computers and ICT tools also were made available and provided in schools (Ministry of Education, 2008). At the same time, the Ministry of Higher Education established e-learning centres in some universities, including X University in 2001,

and in the same year, the Arab Open University was established (Ministry of Higher Education, 2010).

Since 2001, the Ministry of Higher Education has monitored the universities in their utilisation of e-learning, with the aim of understanding how those universities which adopted e-learning were utilising it, what challenges they faced, and how they dealt with them, etc. As a result, in 2007 the Ministry of Higher Education decided to establish The National Centre of E-learning and Distance Learning in Riyadh, the Saudi capital (Ministry of Higher Education, 2010). While the researcher was undertaking the current study, these developments have continued and in 2011 the Saudi Electronic University was established with three branches.

Table 2.2.

A timeline of the development of e-learning in Saudi Arabia

Year	
1984	Computers introduced into schools
2000	Computer labs and ICT tools introduced into schools
2001	E-learning centre established at X University
2003	Arab Open University established
2007	King Abdullah Project E-classrooms in many schools Computer Base Labs Project
2007	E-learning centre established by the Ministry of Higher Education E-learning introduced into institutions
2009	24 universities, 4 private universities, and 17 colleges
2011	Saudi Electronic University established with three branches

Note: Shading represents tertiary level; unshaded represents the schools level.

However, a Ministry of Higher Education policy states that students who study via e-learning (fully online) will not have their degree approved by the

Committee of Certificate Equivalence. This policy has affected people for a long time and was a major reason for the decrease in the number of students wanting to continue their studies through e-learning. In addition, the policy affects academic staff who have neglected the role of e-learning in the developing tertiary education sector. However, the Ministry of Higher Education has changed its strategy and policy in regard to e-learning and now approves e-learning degree programmes provided by some universities within Saudi Arabia but only for those who cannot attend classes by reason of pregnancy or the nature of their jobs (Ministry of Higher Education, 2010).

In addition, most Saudis nowadays use modern devices, including the iPad, laptops, desktop computers, iPhones and other smartphones to communicate with others and accommodate needs that can be met through the Internet. Statistics from the Social Clinic website in Saudi illustrate how Saudi Arabians are the world's heaviest users (40 percent of the population) of Twitter, taking advantage of various devices. The position of Saudi Arabia nowadays with regard to Internet use is reflected in the statistics in Wikipedia, which indicate that in 2013 the country had the third highest percentage of Internet users among Arab states (in order, Egypt, Morocco, Saudi Arabia) (Thesocialclinic, 2014).

2.2.4 Tertiary education.

Today, tertiary education is considered one of the most significant catalysts for preparing human resources to support the progression of human societies. Through higher education systems, nations are capable of fulfilling requests for skilled manpower needed by the labour market and nationwide development plans. The Saudi government recognised the importance of this foundational area at an early stage, and has accomplished qualitative and quantitative leaps that have

allowed it to achieve the objectives of its ambitious development plans (Ministry of Higher Education, 2010).

The project initiated by King Abdullah Bin Abdul Aziz has also invested in the Ministry of Higher Education by increasing the number of universities to accommodate the growth in the number of students. The ministry has started programmes and established organisations that focus on local and global activities. In addition, it has adopted 5 years of projects and programmes for the establishment of more public and private universities and colleges. There are now 25 public universities, 4 private universities and 7 colleges that teach students face-to-face, and some universities also use e-learning. Most universities have established e-learning centres to take advantage of the new technology. In addition, in 2011 the Ministry of Higher Education established a new university, named the Saudi Electronic University.

The Ministry of Higher Education has adopted a strategy to improve the education system in Saudi Arabia to meet the needs of different strata of society. The Saudi Arabian government has been eager to improve educational levels in Saudi to compete with developed countries, particularly in the area of education. Accordingly, the government has supported the education sector by providing a large budget, not just for the Ministry of Higher Education, but also for other ministries in different sectors.

One example of the efforts made to achieve that goal is the King Abdullah University of Science and Technology (KAUST). In 2009, King Abdullah supported the establishment of this international, graduate-level research university in the western province, naming it the King Abdullah University of Science and Technology (KAUST). The aim of this university is to become one of the world's

leading research institutions. KAUST has become the sixth wealthiest university in the world, supported by a \$10 billion grant from King Abdullah, noted in the Chronicle of Higher Education (2008).

The King Abdullah scholarship programme (Study Abroad Scholarships) was established in 1936, when King Abdulaziz decreed the establishment of a school to prepare students to study abroad. This programme later became one of the Ministry of Higher Education's most important projects. In 2005, King Abdullah embraced his father's mission, realising the importance of foreign study scholarships for training young Saudi men and women, offering them opportunities to study in the foremost institutions of higher education around the world. This programme enables the Kingdom to develop by using graduates' skills (Ministry of Higher Education, 2010).

In addition, the Ministry of Higher Education realised that international cooperation is an important means for the development, transfer and transmission of knowledge. In this context, international cooperation can be defined as 'the development and support of relations in the realm of higher education between one country and another country, or between a country and an international or regional organization' (Ministry of Higher Education, 2010, p. 9).

One aspect of the King Abdullah project is the introduction of e-learning into universities. The intention of this project is to empower higher educational institutes with new ICTs, including high-technology devices to widen their audiences and to encourage them to create new experiences to administer advanced educational programmes that meet the requirements of assessment, accreditation and skill-building (Ministry of Higher Education, 2010).

2.3 Existing Examples of E-learning in Arab Countries and Saudi Arabia

The Arab world is aware of the enormous change occurring in higher education around the world, especially in the field of e-learning. As a result, the Arab world has adopted the worldwide trend of providing conventional learning and e-learning simultaneously in traditional universities. A variety of Arabic countries have adopted this method of learning, such as Egypt, which has established a centre of online learning, and Syria, which established the Syrian Virtual University of open learning in 2002 (McLaren, 2007).

Saudi Arabia has made great strides in the use of e-learning solutions since 2001. For example, the King Saud University in Riyadh was one of the first universities to use e-learning tools in their curricula by adopting the WebCT learning management solution. In 2010, King Saud University started using the Learning Management System (LMS)–Blackboard as a channel in some departments to deliver e-learning courses which fit with their strategy of developing e-learning. The LMS allowed academic staff to create e-content for their teaching subject, manage the education process, create electronic quizzes and communicate with students through class forum discussions. Moreover, through the e-learning centre, the university provided technical support and professional development for educators to improve their skills and abilities in developing their e-content (King Saud University, 2010).

Another example is the King Abdulaziz University, which was the first university to implement online courses to serve both students studying at a distance and students attending classes. The King Abdulaziz University also has the largest electronic library in the Kingdom (Ministry of Communications and Information Technology, 2007)

The Arab Open University was established in 1999, with the main campus situated in Kuwait. The university signed a contract with the UK's Open University in order to receive support for most e-content. In addition, online courses are monitored through coordinators—one from the UK and one from an Arab country—to provide assurance on the quality of the educational processes. The Arab Open University has expanded its activities by establishing branches in other Arab countries, including Bahrain, Egypt, Lebanon, Jordan and Saudi Arabia. The Saudi Arabian branch was established in 2003 (McLaren, 2007).

2.3.1 University chosen as a case study.

In 2003, the chosen university adopted e-learning and established an e-learning centre, which works with different departments, including Educational Services, the Library, Deanship of Admission and Registration, and the Information Technology Centre.

The objectives of the E-learning Centre are to increase awareness within the academic community at the university regarding the importance and capabilities of modern technology and e-learning in the development process of teaching and learning, to assist in the development and delivery of high-quality electronic courses, to train faculty members to develop e-courses in order to benefit from the improvement of the educational process, and to provide necessary technical support. The centre also places emphasis on quality and educational aspects in all activities related to e-learning, as well as promoting scientific research and development in the area of e-learning and its applications in the university, and assisting the university to establish distance learning programmes (Ministry of Higher Education, 2010).

The current activities of the E-learning Centre include setting up awareness programmes and training courses, implementing training workshops, developing e-

courses, providing software and resources, developing quality standards and supporting researchers in the area of e-learning.

2.3.1.1 The establishment of awareness programmes and training courses.

The implemented programmes aim to increase awareness among academics in the university of the importance and capabilities of modern technology and e-learning to enhance teaching and learning. These programmes are provided by professionals that are invited to the university specifically for this purpose.

2.3.1.2 Training workshops.

There are different types of training workshops, including design, Blackboard and developing e-content using programmes such as Macromedia Flash, Macromedia Authorware, Adobe Illustrator and Adobe Photoshop.

2.3.1.3 Development of e-courses.

Since the centre was established in 2003, ongoing support has been received every year from a grant programme to encourage instructors to develop online courses to be suitable for an e-learning environment. The grant contains many stages of reports and evaluation.

First, a suggested proposal for the e-content is provided and approval is sought from the academic centre. Next, the e-content suggestion is evaluated by the Deanship of Academic Development. Once satisfied, the deanship allows the instructor to begin his or her project of developing e-learning content. The instructor is then required to provide the first report of development progress, which is evaluated by examiners and, if they are happy, that process is repeated. If successful, the examiners will conduct another evaluation and the developer (instructor) will then be asked to provide the final report with specifications approved by the Deanship of Academic Development.

2.3.1.4 Provision of required software and resources.

E-learning centres provide academic staff with different software and the necessary resources for e-learning activities, including LMS. They provide a variety of software for developing e-learning content as well as books, magazines, journals and CDs related to e-learning.

2.3.1.5 Development of quality standards.

The E-learning Centre works to ensure quality in all work on e-learning and to develop regulations and guides for the intellectual rights of developers for e-materials. In addition, it creates other regulations that guide learning in the e-learning field.

2.3.1.6 Support research and development in the area of e-learning.

The Deanship of Academic Development supports research on the applications of e-learning and the examination of various existing authoring tools in order to make a comparison between these tools so that the best methods are used in the university (University website, 2010).

Overall, these examples show evidence of the Saudi government's awareness of the importance of e-learning. Subsequently, universities and colleges in Saudi Arabia have adopted e-learning as an essential tool in their educational strategies to create new pathways for learners. This will increase the opportunities of education for all levels of society, especially for those who are unable to continue their education for reasons such as job, family or cost.

However in 2007, to improve the quality of e-learning and to share the efforts between universities the Saudi Arabia government, through the Ministry of Higher Education, continued the establishment of different projects and programmes. The most productive establishment is the National Center for E-Learning and Distance

Learning. The reasons that led to increased demand and the creation of this centre included a growing number of people seeking tertiary education, a shortage of educators in terms of quality and quantity, and high expenses resulting from the coordination of approved programmes and educational methodologies, and the production of educational materials (National Center for E-Learning and Distance Learning, 2010).

The centre aims to support the deployment of applications for e-learning and distance learning in tertiary education institutions in accordance with quality standards. In addition, it will help expand the capacity of higher education institutions through the distribution and application of e-learning and distance learning, and an awareness of technical issues and contributions to building an information society. This needs to be conducted in a coordinated way in order to increase online resources and avoid the duplication of efforts among universities and colleges. In addition, the centre provides technical support as well as the tools and means necessary for the development of e-learning content.

The centre's mission is based on three pillars: the instructor, who is considered the strongest element in the educational process; content, which is developed based on the subject; and the learner. The centre's major duty is to reshape and re-define these three pillars and their participation in order to improve the higher education sector and make learning a universal principle of knowledge.

The centre provides support to teachers to assist them in achieving the goal of implementing e-learning. The centre does not develop educational content; rather, it depends on materials that have been developed by teachers or other staff members at universities that have adopted e-learning.

There are several programmes and services available at the centre for the benefit of all users, including the ‘Jusur programme,’ which is an LMS in the Arabic language, and ‘Maknaz programmes,’ which are defined as electronic environments that provide support for universities and colleges of higher education in order to enrich the curriculum and digital courses as well as their learning objects through the establishment of storage mechanisms.

In addition, the centre motivates the use of e-learning and encourages initiatives by providing an ‘Excellence Award’ for everyone involved, including academic institutions, instructors and students. One of the main services is the ‘digital library,’ which is considered the largest digital library in the Arabic world, comprising more than 10,000 e-books in different fields. Through the ‘Saneed’ programme, the centre provides technical support to all users of e-learning programmes and distance education, including answering questions and solving problems through different means of communication.

In the e-learning field, the centre provides different types of training and rehabilitation programmes, which are presented by a group of local and international experts for the benefit of university staff and technical support teams. Further, the centre is responsible for increasing the awareness of the benefits of e-learning by organising and holding conferences and events.

Cooperative work is required to conduct these activities. Therefore, the centre has different types of partners, including universities, global partnerships and local partnerships, such as the private sector, which has been used to attract the latest technologies in order to achieve the centre’s goals (National Center for E-Learning and Distance Learning, 2010).

The use of technology in education and administration will enhance the education process, thereby facilitating a change in the traditional educational model. Standing alone, the traditional model may not be appropriate or adequate in preparing students for the complexities of today's rapidly developing society.

When combined with an electronic model, the traditional model will become a blended model using state-of-the-art instructional equipment and tools to aid in the explanation of the learning content, while moving towards a renewed grasp of traditional values. Students will be given the opportunity to utilise the method most appropriate to their learning styles. E-learning enables students to tailor their education under the guidance of teachers serving as mentors (National Center for E-Learning and Distance Learning, 2010).

2.4 E-Learning Challenges Faced by Saudi Arabia's Universities

Arab countries in general, and Saudi Arabia in particular, have faced challenges in the integration and implementation of e-learning in tertiary education (Al-harbi, 2011). These challenges involve the nature of the curriculum, the availability or unavailability of ICT equipment (both hardware and software), insufficient awareness of the appropriate pedagogical approach of the various forms of e-learning and e-content design, and a shortage of e-learning educators with a full understanding of the importance of e-learning and how to activate it in their teaching.

Moreover, the Ministry of Higher Education has a policy regarding e-learning, which has contributed to producing the above issues. The policy states that students studying via e-learning will not have their degree approved by the Committee of Certificates Equivalence. As a result, a decreasing number of students consider continuing their studies through e-learning. The policy also affects

academic staff members, who neglect the role of e-learning in developing tertiary education. Additionally, there are issues relating to the absence of professional development programmes for educators, students and staff on distance learning and e-learning, and a shortage of e-content and course designers.

However, leaders in the Ministry of Higher Education (National Center for E-Learning and Distance Learning, 2010) described the reasons for the lack of uptake of e-learning in this way:

- The Saudi government is monitoring developments in this field around the world to evaluate these experiments and gain more knowledge.
- The countries that have adopted e-learning are small, and no countries in the Arab Gulf area have approved the e-learning certificate.
- There are many fake universities around the world issuing certificates without any benefits and the Saudi government has a right to protect its people (p. 3).

Another challenge is that there is a large number of students emerging from secondary schools with a good knowledge of using ICTs and an expectation that e-learning will be part of their tertiary education experience. If tertiary teachers still consider e-learning a phenomenon of the future, they may be poorly prepared to use it.

These challenges have appeared because Arab countries have imported western instructional modules ‘as is,’ without considering the identity of the Arab world. This includes factors such as high attrition rates, low learning outcomes, and linguistic and cultural interferences, which could slow down the delivery of knowledge and result in learner frustration (McLaren, 2007). This is true globally and is especially true in Saudi Arabia.

McLaren (2007) observed that Arab countries adopt different delivery methods of e-learning and that 'Whatever the mode of delivery is, printed materials, videos, audio lectures, or interactive user interfaces, the language of instruction is English' (p.18). This is especially true in the area of science and technology. McLaren added that English is used over Arabic due to a lack of instructional materials in Arabic, the need to fit into a global learning environment, the need to appear modern and forward thinking, and the lure of economic and social prestige.

Saudi Arabia may face another challenge, in that students at universities are mostly non-English speakers, and they may face difficulties using e-learning applications, despite most universities using English, except for Arabic and Islamic subjects. In addition, these students come from different cities around the KSA and have different cultures and backgrounds, which means that there is a pluralism of cultures among students. As a result, teachers need to recognise the diversity of cultures and languages among students when they design their courses.

In addition, teachers' attitudes and practices may be influenced by contextual factors in their lives and work, including appropriate leadership, professional development (PD) and technical support. To remedy this issue, there is a need to provide technical support for teachers and students. Developing an appropriate e-learning environment requires a number of talents, time, and a sensible level of resources.

Alotaibi (2006) and Alqumazi (2006) noted that teachers in Saudi Arabia cannot use ICT tools for e-learning and that the existing curricula do not easily fit into the e-learning model. They also found that there is a lack of information for teachers to support e-learning. Other barriers to the successful uptake of e-learning include high numbers of students per class, limited numbers of computers available

for students, a lack of suitable places for e-learning and a shortage of trained e-learning teachers.

It appears that most education institutions have been focusing on these tools and how they could integrate them into education, enhance students' knowledge and use of the tools and how they could prepare teachers and students for future ICT. However, at the same time, they were ignoring factors, including the importance of curriculum content, the process of learning, the pedagogic concepts of combining technology and education, and the reasons for using ICT (Al-harbi, 2011). If these institutions could understand the underlying rationale for using technological tools in education whenever it is appropriate, they would not need to make enormous changes each time new technology arrives.

There is a lack of interest and a disregard for e-learning education on the part of decision makers for the reasons mentioned above (National Center for E-Learning and Distance Learning, 2010). This is coupled with many teachers' resistance towards e-learning and some teachers' negative attitudes towards the changed process and a lack of understanding of the process. A greater awareness of the importance of e-learning is needed among students, parents, teachers and the government.

It will be necessary for the Saudi government to expand the infrastructure for this form of education and to make alternatives available for students in all educational institutions. Only then can students decide, with their parents and teachers, the method of learning that is most suitable for them.

2.5 Summary

In summary, if this is to happen, universities and institutions will need to accommodate the changes and challenges of e-learning by preparing themselves with all of the new technologies. This includes computer labs, networks between lecture halls, and making sure that each lecture hall has a laptop for the teacher that connects to the projector and printer, particularly in new universities. Institutions also need to be aware of the new software that is suitable for e-learning, and infrastructure will need to be built for all educational institutions.

Chapter 3

3.0 Literature Review

The literature from western countries, including the US, the UK, Canada and New Zealand, as well as from Arabic countries, including Saudi Arabia, will be reviewed and critiqued in this chapter.

The literature review is based on Khan's (2005) framework and will examine the existing literature on e-learning, the definitions of e-learning, e-learning in tertiary education and the pedagogy of e-learning. In addition, the review will discuss instructional design in the challenges of e-learning, including concerns regarding culture and language, as well as PD in e-learning, teachers' beliefs towards e-learning and the challenges that are specific to Saudi Arabia.

The use of Khan's framework (2005) in the literature review is one factor indicating that the researcher has sought to answer the research questions. He has focused on significant aspects of Khan's framework that were applicable to his research questions. The discussion begins by identifying key terminology used in this study.

Khan's work was chosen for discussion in this research as a model used for developing the theoretical framework. Khan's framework includes many systemically interrelated and interdependent aspects that may help to create a meaningful learning environment. These are grouped into eight dimensions: institutional, pedagogical, technological, interface design, evaluation, management, resource support, and ethical considerations. Khan explained that these aspects lead to and support the creation of a meaningful e-learning environment for diverse users/learners.

In this chapter, the literature review has been based on the research sub-questions and structured according to Khan's framework, which covered five areas (adoption of e-learning, PD, e-learning pedagogy, support, and designing online materials). The researcher modified the literature review after he analysed the data that was collected to answer the research questions, the analysis likewise being based on the Khan framework (2005), as mentioned in the methodology chapter (P.138). Selected themes later guided him in the writing of the literature review for the current research (see Figure 3.1 below).

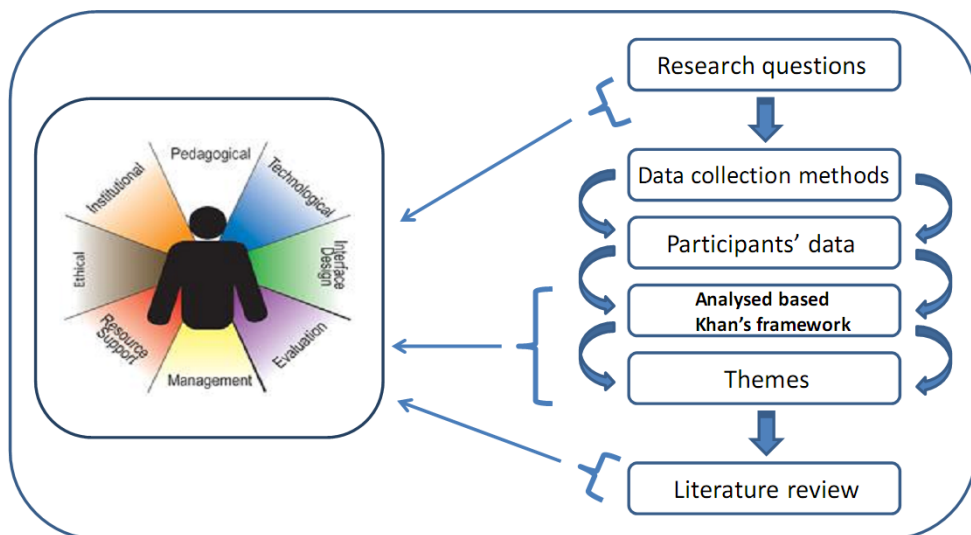


Figure 3.1. Structure used by the researcher to build the literature review – developed by the researcher, 2014

3.1 Glossary of Terminology

E-learning, as discussed by both Saudi academic staff and students, often suffers from fuzzy definitions and is therefore poorly understood. This research first presents and considers the different terminologies in order to clarify the area of study.

3.1.1 E-learning.

Andrews and Haythornthwaite (2007) define e-learning as:

the use of technologies in learning opportunities, encompassing flexible learning as well as distance learning; and the use of ICT as a communication and delivery tool, between individuals and groups, to support students and improve the management of learning (p.2).

3.1.2 Distance learning.

Different definitions have been used and from different perspectives in order to describe distance education. For example, Cavanaugh (2009) defined it as ‘a broad term that encompasses forms of electronically mediated teaching and learning where instructors and students learn at different times and/or places through video, radio, web, and combination formats’ (p. 1).

Cavanaugh, Barbour and Clark (2009) defined distance education as a type of education that employs the Internet as a channel to deliver most instruction and content to students.

Others have offered their own definitions of distance education, identifying three criteria that are considered important for describing the distance education process. First, distance education implies that the majority of educational communication between the teacher and student occurs with no physical contiguity; second, it must involve two-way communication between the teacher and student for the purpose of facilitating and supporting the educational process; third, it uses technology to mediate the necessary two-way communication (Bates, 1994; Garrison and Shale, 1987; Moor and Kearsley, 1996).

3.1.3 Blended learning or hybrid leaning.

Blended learning refers to courses or programmes that employ a variety of media and methods, most often a mix face-to-face and distance experiences (Graham, 2006; Garrison and Vaughan, 2008). Singh (2003) explained blended learning in this way:

Blended learning combines multiple delivery media that are designed to complement each other and promote learning and application-learned behaviour. Blended learning programmes may include several forms of learning tools, such as real-time virtual/collaboration software, self-paced Web-based courses, electronic performance support systems (EPSS) embedded within the job-task environment, and knowledge management systems. Blended learning mixes various event-based activities, including face-to-face classrooms, live learning, and self-paced learning. This is often a mix of traditional instructor-led training, synchronous online, and structured on-the-job training from an experienced conferencing or training, asynchronous self-paced study, worker or mentor (p. 51).

3.1.4 Definition of information and communications technology.

An umbrella term that includes any communication device or application, encompassing radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. ICTs will often be spoken of in a particular context, such as ICTs in education, health care, or libraries (Tech Target, 2007, p. 1).

3.1.5 Instructional design.

Smith and Ragan (2005) in their book *Instructional Design* have applied the term instructional design to ‘the systematic and reflective process of translating principles of learning and instruction into plans for instructional materials, activities, information resources, and evaluation’ (p. 2).

3.1.6 Universal design.

Eberle and Childress (2007) define universal design as:

...an approach to designing course instruction, materials, and content to benefit people of all learning styles without adaptation or retrofitting. Universal design provides equal access to learning, not simply equal access to information, Universal design allows the student to control the method of

accessing information while the teacher monitors the learning process and initiates any beneficial methods (p. 241).

3.2 E-learning at the Higher Education/Tertiary Level

It is a fact that the learning environment in educational institutions around the world is changing through new advances in technology, electronic media, and the Internet. Changes in technology, social expectations, globalisation and the ability to pursue academic goals through an expansion of funding have changed the way we approach course development and design. Social networking, computers, and increased globalization through the Internet have influenced student expectations and perceptions of how to acquire information, how to use it, and what to do with it once acquired (Claesson, Pearson and Rosel, 2012). E-learning, which stipulates learning through electronic media, has the possibility of being an extremely useful educational medium, and the importance of e-learning is growing as the development of ICT tools facilitates new ways of learning (Bellás, et al., 2010; Moor, 1994; Roblyer, 2008; Wolf, 1994).

Consequently, there is an increasing need for the more widespread adoption of e-learning. As a result, an increasing number of educational institutions, and the faculties and disciplines within those institutions, have taken an active and positive approach to the adoption of e-learning. This derives from an awareness of the importance of knowledge as the key ingredient to the future well-being of global economies (Bellás, et al., 2010).

Ko and Rossen (2004) E-learning has developed in response to a range of demands, including the difficulties that come with traditional education for some students, especially those that have not previously undertaken tertiary education, and

for those that need to upgrade their knowledge, skills and qualifications while they are still employed in a specific job.

Ko and Rossen (2004) continued to discuss the ways in which e-learning has been provided for those who have a job or a family or who take care of parents. As long as they have access to a computer connected to the Internet, students can, in most cases, keep up with their work, even if they are busy during the day. However, this approach must be properly designed. An e-learning environment needs to be prepared well, depending on students' diverse needs and it needs to be sufficiently flexible to suit changing needs.

With this enormous change in the nature of learning environments, e-learning will not replace campuses; rather, it will create a new way of learning for students (Wild, Griggs and Downing, 2002). E-learning will open new pathways and more opportunities for tertiary students to learn more in flexible ways. It has been remarked that e-learning will also provide opportunities across the gender divide. That is, it will not just cater to men but will offer new possibilities to women. For example, women living in isolated and rural communities who might not otherwise have access to learning opportunities (Haythornthwaite, 2002).

Additionally, if we consider the case of rural communities in many parts of the world, most comprise ethnic and racial minorities with language, cultural, traditional, and familial structures that differ from the dominant urban cultures. These rural areas may be farming, fishing or mining communities, or simply traditional communities that have strong ties with their region for a variety of reasons. In such cases, there is now, more than ever, a huge need for e-learning. Many people, especially girls, are still excluded from education, and many more are

enrolled in school but are learning too little to prepare them for 21st century job markets (Tan, Seah, Yeo and Hung, 2008; Roudi and Moghadam, 2003).

Thus, many countries have decided to establish their own e-learning environments as part of their strategies, using the Internet and digital technologies to deliver instruction and training to develop highly skilled and qualified individuals using their own experiences and situations (Khan, 2005). Around the world, governments have created and spent large budgets to establish this type of education.

In his study of national strategies for e-learning in post-secondary education and training, Bates (2001) recognised that 'the life learning market for formal university and college courses in knowledge-based economies is at least as great as the market for students leaving high school for university and college' (p. 26).

In the US, for instance, e-learning was well established by the end of 2002, and around \$740 billion dollars had been spent on knowledge services in schools, tertiary institutes and business markets. The global industry is worth \$2 trillion. In 2002, the European Commission developed a three-year plan to deliver technology-based education for a budget of US\$13 billion. In the same period, the governments of other countries, including Australia, officially recognised the importance of e-learning and were planning to establish national virtual universities, despite the fact that one had already been established in Canada (Bates, 2001).

The New Zealand government adopted a number of strategies to use ICT in schools and tertiary areas. Providers in the education sector have combined traditional teaching with new web-based courses, some of which are aligned worldwide.

E-learning in New Zealand has taken place in many educational institutes. For example, the Christchurch Polytechnic Institute of Technology (CPIT), which is

considered one of the largest institutes for tertiary education in New Zealand. Over 15,000 students are educated per year and it has around 2,000 staff members. The 19 polytechnic institutes around New Zealand provide many of the industry-relevant certificates, diplomas and degrees. The CPIT has been chosen as an example as it has been engaged in much work related to e-learning in New Zealand (CPIT, 2010).

However, although the CPIT is considered one of the most mature organisations in web-enhanced and ICT-enabled tertiary education in New Zealand, most New Zealand institutes face many problems with the implementation of e-learning. According to the E-learning Maturity Model (2009), New Zealand institutes face several issues with the implementation of e-learning, including an absence of planning intention. The document contains considerable criticism. Most institutions that use LMS do not have strategies or policies to follow and most carry over existing practices into online courses. There is no evidence of reflection or planning, no linkages to learning objectives or graduate attributes, and not enough support for students using the systems. The criticism charges that systems and infrastructure follow the traditional LMS model: there is insufficient evidence for the use of standards, planning, analysis and design, and for being driven by strategic goals. There is also a lack of risk analysis, especially with increased institutional reliance on LMS systems.

Marshall, (2009) declared that PD, training and support for academic staff is generally optional in most institutions, and there are no opportunities offered for teaching staff in terms of skills development. Apart from a few examples, there are no rewards or incentives for teaching improvements in general, and there is no compensation for extra time devoted to developing online courses. In addition, for evaluation and feedback, staff members are systematically ignored, course

assessments do not allow staff members and students to share their perspectives, there is a lack of confirmation-based practices on the use of guidelines, templates and case studies, and there are no regular reviews of course e-learning components, as e-learning is not included in institutional evaluations and review procedures. Further, there are issues related to the organisation, planning and management: there is no evidence that teaching and learning policies reflect the differences involved in e-learning, and there are no policies relating to e-learning and e-courses.

Saudi Arabia, like many other countries, has adopted a serious strategy to introduce e-learning into universities and colleges (Ministry of Higher Education, 2010). Approximately 10 universities and 6 colleges have established centres or departments of e-learning on their campuses depending on their abilities, the existence or availability of qualified e-learning staff and the e-learning infrastructure that they have to adopt for this kind of education.

However, a focus on technology only will not accomplish the conversion from traditional ways of learning to e-learning. Garrison and Anderson (2003) and Kahn (2005) indicated that integrating pedagogy with technology is needed. They investigated the abilities of a variety of technologies to examine how their characteristics can be used for different types of learning for specific content types. In addition, awareness of the type of learning environment that needs to be established is required (Pyzalski, 2012), with a real demonstration of its usefulness in all cultures and communities. Consequently, e-learning that depends on the use of ICT tools needs to be properly and thoroughly explained to people moving from a traditional learning model to an e-learning model. Educators at the tertiary level need to be well supported and well prepared to utilise e-learning, otherwise it is likely that success will never be realised (Pyzalski, 2012).

3.2.1 How e-learning is being used.

E-learning in many universities and colleges worldwide is being used in three primary ways. Bates' (2001) report of national strategies for e-learning in post-secondary education and training described technology-enhanced classroom teaching, distance learning and distributed learning. The following sub-sections provide specific examples to illustrate the styles of e-learning that can be applied in the learning environment.

3.2.1.1 Technology-enhanced classroom teaching.

Brighi, Fabbri, Guerra and Pacetti (2012) explained that e-learning is used by integrating the Internet into classroom teaching, which provides teachers with the opportunity to use web pages to build their courses, as they can create links to other relevant resources through the Internet. Teachers may convert their PowerPoint slide presentations into PDF files so students can download and print them from a website. They may also create course websites that include their papers or other relevant materials, or they may use websites for illustration purposes in their classroom lectures. For their part, students can participate in online discussion forums. In e-learning, the interaction between instructors and students via the class forum system is an important factor. Such class forums are the basis for building an online community in the e-learning environment (Ryba, Selby & Mentis, 2002), leading to increased knowledge and shared information.

3.2.1.2 Distance learning.

In Australia, a correspondence school was established in the nineteenth century. Other countries, such as Canada and New Zealand, developed correspondence schools to provide distance education, which was a real advantage given their low population densities (Hogan, 2011).

3.2.1.3 Distributed learning.

Bates (2001) identified distributed learning as a combination of technology-enhanced classroom teaching and distance learning. Distributed learning is explained as a mix of intentionally reduced face-to-face teaching and online learning.

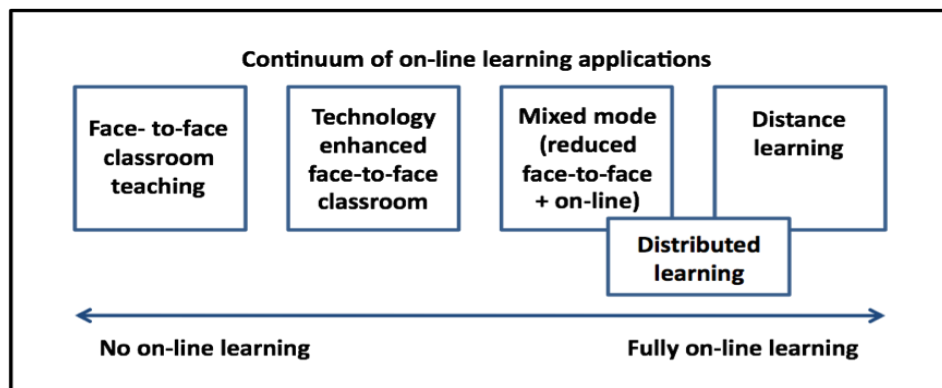


Figure 3.2. Continuum of online learning applications (Bates, 2001)

Bates (2001) explained that the cooperative way to consider the differences is as a continuum, with 'pure' face-to-face teaching at one end and 'pure' distance learning at the other, with an increasing mix of online learning from one end of the continuum to the other (see Figure 3.1). Bates (2001) concludes that all forms of online learning are covered by the term 'e-learning'.

According to Bates' (2001) description of online learning applications, most universities in Saudi Arabia that are adopting e-learning are still engaged in face-to-face learning, as they are using technologies to enhance classroom interaction. Some universities are using distributed learning, which includes mixed mode/blended learning that comprises face-to-face and online learning, and entirely through an online form. Only a few universities are delivering their entire courses online (National Center for E-Learning and Distance Learning, 2010).

3.2.1.4 Creating an e-learning strategy.

Ally (2011) visited Saudi Arabia in 2011 to attend the second conference of e-learning and distance learning which was held in the Al-Riyadh city. He observed that this is an interesting time for instruction because of the rapid propagation of ICT. This was a good opportunity to make use of emerging technologies in education so that education can be designed and provided for by adopting different methods of delivery, using computers and mobile technologies.

However, Spiliotopulos (2011) explained that even though the implementation of e-learning may contribute to the development of education, it is important to provide as many concrete examples as possible in order to encourage instructors across disciplines to consider the pedagogical merits of this approach and to demonstrate to administrators the relevance of this model in meeting overall institutional goals. A better understanding of e-learning in the context of strategic university goals is important in order to 'embed' the use of educational technologies at the institutional level and reinforce the integrated nature of teaching, learning, and technology beyond e-learning.

Spiliotopulos (2011) argued, moreover, that an important step in the implementation of e-learning is to understand how it can support institutional goals and values, how it can motivate instructors to use technology as a regular part of their practice, and how it can better involve administrators in making key decisions concerning e-learning.

Suhail and Mugisa (2007) noted that there should be a gradual transformation within the context of a university setting from conventional face-to-face learning to e-learning in order to conduct a smooth transformation without compromising the quality of education provided by close classroom interaction. They proposed a

gradual change model that stands for a continuum of educational technology integrated into diverse types of learning methods in the higher education system. The model starts with face-to-face teaching and the supplemental use of technology in the classroom and is followed by the blended learning mode, the fully online distance learning environment and mobile learning. The model used by Suhail and Mugisa (2007) was based on Khan's (2001) framework (see Figure 3.2), which included eight dimensions. However, Harvey (2003) argued that:

Organizations exploring strategies for effective learning and performance have to consider a variety of issues to ensure effective delivery of learning and thus a high return on investment, while Khan's framework has capacity to serve as a guide to plan, develop, deliver, manage, and evaluate blended learning programmes' (cited in Suhail and Mugisa, 2007, p. 311).

Suhail and Mugisa (2007) explained that Khan's framework comprises many aspects related to the socio-economic and technological environment, including connectivity and accessibility, insufficient telecommunications infrastructure, and lack of a reliable power supply, which need to be taken into account for technological transformation in developing countries. As some institutes spend a large amount of money to implement e-learning environments, they may, for example, ignore bandwidth, which could create problems in the future.

Thus, Suhail and Mugisa (2007) considered these factors in depth while they implemented their framework, which was a modified model based on Khan's (2001) framework. The implementation of the model resulted in increased enrolment with no additional lecture rooms for higher education institutions and flexible, high-quality higher education at a reasonable cost for students.

Ally (2011) indicated that KSA needs to prepare its current citizens and the upcoming younger generations for the competitive workforce. As current students use different technologies to access information and to communicate and interact

with other learners, the learning methods previously used by students have changed, and they require e-learning materials to keep up-to-date with the changes in technology. Today, the Internet provides a range of information available for all users at any time and in any place (National Center for E-Learning and Distance Learning, 2010).

Ally (2011) emphasised that e-learning will provide students with the skills required for the workforce, including the ability to use innovative technology, the different methods of conducting research, and the ability to learn independently and develop time management skills. Ally observed that e-learning is more interactive and learner-centred, which will help motivate students to learn. Thus, there is no excuse for institutions that do not integrate these technologies into education.

Rosenberg (2001) believed that future changes in society, business and technology will reduce the effect of traditional learning and training methods. Thus, to keep moving forwards, we need to transform our perceptions of learning. Rosenberg noted that ‘from e-learning ‘TALK’ to e-learning ‘Action’ requires a strategy—a detailed plan to get your e-learning operation up and running and to make it durable over the long term’ (p. 291). E-learning needs to be based on a well-built strategy that requires sufficient knowledge about what the institute plans to accomplish and a readiness to articulate the plan in a way that suits all stakeholders.

Rosenberg (2001) explained that institutions need to spend time examining their learning needs to consider and understand their capabilities. They also need to consider the effect of e-learning when deciding whether or not to move towards developing e-learning strategies at their institutions.

However, Ally (2011) argued that for e-learning to be successful, institutions must design learning materials using proven instructional design models and learning

theories. Moreover, he indicated that it is important to consider the cognitive learning principles for information processing and storage, as ‘constructivists learning strategies allow learners to build personal knowledge, learners must also be provided with a support from their tutors as needed as that will lead to a successful process of learning’ (p. 10).

Eberle and Childress (2007) indicated that ‘developing a successful online course requires planning and good instructional design. Course design should take into consideration universal design and the components that will best serve the culturally-diverse students’.

Khan (2005) noted that ‘success in an e-learning system involves a systematic process of planning, designing, evaluation, and implementation of online learning environments where learning is actively fostered and supported’ (p. 142). Thus, teachers need to understand their roles as e-learning teachers as well as these systematic processes. These issues need to be considered when creating e-learning environments.

Bates (2001) observed that it is significant to appreciate the need for the successful implementation of learning technologies before starting to build any plans or strategies for e-learning in tertiary education. de Freitas and Oliver (2005) argued that there is a relationship between e-learning policy, and the implementation of e-learning. They added that e-learning strategy is increasingly used as part of an organisation’s change management strategy. A government needs to increase access to the Internet and provide more chances for students in tertiary education and for training, which will be a significant role for a government to undertake. The government needs to identify responsibilities that must be delegated and understand

the requirements of e-learning with consideration of the technology infrastructure. Thus, it needs to understand how the Internet works.

Rosenberg (2007) agreed with Bates' concerns and indicated that there are three questions or aspects that institutions need to consider before creating e-learning environments:

1. **Context:** connectivity; that is, access to a robust, national, open standards-driven ICT infrastructure for education. This is what the institute needs to focus on because, without preparing the infrastructure, the rest of the e-learning environment will be not accomplished. Khan's (2005) framework situated this factor within the technological dimension.
2. **Content:** digital content from a variety of sources and repositories for many users to support teaching, learning, research and administration. This includes support for lifelong students and the conservation of the digital heritage for future generations.
3. **Confidence and Capability:** acquiring and developing the skills and confidence needed to turn information into knowledge, and collaborative working practices that are utilised to deliver education outcomes for all in order for institutes to achieve their goals in terms of the implementation and utilisation of e-learning using the proper methods. This includes whether they have the ability to do this and what they will provide to achieve this goal.

However, Rosenberg (2007) agreed that there is a large gap between what the institutions are doing and what they actually have or have prepared, including issues related to pedagogy, technology, infrastructure, policy, legal matters and funding. The problem of resolving concerns when adopting e-learning is how to involve the academic staff that will drive or lead the change. Rosenberg indicated that, 'until

they have accepted the worth of these developments, have the skills and support to use them, and are the ones driving new initiatives arising from their interactions with learners, sustainable integration into general teaching practice is near impossible’.

3.3 A framework for e-learning.

Ally (2011) indicated that several e-learning models exist for implementation in higher education and the most commonly used and effective e-learning model is Khan’s (2005) framework, which was developed to be applied to e-learning of any scope. In addition, Ally (2011) discussed that learning principles that support active learning, student interaction and higher-level learning must be used.

Khan (2005) discovered that many aspects may help to create a meaningful learning environment. Many of these aspects are systemically inter-related and interdependent and need to be studied in a systemic way to help designers create meaningful learning environments. Khan’s e-learning framework grouped these aspects into eight dimensions, including institutional, pedagogical, technological, interface design, evaluation, management, resource support and ethical consideration. Khan explained that these aspects lead to and support the creation of a meaningful e-learning environment for diverse users.



Figure 3.3. Khan’s (2005) framework

Khan explained that these eight dimensions include sub-dimensions and that the dimensions are inter-related. For instance, after offering all materials relating to staff members and students and planning in the first dimension (institutional), the next move is to prepare the infrastructure (i.e. the necessary technology that will support the e-learning environment), followed by the e-learning teaching requirement (the pedagogical dimension). The eight dimensions are explained below:

1. **Pedagogical:** In this dimension, Khan (2005) defines ‘pedagogical’ as teaching and learning, addressing subjects regarding goals and objectives, content, design approach, organisation, methods and strategies, and the medium of e-learning environments. E-learning methods and strategies include presentations, demonstrations, drills and practice, tutorials, games, storytelling, simulations, role-playing, discussions, interaction, modelling, facilitation, collaboration, debates, field trips, apprenticeships, case studies, generative development and motivation. According to Singh (2003), ‘the pedagogical dimension also encompasses the design and strategy aspect of e-learning. This dimension addresses a scenario where all learning goals in a given programme are listed and then the most appropriate delivery method is chosen.’ (p. 51).
2. **Technological:** The technological dimension of the framework examines issues of technology infrastructure in e-learning environments, including infrastructure planning, hardware and software,
3. **Interface design:** Interface design refers to the overall look and feel of e-learning programmes. It encompasses page and site design, content design, navigation and usability testing,

4. **Evaluation:** The evaluation for e-learning includes both the assessment of learners and the evaluation of the instruction and learning environment;
5. **Management:** The management of e-learning refers to the maintenance of the learning environment and the distribution of information,
6. **Resource support:** The resource support dimension of the framework examines the online support (e.g. instructional/counselling support, technical support, career counselling services and other online support services) and resources (i.e. both online and offline) required to foster meaningful learning environments,
7. **Ethical:** The ethical considerations of e-learning relate to social and cultural diversity, bias, geographical diversity, learner diversity, information accessibility, etiquette and legal issues (e.g. policy and guidelines, privacy, plagiarism and copyright),
8. **Institutional:** The institutional dimension is concerned with administrative affairs (e.g. organisation and change, accreditation, budgeting, return on investment, information technology services, instructional development and media services, marketing admissions, graduation and alumni affairs); academic affairs (e.g. faculty and staff support, instructional affairs, workload, class size, compensation and intellectual property rights); and student services (e.g. pre-enrolment services, course and programme information, orientation, advising, counselling, financial aid, registration and payment, library support, bookstores, social support network, tutorial services, internship and employment services) related to e-learning. This dimension is fundamental to other dimensions. In other words, decision-makers in any

organisation should be aware of what each dimension means, what each dimension aims for, and should understand the philosophical foundations that explain how adults can be involved in each dimension. They should also recognise that e-learning not only saves time and money but it has substantial goals beyond such limited aims.

These eight dimensions can be found when implementing or designing e-learning in an organisation. Designing an e-learning environment is a challenge for all institutions. However, when more institutions offer e-learning for their students, more knowledge will be gained regarding what does and does not work (Khan, 2005).

3.4 Pedagogy and E-learning

There is much debate among researchers about whether the most important reason for the shift from traditional classrooms to e-learning environments is to change the pedagogical mode of learning to the new mode of e-learning (Hase and Ellis, 2002, cited in Wang and Reeves, 2007). Austin and Anderson (2010) argued that pedagogy must be clearly based on theoretical models of learning and suggested bringing together a revised model of Bloom's taxonomy, using the verbs 'remember, understand, apply, analyse, evaluate and create,' drawing on both the constructivist approach and insight from the contact hypothesis. This should assist instructors to plan and evaluate work more clearly and systematically and, in addition, provides a framework that can help them think clearly about the way collaborative work should be extended beyond the simple exchange of data.

In this research, pedagogy is defined as the art of teaching; that is, the strategies, methods and styles of instruction. The adoption of new technologies adds

one more consideration to course design. There is a need to understand the processes used by students to learn and to act together with technology that will lead to the creation of online learning and teaching. Therefore, before teachers create their courses, they need to have a sound knowledge of the pedagogy that will support their online environment (The University of Manchester, 2010).

What makes a difference for an e-learning teacher is not the content or technology but rather what is done with the content and technology. Gearhart (2012) maintained that the successful instructor develops skills for humanizing the online environment and provides learning strategies and new ways to guide students to discuss, critique, reflect and learn together, and engage in the building of meaning. In addition, instructors need to improve their skills in order to combine the use of technological communication tools with fostering a sense of community.

Laurillard, Charlton, Craft, Dimakopoulos, Ljubojevic, Magoulas, Masterman, Pujadas, Whitley, and Whittlestone (2013) remarked that teachers in higher education lack both time and support for working on innovation and improvement in their daily teaching, which frequently means they simply continue their current practices, only in a digital medium. As Laurillard et al. explained, academics are usually not trained as teachers and are given little help in learning more about their conventional teaching methods or learning new technologies. Thus there is a need to focus on how to support the process of designing conventional, digital, and blended learning by investigating which developed computational environment can provide that support.

Teachers need to improve their expertise and practice in learning design. This may be similar to developing expertise and practice in the context of research, where academics are familiar with what is necessary in knowledge-building: building on the

work of others (from literature research), developing and testing their own ideas (through experiment or debate), then sharing their results (through publishing) (Laurillard, 2012). Employing this technique, teachers-designers will be enabled to act as researchers by developing knowledge and practice about teaching and learning. Furthermore, this technique will give teachers a way of developing and testing their ideas in the light of established principles of effective learning design.

E-learning technologies can play a variety of valuable support roles, particularly with the complexity of the learning design process. All these methods can serve as mechanisms of supportive infrastructure for teachers. Consequently, the teacher should be the learning designer.

Laurillard et al. (2013) added that it is important that teachers know how to build learning structures, how to design the structure of their courses, which should be based on sound theory. Laurillard et al. pointed out that to encourage the use of e-learning tools and digital technologies for learning, and to help teachers adopt, adapt, and experiment with learning design, they need a theoretically informed way of representing the critical characteristics of good pedagogy as they discover how to enhance learning technologies. Teachers, furthermore, must enhance their teaching practice by making informed use of the variety of learning technologies available to them and their students. The best use of e-learning tools is an integral aspect of the wider issue of how best to facilitate learning. In the context of global education, usually learning design is based on pedagogy, the strategies, methods and styles of instruction.

Many programmes have been very teacher-centred and it is not easy for teachers to move from well-established forms of pedagogy to allow learning to become more independent. As a result, there is a demand to consider learners as the

cornerstone of e-learning. Understanding the needs of learners, providing them with more options, and interacting with peers, lecturers and suitable support will lead to higher standards of learning. In addition, teachers need to understand how students learn in general and how they learn in a specific subject. To apply e-learning effectively, there is clearly a need to understand students' learning processes. Gearhart (2012) argued that the learning process that teachers need to be concerned with when they try to move from well-established forms of pedagogy to allow learning to become more independent can be described as the following:

- Acquiring and storing facts, skills, and methods for the reproduction of what is learned;
- Relating aspects of subject matter to each other and making sense of that relationship; and
- Understanding and interpreting reality in a different way – comprehending the world by reinterpreting knowledge (p. 86).

3.4.1 Theories for e-learning

Teachers currently have to decide whether they require a new theory of learning, or whether the existing theories will be sufficient to achieve all that e-learning makes possible (Andrews, 2011). Andrews noticed a significant debate over this issue. It is important for teachers who have adopted e-learning to understand the relationship between technology and learning as they develop their own practices, and as they support the development of others' practices. E-learning is a tool that changes and adapts itself to new social situations, politics, technologies and forms of learning.

It is important to consider the manner in which content is delivered, rather than to consider only the technology. Contemporary teachers are required to adopt

more current styles of teaching, particularly in regards to technology. They are required to develop their strategies of teaching in ways that will be most beneficial to students. To do so, they must interact with students to determine how to implement these new activities in ways that will engage with and teach their students in the most successful manner. Laurillard (2002) indicated that encouragement should be considered an important factor when using e-learning technologies and that encouragement could include providing different activities for students to engage with. She elaborated that instructors should try to encourage 'mathemagenic' activities in students. Laurillard explained the concept of mathemagenic activities as five interdependent aspects of the learning process that instructors could focus on when designing their teaching strategies: these include apprehending structure, integrating parts, acting on the world, using feedback, and reflecting on goals. The idea is that these are activities instructors could carry out that will result in student learning.

Laurillard elaborated on these mathemagenic activities in the following way:

- Apprehend the structure of the discourse – e.g., focus on the narrative line, distinguish evidence and argument, organise and structure the content into a coherent whole;
- Interpret the forms of representation – e.g., practise mapping between the concept, system, event or situation and its representation, practise using the forms of representation of an idea, represent the discourse as a whole as well as its constituent parts;

- Act on a description of the world – e.g., combine description and representations to generate future descriptions of the world, manipulate the various forms of representation of the world;
- Use feedback – e.g., use both intrinsic and extrinsic feedback to adjust actions to fit the task goal, and adjust descriptions to fit the topic goal;
- Reflect on the goal-action-feedback cycle – e.g., relate the feedback to the goal or message of the discourse, reflect on how the link between action and feedback relates to the structure of the whole (pp. 60-61).

Khan (2005) considers the student, or ‘learner,’ to be of key importance to the educational system. Banathy (1991, p. 96, cited in Khan, 2005)—the leading theorist of educational systems—believes that in learning-focused educational and training systems ‘the learner is the key entity and occupies the nucleus of the systems complex of education’ (p.141). Banathy states that ‘when learning is in focus, arrangements are made in the environment of the learner that communicate the learning task, and learning resources are made available to learners so that they can explore and master learning tasks’ (p. 101, cited in Khan, 2005, p.142).

Teachers must know how to design instructional strategies for learning materials. These will not necessarily only be for online courses but may also apply to face-to-face courses, courses that blend e-learning with traditional learning, and courses that use technology as a supplementary tool (Khan, 2005, 144-145).

Many researchers believe that students could attain significant benefits by using e-learning technology. However, these benefits are not limited to the technology itself but include the instructional strategies and designs that teachers build into their learning materials (Bonk and Reynolds 1997; Clark, 1983; Cole, 2000; Kozma, 2001; Rossett, 2002, cited in Ally, 2008; Schramm, 1977). Khan

(2005) agrees with this perspective and states that ‘technology alone is unable to create a meaningful learning environment unless we integrate pedagogy with technology’ (p. 142). He explains that there is a need to look at the possibilities of different technologies, and observe how each of their features could be used for different types of learning for specific content.

Ally (2008) discussed how exploring different theories of teaching will help teachers understand the various ways they might design learning materials for their students. Ally also states that ‘the development of effective online materials should be based on proven and sound learning theories’ (p. 6). Roval, (2002), cited in Ally, (2008) has also found that, when it comes to designing learning materials, there is no particular learning theory to follow. Developers use designs that are suitable for their specific situation and that are based on their individual beliefs. However, teachers need to understand all approaches to learning—including the behaviourist school of learning, the constructivist school of learning and the cognitivist school of learning—in order to choose suitable instructional strategies. Ertmer and Newby (1993), cited in Ally, (2008) explain these three different schools of learning:

Behaviorists’ strategies can be used to teach the ‘what’ (fact), cognitive strategies can be used to teach the ‘how’ (processes and principles), and constructivist strategies can be used to teach ‘why’ (higher level thinking that promotes personal meaning and situated and contextual learning). (p. 7)

The designers of learning materials may need to include principles from each of these three schools of learning. Online materials appear when students access the Internet, undertake a series of instructions to complete learning activities, and achieve learning outcomes and objectives (Ally, 2008). Ally states that the designers of e-learning materials should include different activities to suit each of the different

ways of learning so that students may select a suitable approach that accommodates their specific learning needs.

Garrison and Anderson (2003) stated that the constructivist learning theory is important for individuals to make sense of their experience. It recognises the inseparable relationship between personal meaning making and social influence in shaping the educational transaction. Garrison and Anderson added that ‘the unified process recognizes the interplay between individual meaning and socially redeeming knowledge. The recognition of these two interests is crucial in constructing a theoretical framework through which we can understand and apply e-learning for educational purposes.’ (p. 12).

The theoretical foundation of e-learning is predicated on factors identified by Garrison and Anderson (2003). These factors are ‘recognition of the unity of the public and private worlds, information and knowledge, discourse and reflection, control and responsibility, and process with learning outcomes. All these factors can create different perspectives based on different philosophical and theoretical explanations.’

Gearhart (2012) stated that constructivism is the most generally used learning theory for online education. The principles of constructivist learning include:

- To make learning outcome transferable, learners need content and context learning;
- Learners are active constructors of knowledge;
- Learning is in a constant state of growth and evolution;
- Learners bring their own needs and experiences to learning situations;
- Learners acquire skills and knowledge within realistic contexts; and
- Assessment is realistic and holistic (pp. 86-87).

In designing such an environment, the expertise of the subject matter specialist(s) is crucial, as is the expertise of those who can provide appropriate ideas for the development of learner-centred pedagogy for learning and assessment. Shaw and Schmidt (2010) indicated that weaving e-learning into existing teaching and learning practices adds more ways for students to be actively and deeply involved with subject-area materials. The LMS allows learners and instructors to use browser-based classroom software to engage in classroom discussion, submit assignments, and meet with team members from any web-connected computer, allowing access from a range of locations. In this way, e-learning is an important tool for students to use to increase their learning opportunities and the overall quality of their learning.

Shaw and Schmidt (2010) added that class forum discussion, particularly in 'asynchronous' learning environments, promote the synthesis of knowledge and contribute to better-informed critical discussion and, furthermore, allow for more formal and careful responses. The learning environment must be considered community-centred, which means that it can provide both knowledge-based and effective support. In addition, since instructor communication is considered a significant issue for e-learning, instructors can establish a place where students can share and comment on what they bring with them to the course, their experiences during the course, and their work in progress (Shaw and Schmidt, 2010). Feedback and encouragement are considered a significant part of the growth of a shared community of learning (New Zealand Council for Educational Research, 2004).

Cantoni (2011) noted that educators are searching for the best strategies to support their students' growth, enabling them to become more educated and skilled in the field in which they teach. Thus, for educators, they must consider three elements:

- the people involved with e-learning, as there is a need to reshape their traditional roles and adapt to the new method; intergenerational conversation must take place in new and creative settings
- teaching and learning goals, and content, such as the subjects that should be included or excluded, how sources can be evaluated in the proper way, and how to create a balance between formal and informal learning
- strategies to reach students, including supporting better learning, coordinating communication between people, the use of old and new media, personal reflection and experiences, and interpersonal/community conversations, as well as combining presence and distance, and synchronous and asynchronous approaches.

Anderson (2004) noted the characteristics of excellent e-learning teachers who enjoy dealing with students. They have sufficient knowledge of their subject, convey enthusiasm both for the subject and for their task as a learning motivator, are equipped with a pedagogical understanding of the learning process, and they have a set of learning activities at their disposal by which to orchestrate, motivate and assess effective learning. Anderson (2004, cited in Shaw and Schmidt, 2010) argued that instructors in the e-learning environment should be learner-centred, knowledge-centred, assessment-centred, and community-centred.

In addition, e-learning teachers must allow more time in their course plans for activities requiring online interaction among students than they allow for course plans for a face-to-face class. New activities are required in addition to those converted from a classroom-based environment (Changchit and Klaus, 2010). Online learning should also use effective communication tools for students, as the online medium is inherently devoid of audible and visual cues. An absence of body

language and facial expressions inhibits trust, creating a unique and serious problem for online learners. Without trust, it may be difficult to create the open and free forum needed for debate and collaboration. An e-learning teacher must create a coherent learning experience for students they may not meet face-to-face (Shaw and Schmidt 2010). Therefore, instructors need to increase collaboration by sharing positive teamwork stories with learners, develop icebreaking collaborative projects that hold a high probability for success, and give recognition for individual contributions.

Motivation and encouragement can play an important role in change (Shaw and Schmidt, 2010). Rosenberg (2007) clarified that institutions that are based on the motivations and values of the individual and national policies that motivate them in the desired directions may implement change. E-learning in general is considered a new way of learning that requires specific knowledge and needs to be adopted. For most educational institutions, the main concern is to ensure that they offer sound online courses so that students and instructors are best able to participate and gain an appropriate learning experience. If instructors are not willing to move towards the new way of learning, then change will not occur. As a result, motivation and encouragement factors need to be applied to attract learners to this kind of learning (Cangchit and Klaus, 2010).

Gautreau (2011) indicated that motivation is recognised by available resources and the system of rewards and incentives, as most educational institutions ignore these factors. In addition, administrative training and support are considered key factors of technology use. In addition, Gautreau clarified that the important factors of motivation include free time available to staff members, good infrastructure—including (Changchit and Klaus, 2010) both software and

hardware—technical support and PD. Jacobsen (2011) added that new technologies, including Web 2 technologies and open-source and mobile technologies, promote new ways of learning, motivate students to learn with greater flexibility, and transform the way people can work, learn, and communicate in higher education.

3.5 Challenges of e-learning (ethical issues)

When institutions attempt to create or develop an e-learning environment, they may face some challenges, including in the areas of policy, culture and support. Consequently, the educational field needs to consider the political, social, economic, and cultural implications for learners and for learning, a task that requires that the field itself examine how we prepare the next generation of educational technology scholars and leaders (Jacobsen, 2011). Government policy, including funding and even the remuneration of e-learning teachers, would also affect the latter's performance.

It is also important to consider the large number of people involved. The Internet is an environment with its own rules and regulations and health and safety considerations must be considered. Ignoring cultural pluralism in the e-learning environment could lead to unsuccessful learning.

Institutions must check their capabilities before establishing an e-learning environment. Hit and Hartman (2010) argued that when setting up an e-learning environment, institutions should take into account certain factors, which include the following:

- An articulated vision for the institution.
- Specification of the institution's current position and where it is going.
- What does the institution want to be known for?
- What must be accomplished or avoided in order to achieve success?

- What are the institution's strengths and weaknesses?
- How can the institution achieve buy-in from key community constituencies?
- How can blended learning be used as an engine for positive change in responding to the institution's vision?

Hartman added that with these organisational components as a backdrop, e-learning can play a significant role in the transformation of universities as they become enablers of learning effectiveness in an environment of continuous change (cited in Dziuban, Hartman, Cavanagh and Moskal, 2011, pp. 31-32).

Changchit and Klaus (2010) argued that the lower retention rate for online courses has been attributed to such reasons as lack of personal interaction, inexperienced instructors, students unaware of expectations, and students with multiple obligations. Students' willingness and ability to adapt to the e-learning environment and work within it are usually found to be the major determinants of satisfaction with the learning experience. It is important that institutions take these characteristics into consideration when tailoring their courses with online formats. They need to understand the characteristics of students who are attracted to the e-learning environment, since this can help determine the format and options chosen in course design so that students learn with as much efficiency and effectiveness as possible. The failure to understand and provide for this means that educators in the e-learning environment could face a lack of encouragement and training to become e-learning teachers (Conrad and Donaldson 2004).

Bellas et al. (2010) described other issues related to the technology itself and identified two issues in the production of educational software for both teachers and students. First, student needs will raise the issue of cognitive significance. The second issue involves designing software that fits with the way the students learn and

that can support learning. Software should include different applications such as simulations, gaming exercises, modelling systems, research engines and interactive tutorial systems. Changchit and Klaus (2010) argued that it is important for universities to assess the types of technology that best suit their courses and institutional goals since not all options are necessary for classes to be effective.

Webb (2008) noted that the aims of simulations were to explore difficult phenomena, minimise the risk of dangers that could arise during experiments, and examine things that are too small, large, fast or slow for direct observation. In addition, virtual experiments can simulate equipment that is unavailable. Claesson, Pearson and Rosel (2012) found that one type of technology instructors used with their students was the simulation. It can be acted out in a classroom, played on a board, or run on a computer, and can be incorporated into almost any course. Claesson, Pearson and Rosel added that simulation can enhance student learning and motivation. In addition, instructors can choose from different forms of simulations, including role playing, board and computer games, and virtual worlds. One of the important factors in simulation is that students are active participants in the learning process rather than passive observers, as with many forms of traditional education, including lectures and test taking (p. 54).

Considering teachers' needs raises the issue of curriculum significance and pedagogy and there will be a need for access and resources, training, infrastructure, support and administration, privacy, security, and authentication.

Moreover, there is a lack of interest and disregard for this type of education from decision makers. In addition, some teachers have negative attitudes towards the change process and lack of understanding of the process potentially leads to worse learning conditions. As a result, Dziuban, Hartman, Cavanagh and Moskal (2011)

argued that the key to realising continued success with e-learning initiatives requires their alignment with institutional, instructors, and students' needs.

In addition, Balanskat, Blamire and Kefala, (2007) argued that many teachers are reluctant to embrace e-learning. Many senior instructors who were using one method or style in their teaching do not want to burden themselves by using other tools because they lack the desire to change their method of teaching. Implementing the use of technologies is not only a matter of how to use them but also of how to motivate students to take part and not all senior instructors have those abilities.

Some instructors fear displacement, thinking that they will lose their jobs when the online courses have been developed. They believe that students will not come to them or that if they do, they will have negative attitudes. Other instructors fear they will waste time if they use technical means. Always burdened by their work responsibilities, the instructors' workload does not afford them much free time and their duties may impede the use of e-learning. Lack of incentives and encouragement from those responsible for promoting e-learning is also an obstacle.

Society, students, parents, teachers, staff members and governments need to be aware of the importance of e-learning. E-learning has been introduced into Saudi colleges and universities but is still in its earliest stage of maturity (Al-Musa and Al-Mubarak, 2005) compared to western countries such as the US and the UK, where it has already been implemented in schools and where tertiary institutions have adopted this method as a key alternative to traditional teaching techniques.

3.5.1 Cultural and learning issues and e-learning

One clear change in higher education is that universities and colleges want to enhance their performance by adopting initiatives and links that cross borders in order to create an internationalisation of services and to focus on global outreach in

curriculum and access to the Internet. As a result, there is a need to integrate the international and intercultural dimension in teaching, research and community service. In fact, this change has created a number of concerns and issues. There is a demand to use ICT tools to push e-learning experiences, improve access and democratisation. With e-learning opportunities and the transnational delivery of education, there is a culturally diverse student body that collectively communicates, cooperates and learns (McLoughlin, 2007).

McLoughlin (2007) confirmed the importance of cultural influence on learning, attitudes and methods of learning and thinking. When a global learning environment is adopted, it is important to consider language translation, changing icons, colours and emblems, as well as local semiotics and contextual details (Henning, 2004, cited in McLoughlin, 2007). However, global inclusivity and the accommodation of diverse learner needs mean that cultural pluralism must be ensured in instructional design, pedagogy and all aspects of the educational experience.

Hogan (2011) noted that the use of the Internet, technology, and ICT will create a set of issues for some learners and communities. He suggested that people involved in an e-learning environment, including online providers, should be fully aware of the threats and benefits to them and be sensitive to cultures. One of the issues that may be faced is motivation, as students may give higher priority to socialization, family, and work than to education. Accordingly, the instructional approach in these e-learning courses is to make the online class so personal and engaging that students want to attend. Preserving the integrity of sacred traditions, cultural knowledge and images needs to be a major concern for some communities. Wenmoth (2010) commented that:

Shifting to the online world carries all into an unknown to some extent, where it is simply not acceptable to assume a transfer of knowledge from one domain to another. The design of effective online learning spaces must inevitably take into account the identified needs of teachers—but it requires a two-way conversation. The teachers must come to appreciate that there are things about how environments online are designed and developed that they may not be aware of, and that decisions they make now may impact negatively on their ability to act with agility or innovatively further down the track.

3.5.2 What is culture in e-learning?

The literature review will investigate the meaning of culture and cultural effects in e-learning. As mentioned earlier, e-learning has opened the way for educators to contact learners from many other countries via the Internet. Wang and Reeves (2007) noted that, with the growth of globalisation, learners' registration in e-learning programmes has become progressively more diverse with respect to culture.

Many studies have identified culture in different ways, as it is difficult to arrive at one definition that would satisfy everyone. In his book *Primitive Culture* (1871), British anthropologist Sir Edward Tylor defined culture as that 'complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits by man as a member of society' (cited in Wang & Reeves, 2007, p. 1). This definition was considered the first official definition of culture. Other researchers, including Bodley (2002, cited in Wang and Reeves, 2007), triangulated the meaning of culture by examining three angles: what people think, what people do and what people produce. He considered these angles mental, behavioural and material:

Other researchers interpret culture more deeply, and present culture in terms of multiple dimensions. Hofstede (1985) categorised five culture dimensions: power distance, uncertainty avoidance, individualism vs. collectivism, masculinity vs. femininity, and long-term vs. short-term orientation. Power distance addresses: the extent to which the less powerful members of institutions and organizations accept that power is distributed unequally. Uncertainty avoidance: the extent to which people feel threatened by

ambiguous situations, and have created beliefs and institutions that try to avoid these. Individualism vs. collectivism: it reflects the position of the culture on a bipolar continuum. The one pole, Individualism, is defined as a situation in which people are supposed to look after themselves and their immediate family only. In contrast, Collectivism is defined as a situation in which people belong to in-groups or collectives which are supposed to look after them in exchange for loyalty. Masculinity vs. femininity: Masculinity is defined as a situation in which the dominant values in society are caring for others and the quality of life. And long-term vs. short-term orientation: this dimension deals with Virtue rather than Truth. This orientation is related to the choice of focus for people's effort: the future or the present. For example, values associated with long-term orientation are protection of one's 'face' and respect of traditions (cited in Wang and Reeves, 2007, p. 5).

3.5.3 Cultural considerations in instructional design.

Many studies have considered that culture and language are significant factors when designing e-learning environments in general and course-specific e-learning. Considering the interface design dimension, Khan (2001) maintained that when designing an e-learning environment there is a need to acknowledge the importance of page and site design, content design, navigation, and usability testing, and the diversity and culture of learners must also be taken into consideration. Henderson (1996, cited in Wang and Reeve, 2007) warned that instructional design is a product of culture. She noted that:

Approaches to instructional design not only reflect differing world views, but they consist of values, ideologies, and images that involve inclusions and exclusions that act in the interests of particular cultural, class, and gendered groups. Instructional design and the designer are inextricably tied to their societal context and thus infused with the cultural, class, and gendered influences resulting from the subtle and intricate interplay of these factors (p. 9).

When designing a course, whether face-to-face or online, there is often a need to cover all learners' needs and include multiple activities that fit with all levels of learners' thinking. Differences in learners' knowledge, experience and background must also be considered. McLoughlin and Oliver (2000) observed that, when adopting an international design model, it is important to ensure its coverage of every

culture. He noted that consideration needs to be expanded to cover not only designers' cultural backgrounds, but also that of learners. However, challenges arise when the core pedagogical values in one culture are culturally inappropriate in another. This issue can often lead learners to lack confidence, and it occasionally leads to misunderstandings. For instance, Chinese students consider that red-coloured text in an online learning environment is significant, and they interpret it as a warning, but the instructor or instructional designer from a different culture may use the colour only to call attention to certain content.

In Australia, the use of ICT and the Internet has raised an issue for indigenous learners and communities because they did not understand what could be threatening for them when using e-learning. Page (2002) suggested that it is necessary to explain the threats alongside the potential benefits of e-learning. It is important for indigenous Australians to keep their identities safe and away from anything that could affect their traditions, cultural knowledge and images. Therefore, it is important to recognise that they accept that interaction with staff members is a vital ingredient of any distance education programme. The national review of their education showed that distance learning methods created issues for them if they are not supported by other mechanisms such as 'site tutors,' as they feel that these programmes will be most effective when on-site teaching is built into the programme. Moreover, it is important to consider their cultural criteria when designing an instructional design.

New Zealand recognises that the Maori culture needs to be considered when designing e-learning courses. Accordingly, the Ministry of Education adopted a strategy in 2002 for the future of tertiary education organisations in Aotearoa/New Zealand. An important part of this strategy is its goal that tertiary education in New

Zealand should contribute to the achievement of Maori aspirations and development (Ministry of Education, 2002).

McLaren (2007) noted that, in the Arab world, language plays a significant role in the way learning takes place in areas where English is not the first language. As in the e-learning environment, the Internet is the centre of e-learning, and most of its resources are in English. However, McLaren suggested that the way to accommodate this issue is to accelerate the conversion of online and instructional resources into Arabic, although many find this approach unreasonable. McLaren (2007) added another solution to this issue, namely the consideration of language during the analysis, design and development phases of instructional preparation by focusing on the learners' level of reading and understanding in English, paying attention to text density and ensuring that sentence difficulty matches the level of the learner for whom the material is designed.

Eberle and Childress (2007) believed that the e-learning environment could include learners from different countries, or learners from the same country but from different cities and with differences in their cultural contexts. Therefore, solid knowledge is needed among and between those learners, as well as careful design that covers all differences. As a result, they suggested six steps for universal design (see Figure 3.4). Developing a successful course within an e-learning environment requires planning and high-quality instructional design. However, with course design, it is important to consider universal design and the mechanism that will best serve culturally diverse students.

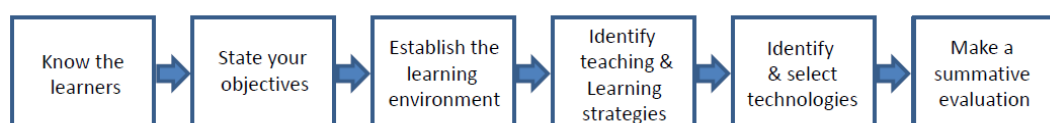


Figure 3.4. Dynamic instructional design model

3.5.4 Types of learning and instructional techniques/strategies and culture.

Eberle and Childress (2007) identified various instructional techniques and teaching strategies that could be used to support learners, including learning theory, research and advances in technology and media. Based on the brain networking theory, these network-appropriate teaching methods accommodate three types of learning: recognition, strategic and affective.

3.5.5 Recognition learning.

In this type of learning, teachers can design separate instructions that can accommodate pattern recognition. Rose and Mayer (2002) recommended four teaching methods to use in addressing pattern recognition, including providing multiple examples, highlighting critical features, providing multiple media and formats, and supporting background context.

3.5.6 Strategic learning.

Although different learners have similar goals and objectives, they often have different steps to achieving those goals and objectives. Four teaching methods are recommended by Rose and Mayer (2002) when designing instructions to support strategic learning: providing flexible models of skilled performance and opportunities to practice with support, providing ongoing, relevant feedback, and offering flexible opportunities to demonstrate skills.

3.5.7 Affective learning.

Affective learning is dealing with students' feelings and emotions towards learning experiences. The instructional designer needs to develop experiences that encourage positive feelings and motivate learning. Rose and Mayer (2002) suggested four teaching methods to support affective learning, including offering choices of

content and tools, providing adjustable levels of challenge, offering a choice of rewards and providing choices of learning context.

3.5.8 Learning characteristics, applications and examples, and culture.

Designing online learning for culturally diverse audiences needs to consider many factors and a variety of learning characteristics. These include clientele identification, abilities/disabilities, language, culture, gender, time barriers and technology (Rose and Mayer, 2002).

3.5.9 Clientele identification.

In-depth information about learners has led to the design of global learning environments, which has allowed the adoption of materials for various differences in culture, language, abilities and technologies, and which can fit all learners. Asking learners to post their information and needs can encourage the further communication and collaboration of ideas among class members. Eberle and Childress (2007) observed that the Know, Want, Learn, How (KWLH) technique developed by Donna Ogle can be used effectively with online students to determine their academic needs and support their self-directed learning as a graphic organiser. Using this technique, the learners list a number of points, including what is *Known* about the subject, what one *Wants* to know, what one *Learns* during the course and *How* one can learn more (Tomei, 2012, p. 199). This can help students to choose the path that he or she wants to follow, which makes the class more significant. It can also assist the instructor in developing and adopting course materials.

3.5.10 Abilities and disabilities.

Instructors need to recognise that special needs, including learning disabilities, visual, hearing and motor challenges, need to be negotiated privately with individual students (Rose and Mayer, 2002).

3.5.11 Language.

Communication can be improved by using simple language for writing structures, using English as an international language, and avoiding phrases and local expressions. The language that instructors use has to be simple and clear so that students are not left to make guesses about what the instructor means in a given situation (Rose and Mayer, 2002).

3.5.12 Culture.

Respecting and learning other cultures could help students learn to be respectful of the diversity of the people taking the course. Developing courses with care and sensitivity to cultural differences among students in an online learning environment is the key to establishing community, trust and collaboration. Students need to be encouraged to engage in discussions about cultures. In addition, awareness of the place of education in specific cultures is needed (Rose and Mayer, 2002).

3.5.13 Gender.

The course facilitator should be aware that gender roles may be specific in some cultures in order to avoid stereotyping these roles. In addition, judgments must be avoided concerning gender-specific roles, discussion between genders must be encouraged, and gender-appropriate language should be used (Rose and Mayer, 2002).

3.5.14 Time barriers.

A small but significant matter is the need to format dates clearly and to identify time zones. Dates for assignments have to be stated in a clear format when they are used in asynchronous communication. This should recognise that in the US, dates are commonly written with the month first and the day second. For example, a

date such as 10/06/10 could refer to two different dates, depending on whether the reader is from the US or another country. There should be an open place for chat for students living in different time zones. It is unfair to try to discuss important issues when it is night-time for one group of students and the middle of the day for another group (Rose and Mayer, 2002).

3.5.15 Technology.

As mentioned earlier, being an effective teacher is not about content or technology; rather, it is about what is done with content and technology. It is not necessary to use high technology in e-learning courses; technology should be used that has room for everyone, even if it slows down the speed or uses less attractive technology to convey information (Rose and Mayer, 2002).

Williams, Coles, Wilson, Richardson and Tuson (2002) argued that the effective use of ICT in classrooms requires skills and knowledge. They observed that teachers need training programmes that are appropriate in content and time to allow them to take advantage of the ICT available in their classes. A technical support team for ICT use needs to be up-to-date to be of assistance to teachers. In addition, continuing development is required for these teams to develop their skills and knowledge to cope with the ongoing development in ICT tools.

3.6 Professional Development

This section reviews the literature that highlights the importance of PD in e-learning. Strudler and Herrington's (2008) review of literature regarding quality support for ICT in schools noted that PD is considered an essential factor for effective ICT integration. He added that PD programmes undertaken by teachers are positively correlated with the use of ICT in the classroom, and he described an

extensive study of US federally funded Eisenhower projects that identified elements connected with successful PD. These elements are divided into two categories.

First, structural features related to the context; for example, the **structure** of activity that is provided with PD, including teacher networks or study groups, is more effective than a traditional workshop, as teachers are able to incorporate more with that style. In addition, the more time that is given for the activity, the more effective the learning gained by teachers. Finally, when the participants of any PD programmes come from the same school, grade or group, the outcomes of PD become more effective than for individual participation.

The second category of elements connected with successful PD is made up of the core features that describe the procedures that take place in the PD programme. For instance, active learning opportunities are dependent on the effectiveness of PD. Moreover, the content of PD, when concentrated or focused on a particular area, is better than a general idea of teaching strategies. Finally, there is coherence: does the activity fit with school goals, policies and standards? More effective PD depends on greater coherence for teachers that fits with an ecological perspective. Mansvelt, Suddaby, O'Hara and Gilbert (2009) agreed on the advantages of informal PD that depends on knowledge gained via the Internet, library and online community, helped by other staff members to overcome challenges: 'You get a group of people together who are interested and you can have a discussion and that's really fantastic, and that builds a sense of community'.

They added that Marshall (2009) suggested that, when there is a programme for teaching or training staff on the use of e-learning, it should have design and development support and the staff need to build ongoing relationships with the staff developers.

3.6.1 Importance of personal development in e-learning.

PD is the opportunity given to teachers to improve their performance and enhance their methods of teaching. With PD for ICT, tertiary teachers are able to discover new ways of teaching and to implement constructive changes to the education system to promote new ways of thinking, to put into practice new ideas in their subjects and to encourage teachers and students to persist in development.

The literature identifies elements needed by PD for it to be successful. Jones, Mather and Carr (1994) noted that teachers' previous ideas, thinking, skills, concerns, interests and feelings need to be acknowledged, incorporated and addressed. Additionally, interactive activities for ICT tools need to be developed in the classroom by teachers with constructive attitudes towards the change process and who understand the procedure as potentially leading to an improved learning environment.

Conversely, teachers may not benefit from PD if they lack the willingness to change and improve their knowledge. Teachers are not always able to integrate what they have learned in PD programmes into their teaching to improve the learning processes and skills of their students. Williams et al. (2002) noted the poor ability of the trainer to deliver the content for teachers in ICT tools for which teachers were trained, a lack of tools to provide adequate access during the training course and too much information or jargon.

This issue can be considered from different angles (Doubler and Harlen, 2007), including a misunderstanding of the importance of ICT PD programmes, a weakness in trainers delivering the programmes, an imbalance in the PD programme towards a theoretical rather than a practical focus, and other factors involving time

and appropriate support and absence of financial reward for the extra work involved for instructors when trying to take advantage of e-learning facilities.

3.6.2 Teacher's beliefs about personal development.

It should be said that integrated ICT in the classroom may not benefit everyone, unless their underlying values are understood and maintained (Doubler and Harlen, 2007). Points about time needed for change in teachers' practice apply to professional development. Balanskat, Blamire, and Kefalla (2007) noted that the pace of usage of ICT as a learning tool had increased, and that teachers now face the challenge of how to avoid reinventing strategies for ICT use.

The most important part of e-learning is the teacher. An e-learning teacher is one who is willing to teach in this new way and is able to prepare him or herself. Elbaum, McIntyre and Smith (2002) and Doubler and Harlen, (2007) identified different steps that e-learning teachers should use to prepare, such as attending a workshop on distance education or undertaking at least one online course to be more knowledgeable, well trained and familiar with the content that he or she is going to teach online. An e-learning teacher is able to practice in the e-learning environment by communicating with others in the same field, completing homework, learning how to express ideas in text, learning the emotional factors and when they can be used, and managing time. Further, an online teacher should be more than a teacher; he or she should be a mentor, advisor and friend to the students. Other preparation includes building a course outline listing course objectives, developing outlines for students, organising each subject in the course separately, building a timetable for the course and keeping the start date in mind. In addition, online teachers have to learn how to create a course schedule with clear deadlines, plan for ongoing quality assurance, seek and ensure support from their organisations, provide technical

support and explain everything that the students need while they are involved in the online course.

However, teachers cannot improve their classroom practices and may not make much progress in the e-learning environment unless they believe in e-learning as a strategic way of shifting from the traditional way of teaching to the new way of teaching. In addition, the new technology will help teachers to recognise that this new way of teaching and learning will provide a better education for their students and will influence their practices in the classroom, which will be discussed in the next chapter (Doubler and Harlen, 2007).

Rosenberg (2001) noted that it is not sufficient to focus on the act of training, which includes how much training activity takes place, as trainers must be more answerable. They must show a positive influence on worker performance in ways that benefit the company. That is, 'training is accountable for the same primary measure as any other function: business value...Although powerful, training is just one way to improve performance' (p. 7). Rosenberg continued to explain that 'no performance improvement strategy is complete without leveraging a variety of powerful nonlearning interventions, such as having the right tools, creating a good work environment, providing adequate incentives and motivation, and giving appropriate feedback/coaching, to name a few' (p. 7).

Overall, useful teaching and learning will not occur automatically; they need more work. In an e-learning environment, there are many resources for courses that have been placed online. Downes (2013) summarised that learning and cognition find their place in the network and the network (online communities where users of the internet can interact together) must be open in order to function; therefore,

learning and cognition need to be open too. Downes has addressed the important tenets of the pedagogical theory named connectivism.

According to Siemens (2013):

‘Connectivism is the integration of principles explored by chaos, network, and complexity and self-organization theories.... The starting point of connectivism is the individual. Personal knowledge is comprised of a network, which feeds into organizations and institutions, which in turn feed back into the network, and then continue to provide learning to the individual. This cycle of knowledge development (personal to network to organization) allows learners to remain current in their field through the connections they have formed.’ (p. 6). However, there is often no access available to interact with a teacher and this needs to be taken into consideration when e-learning courses are being designed. E-learning is grounded in the roles of teachers and learners, of learning, and of how students learn.

3.7 Teachers Beliefs and their influence on E-learning

Teachers begin their teaching careers with prior knowledge, beliefs, attitudes and experiences about teaching their specific subjects. They extend and shift these ideas as they proceed in their teaching career. However, their initial knowledge and perceptions will influence their teaching roles. This may cause different teachers to have different beliefs, knowledge and practices, which may make it difficult for students to understand course content in a meaningful way. Studies of teachers’ knowledge, beliefs and ways of thinking indicate that ‘teachers actively think as they teach and what that they know and believe about teaching very much affects the classroom decisions they make’ (Pressley et al., 2006, p. 160). These studies have investigated how teachers view themselves as teachers and learners; teachers’

different motivations, thinking processes, interests and strengths; and teachers' desires to learn and help students achieve their expected learning outcomes (Pajares, 2008). When teachers are seeking to implement new methods without sufficient experience or practise, they may tend to revert to traditional teaching methods. As a result, some studies have suggested that altering teachers' beliefs about technology is required in order to change how teachers use technology in the classroom (Campbell, 2003; Park and Ertmer, 2007).

3.7.1 Definitions.

Teaching is considered a comprehensive and meaningful task that is representative of an individual's personal teaching beliefs. The literature offers many different definitions of the concept of 'beliefs'. Researchers originally defined 'belief' as the information that a teacher supposes they have about a person, group of people, specific behaviour or event (Fishbein and Ajzen, 1975, cited in Luft and Roehrig, 2007).

Schoenfeld (1998, cited in Törner, Rolka, Rösken and Sriraman, 2010) notes that beliefs can be understood as 'mental constructs that represent the codification of people's experiences and understandings' (p. 19). Schoenfeld also states that 'people's beliefs shape what they observe in any set of circumstances, what they consider to be possible or appropriate in those circumstances, the goals they might establish in those circumstances' (p. 19). Other researchers, such as Garmon (2004, cited in Luft and Roehrig, 2007), unite 'beliefs' and 'attitudes,' and concentrate on the unique attributes of each. Other researchers have exchanged the terms 'theories' and 'philosophies' with the term 'beliefs,' acknowledging that these are all personal constructions (Simmons et al., 1999, cited in Luft and Roehrig, 2007). A more recent definition of 'belief' states that the personal constructs inherent in an individual's

belief system can offer a sympathetic view of a teacher's practice. This is because they can guide instructional decisions, influence classroom management and serve as a sympathetic lens for classroom events (Jones and Carter, 2007; Pajares, 1992; Richardson, 1996, cited in Luft and Roehrig, 2007).

3.7.2 Teachers' Beliefs and Knowledge.

Many psychology researchers avoid differentiating between 'knowledge' and 'belief' because they either use the terms interchangeably or refer only to one or the other (Murphy and Mason, 2006). As a result, researchers tend to avoid studying the relationship between these constructs. One of the common distinctions of psychology studies is that 'knowledge' is considered something true and justified, while 'belief' is regarded as something that lacks any evidence. Other studies distinguish between knowledge and beliefs because it 'seem[s] to be whether one conceptualises knowledge as a subset of beliefs, or beliefs as a subset of knowledge' (Murphy and Mason, 2006, p. 306). In order to recognise the similarities and differences between different teaching practices, it will be useful to know the terms used throughout this research study. The terms defined below are 'knowledge,' 'beliefs' and 'practice'.

This research will use the term 'knowledge' as defined by Murphy and Mason (2006). Murphy and Mason refer to the term 'knowledge' as being all that is accepted as true, and that can be externally verified and confirmed by others through repeated interactions with the object—that is, anything truthful (p. 306).

This research will use the term 'belief' to refer to all that an individual accepts as or wants to be true. Belief does not require verification and often cannot be verified—for example, an individual's opinions (Murphy and Mason, 2006, p. 307).

This research will define the term 'practice' as being teachers' prior experiences and values, and their capability to make understood theories clear (Kane, Sandretto and Heath, 2002) by carrying out innovations that are imitable, teachable or conveyable.

Richardson (1996, cited in Murphy and Mason, 2006) identifies three categories of experience that influence knowledge and beliefs in regards to teaching: 'personal influences,' 'schooling' and 'formal knowledge'. Korthagen (2004) and Korthagen, Kessels, Koster, Lagerwerf and Wubbles (2001) have all examined how life experiences are encoded in images of 'personal influences'. They found that teachers' stories and biographies identified personal experiences that shaped these individuals' views of teaching (Hoy, Davis and Pape, 2006). 'Schooling' refers to the ways in which teachers reflect on what they have learnt and what they remember from their pre-college education. 'Formal knowledge' includes both knowledge of academic subjects and pedagogical knowledge, as usually encountered in formal teacher preparation programmes. Origins of beliefs about teaching are related to individuals' experiences, which means that teachers' beliefs can be expected to vary (Hoy, Davis and Pape, 2006, p. 716).

3.7.3 Teachers' Beliefs and Practices.

It is important to understand how teachers perceive their work because this, in turn, is important to understand the practices of teachers and their decisions in the classroom. Many studies have argued that teachers' beliefs should be linked with cultural influences because teachers' beliefs and practices cannot be observed out of context. Olson (1998, cited in Mansour, 2009) states that teachers' stories about their practices are essential because these reflect their culture and cannot be properly understood without reference to the culture. Researchers have found that there is a

strong relationship between teachers' beliefs and practices and the context in which they are teaching. They have found that there is interactivity between beliefs and practices. However, other researchers have found contradictions between beliefs and practices and conclude that beliefs need to be changed before teaching practices can be changed (Fang, 1996, cited in Luft and Roehrig, 2007).

In both cases, there is a need to understand teaching beliefs because these beliefs influence teaching practice (Luft and Roehrig, 2007). For example, Haney, Czerniak and Lumpe (1996, cited in Mansour, 2009) found that teachers' beliefs towards subject matter have been found to influence teachers' daily decisions about what they teach, what they do not teach, and how much class time is devoted to a specific subject. Pajares (2008) noticed that beliefs are the strongest indicators for individuals' decision-making throughout their lives. Pajares suggests that there is a strong relationship between teachers' beliefs, and their planning, instructional decisions, and classroom practice. Teachers' beliefs need to be examined in order to understand how these beliefs affect teaching practices because teachers' beliefs become personal pedagogies that guide their practice. Exploring this is a part of the aims of this research paper.

Teachers will not use technology if they do not believe in it, if they do not feel it will benefit them, or if they do not see an educational need for it. Therefore, the use of e-learning technology should not be driven by the technology itself but by educational need. Zhao et al. (2001) and Ertmer et al. (2001), both cited in Steel, (2009) observe that teachers, when expressing their beliefs towards web technologies, talk about this technology as an instrument to express their pedagogy, rather than focusing on the technology itself. With the development of Information Communication Technology (ICT), Prestridge (2012) explains that teachers have

formed beliefs about the role of ICT as a teaching tool, and have formed varying ideas about the value of ICT in helping students learn and in developing students' self-confidence and capabilities. Prestridge states that 'this intersection can be a 'collision' or 'collusion,' both having implications for how ICT is used in the classroom, as an add-on to established curriculum practices or as a tool that effects change in their practice' (p. 449).

Drenoyianni and Selwood (1998, cited in Prestridge, 2012) have found that teachers are expected to apply technologies that mirror their individual beliefs about teaching and learning. Steel (2009), in his study entitled *Reconciling university teacher beliefs to create learning designs for LMS environments*, found that each teacher who participated in his research was passionate about their subject matter and concerned for their students. Steel found that the teachers who were included in the study believed they had an obligation to ensure social justice and equity when using web technologies. They sought to be engaged and connected with their students, and sought to create comprehensive learning communities. They also appeared to have an awareness of each of their student's learning capabilities and the challenges they faced. The teachers depended on their personal knowledge, pedagogical knowledge and curriculum objectives to develop learning designs that were supported by the use of technology. Steel's study showed that the quality of the uses of web technologies should be based on the teacher as a designer of the learning practice. In addition to the learning design, learning outcomes have to be considered. Each teacher should think about the principles and quality of the subject matter he is teaching and the limitations of even good instructional design. He must ensure there are no unnecessary obstacles to their students' learning and that their teaching designs are logical and comprehensive.

However, there are several factors that can cause a conflict between beliefs and practices. Real-life factors, including time, resources, behaviour and course content can affect the level of belief-practice consistency (Ajzen, 2002, cited in Mansour, 2009).

3.7.4 The Role of Socio-Cultural Contexts in Forming Beliefs and Practices.

Socio-cultural contexts have affected teachers' behaviour, work performance and relationships with others, both in negative and positive ways. Some researchers argue that teachers' beliefs should be studied within a structure that considers the influence of culture. Olson (1988) states that 'what teachers tell us about their practice is, most fundamentally, a reflection of their culture and cannot be properly understood without reference to that culture' (p. 69, cited in Mansour, 2009, p.32). However, other studies argue that teachers' beliefs and practices cannot be examined out of the school context (Mansour, 2009) because teaching often occurs in settings that have constraints, opportunities or influences that are specific to that situation. These influences can relate to the individual classroom, the school, the school principal, the community or the school curriculum.

This study argues that teachers who adopt e-learning may not implement significant change in their classroom teaching because they may not be aware of the ways that e-learning could change or improve their teaching methods. Teaching is similar to art and, like artists, teachers vary in the way they present to their audience. There are different theories (Lim, Ripley and O'Steen, 2009) and schools that teach an individual how to be a good artist, offering advice on how to present what you have prepared and how to attract others to you. Knowing how to teach and how to deliver your subject matter is a talent that differs from one person to another.

However, this talent can be improved by practising new teaching methods (Pajares, 1992, cited in Mansour, 2011).

Social and cultural influences can mean that teachers are unaware of how to change or improve their teaching methods. Within contemporary tertiary organisations, teachers face many issues that can affect their teaching beliefs and practices. For example, teachers are influenced by social customs that relate to maintaining appropriate roles within an organisation, maintaining their responsibilities as teachers, and ensuring appropriate relationships exist between themselves and their students. Ernest (1988, cited in Mansour, 2009) maintained that there are two reasons:

why teachers' beliefs did not always match their practice...First, there was the powerful influence of the social context that resulted from the expectations of others, including students, parents, peers (fellow teachers) and superiors...It also resulted from institutionalized curriculum; the adopted text or curricular scheme, the system of assessment, and the overall national system of schooling...Secondly, there was the teacher's level of consciousness of her own beliefs, and the extent to which he or she reflected on his or her practice of teaching to the subject matter he or she is teaching (cited in Mansour, 2009, p.32).

As mentioned earlier, teachers' beliefs are considered based on knowledge and experience. However, Mansour (2009, p. 33) argues that beliefs could be related to environmental influences. Teachers may create or corroborate their beliefs in context-specific environments—areas in which their instructional experience is successful. Nespor (1987) explains that context can play a significant role in shaping instructors' beliefs. He stated that 'the context and environments within which instructors work, and many of the problems they encounter, are ill-defined and deeply entangled ... beliefs are peculiarly suited for making sense of such contexts'. (Nespor, 1987, p. 324 cited in Mansour, 2009, p. 33)

Another possible way to change teachers' beliefs towards e-learning is by providing them with opportunities to add new knowledge to their belief systems. Teachers can be unwilling or unable to change their beliefs until they are offered encouragement to do so. This encouragement may take the form of ongoing rewards, opportunities for professional development (Luft and Roehrig, 2007), technical support, good infrastructure and flexible time for both teachers and students to teach and learn the use of these technologies. Sometimes, if students who are using these e-learning technologies demonstrate a capacity for advanced learning, this can also encourage teachers to change their beliefs. Pajares (2008) states that while changing teachers' beliefs is difficult, it is possible when teachers are actually aware of their beliefs and are willing to change them.

3.7.5 Teachers' Beliefs and Their Link to E-learning.

Teachers are more likely to incorporate technologies when they understand how these technologies will support their pedagogical beliefs. Steel (2009) states that there is a need to reference teachers' beliefs about learning and teaching to understand teachers' use or non-use of technology. Teachers' beliefs about technology are an important factor in the prediction of technology use (Steel, 2009). This means that it is necessary to consider teachers' beliefs about teaching in order to understand how teachers use technology and how their teaching beliefs affect their behaviour in the classroom (Bandura, 1986; Clark and Peterson, 1986, cited in Prestridge, 2012). While there are teachers who use technology confidently and proficiently, this does not mean they believe technology is a valuable educational tool.

3.7.6 Teachers' Attitudes towards E-learning

Teachers' attitudes towards e-learning are shaped by experiences, information and issues they face in specific subjects. These experiences are generated by the interaction of teachers with their professional and social environments, by teachers' mental aptitudes, and by teachers' knowledge of e-learning technology. Teacher attitudes towards any subject matter are created by many different, interlinking factors, including thoughts, beliefs, feelings, emotions and the individual's tendency to react.

When teachers adopt technologies and teaching without relevant motivation and support, they are placed in a difficult situation (Campbell, 2003). Campbell states that teachers who use e-learning technology in their classes may not previously have taught in an e-learning environment and, subsequently, have insufficient experience in this field. This may be worsened if teachers cannot find useful examples of good practice of e-course materials and of the methods of interaction required to use them effectively. Park and Ertmer (2007) found that when teachers try to implement new methods without experience or practice, they are likely to revert to traditional teaching methods.

Study of Park and Ertmer (2007) suggest that changing teachers' beliefs about technology is necessary in order to change teachers' classroom use of technology. Therefore, this study seeks to identify the relationship between teachers' beliefs and their in-class practice when using technology. Park and Ertmer observe that pre-service teachers have an existing set of beliefs, based on their experiences as learners, and that these experiences play a critical role in shaping their future practices. Becker (1999, cited in Park and Ertmer, 2007) suggests that teachers who have student-centred beliefs are likely to use technology more frequently and in more

meaningful ways. Becker explains that teachers with teacher-centred practices are more likely to link with low-level technology uses, while teachers with student-centred practices are more likely to link with high-level technology uses. As a result, in order to change teachers' technology practices, it may be important for teachers to embrace more student-centred beliefs and, subsequently, practices. However, other researchers have noted that pre-service teachers' experiences are too short in duration to result in the development of any permanent beliefs (Richardson, 1996, cited in Luft and Roehrig, 2007). However, Luft (2001, cited in Luft and Roehrig, 2007), in his study entitled *Experienced and Beginning Teachers*, found that new teachers were:

More likely to change their beliefs when learning about inquiry but less likely to change their practices, while experienced teachers were less likely to change their beliefs and more likely to change their practices ... The degree that beliefs of new teachers were able to change was attributed to the formidable nature of the beliefs. The experienced teachers, on the other hand, had beliefs about teaching that were established and consistent with the goals of the professional development programme, which in turn influenced their decision to even participate in the programme. (p. 41)

Teachers' beliefs move through different stages throughout their career. As stated by Luft and Roehrig (2007), 'these changes are indicative of the types of beliefs examined and the central or peripheral nature of the beliefs' (p. 41).

When using technology to deliver content to students, teachers may sometimes not have a major influence in classroom practice. This may be because of the nature of the content being delivered. This means it is important that teachers understand the relationship between the technology and content, as well technology and pedagogy. Shalmon (1986, cited in Archambault and Crippen, 2009) noted that there is a need to describe the relationship between content knowledge and pedagogical knowledge. Shalmon developed the idea of Pedagogic Content

Knowledge ‘PCK,’ which he defines as ‘going beyond content or subject matter knowledge to include knowledge about how to teach particular content’. (p. 72). Within PCK, he included the most useful forms of representation of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations—in a word, the way of representing and formulating the subject that make it comprehensible to others.

The concept of PCK is appropriate to the e-learning environment because of the shift towards a knowledge-structure approach to learning. E-learning teaching is more focused on how the course is structured, with particular emphasis on the teaching materials used. Shalmon (1986, cited in Archambault and Crippen, 2009) believes that teachers need to encourage and teach self-regulated behaviour to their students to ensure the greatest chance of success. Teachers need to interpret and contextualise information to improve student understanding and motivations for learning. In order to produce such materials and practise these strategies, teachers who adopt e-learning need to have an excellent grasp of their content and also enjoy the use of technology and the e-learning environment (Archambault and Crippen, 2009). Niess (2005, cited in Archambault and Crippen, 2009) explained that:

Technological, pedagogical, and content knowledge, ‘TPACK,’ however, is the integration of the development of knowledge of subject matter with the development of technology and of knowledge of teaching and learning. And it is this integration of the different domains that supports teachers in teaching their subject matter with technology. (p. 510)

The main concern when adopting e-learning is how to involve and encourage the academic staff who will be required to implement this technology. Rosenberg (2007) believes that ‘until they have accepted the worth of these developments, have the skills and support to use them, and are the ones driving new initiatives arising from their interactions with learners, sustainable integration into general teaching

practice is near impossible' (p. 8). Motivation and encouragement for teachers appear to play an important role in changing learning practices. Rosenberg has stated that if learning institutions begin by motivating teachers and by promoting the learning values of these individuals, they may successfully begin moving towards implementing technological change.

3.8 Summary

This chapter provided information concerning the implementation of e-learning within institutions and the factors to be considered when organisations adopt e-learning. Chapter 4 will discuss research methodology.

Chapter 4

4.0 Research Methodology and Design

This chapter outlines the research design proposed for this study and the methods used to investigate potential approaches to improving practices in e-learning courses in research methods. This qualitative research will use the case study method. The case study described here is part of the PhD study that the researcher has undertaken at the University of Canterbury. This chapter begins by addressing the research on interpretive methodology (see Section 4.1). The research design and stages are discussed next (see Section 4.2). A full explanation of the pilot study is discussed (see Section 4.3), followed by the research data sources (see Section 4.4). The methods used to collect the data (see Section 4.5), and the techniques used to analyse the data (see Section 4.6). The measures taken to ensure quality in this research are outlined (Section 4.7). Ethical issues surrounding participation in this research are discussed (see Section 4.8). The research limitation (see Section 4.9) as are the researcher's role (Section 4.10) and the conclusion (Section 4.11).

4.1 Methodologies in Education Research

In this study, the researcher has sought to interpret how e-learning is developing in one university in the higher education sector in Saudi Arabia. He has engaged in real fieldwork with real people in order to obtain rich data on the experiences of individuals and systems at the university. In this project, the researcher intended to explore the socially constructed perceptions of e-learning among instructors, leaders, and students. The case study focuses on understanding specific cases with clear boundaries contained within a coherent system (Stake, 1995).

In particular, four instructors and their web-enhanced courses, supported by an e-learning centre, were considered. These four cases were chosen as examples of differing experiences and backgrounds in using e-learning at X University. This study will make a unique contribution in providing a comprehensive and insightful analysis of e-learning at one university in Saudi Arabia. The details and rich data gained from this case study may provide a thorough account of the complexities of introducing e-learning into one university in Saudi Arabia.

The results, however, are not intended to be generalizable to a particular population (Patton, 2002). As Stake (1995) has argued, 'the case study seems a poor basis for generalization...the real business of a case study is particularisation (pp. 7-8). Other researchers, including Mertens (1998) and Merriam (1998), explained that the qualitative approach itself is vulnerable to certain limitations, particularly in the areas of transferability and bias. Mertens added that quantitative studies focus on generalizing research results to populations but because of the nature of qualitative research, this type of generalization is not always possible in qualitative studies. As a result, Stake and others pointed out that the case study can be valuable in clarifying theory (Yin, 1994) and has important implications for applying or generalizing the findings to situations characterised by sufficiently similar, though not identical, conditions to the case being researched.

To this end, the interpretive method was chosen. The interpretive method is outlined here to clarify why it was the appropriate choice for this research.

The interpretive method is an enquiry into the interpretation of an issue. According to Denzin and Lincoln (1994), the interpretation of data is based on fieldwork. Cohen, Manion and Morrison (2005) stated that interpretive research is concerned with the individual and focuses on action, and that this type of research

provides an insight into individuals' perspectives. Cohen et al. (2005) go further, by indicating that the characteristics of interpretive research include small-scale research and understanding actions rather than causes. In addition, interpretive research can be either qualitative or quantitative in nature.

4.1.1 Qualitative research.

Qualitative research is sometimes called interpretive research or field research. This type of research uses methodologies that have been borrowed from disciplines including sociology and anthropology and tailored to educational settings (Lodico, Spaulding and Voegtler, 2010). Qualitative researchers focus on the study of social phenomena and give sympathetic voice to the feelings and perceptions of the participants under study. Lodico et al. (2010, p. 142) added that, 'this is based on the belief that knowledge is derived from the social setting and that understanding social knowledge is a legitimate scientific process'. Therefore, qualitative researchers start with an opening plan that recognises the types of methodology they expect to use. Glesne and Peshkin (1992) have noticed that qualitative researchers try to make sense of personal stories and the ways in which they intersect. They further indicated that:

The data collected in qualitative research has been termed 'soft,' 'that is, rich in description of people, places, and conversations, and not easily handled by statistical procedures'. Researchers do not approach their research with specific questions to answer or hypotheses to test. They are concerned with understanding behaviour from the subject's own frame of reference. The qualitative researcher believes that 'multiple ways of interpreting experiences are available to each of us through interacting with others, and that it is the meaning of our experiences that

constitutes reality. Reality, consequently, is ‘socially constructed’ (Bogdan and Biklen, 1982, cited in Glesne and Peshkin, 1992).

Pope and Mays (2006) noted that qualitative research includes a variety of beliefs, research designs and specific methods including in-depth qualitative interviews, participant and non-participant focus groups, observations, document analyses and a number of other methods of data collection. Due to this range of data forms, there are also different methodological and theoretical approaches to study design and data analysis, including the use of phenomenology, ethnography, grounded theory, action research, case studies. The researcher’s perspective and theory also play a key role in qualitative data analysis and is the basis on which generalisations to other contexts may be made.

4.2 Research Design

This research will use a case study as it is suitable for the research objective that aims to interpret how e-learning is developing at one university in the higher education sector of Saudi Arabia. Yin (2009) suggested using the case study method, as it is appropriate for ‘how’ and ‘why’ questions, when the researcher has little control over events, or when the focus is on current phenomena in an authentic context. He also identified that, as a research method, case studies can be used for many purposes to add to our knowledge of individuals and groups as well as organisational, social, political and related phenomena. Further, the case study method provides a picture of actual people in actual situations, allowing researchers to study them in some depth (Bell, 2005) and, at the same time, offering readers a clearer picture of the ideas presented than do nonfigurative theories or principles (Cohen et al., 2005).

The case study has become a common research method across a wide range of disciplines (Hara, Bonk and Angeli, 2000). According to Stake (1994), these fields include psychology, sociology, political science, anthropology, social work, business, education, nursing and community planning. Stake added that the aim of using a case study is not to build a hypothesis about a complex phenomenon but to accomplish an in-depth investigation. The case study can be considered a snapshot that exemplifies a more general principle. It is 'the study of an instance in action' (Adelman et al., 1980, cited in Cohen et al., 2005, p. 181).

The hallmarks of a case study include the following:

- It gives a rich and vivid description of events relevant to the case.
- It provides a chronological narrative of events relevant to the case.
- It blends a description of events with an analysis of them.
- It focuses on individual actors or groups of actors and seeks to understand their perceptions of events.
- It highlights specific events that are relevant to the case.
- An attempt is made to portray the richness of the case when writing up the report (Cohen et al., 2005, p. 182).

The case study method focuses on understanding difficult cases that have clear boundaries and are restricted within a coherent system (Stake, 1995). However, Stake added that the case study can be valuable in illustrative theory (Yin, 1994) and has important implications for applying or generalising the finding to circumstances that are similar, although not necessarily identical, to the case being researched (Kennedy, 1979; Lincoln and Guba, 1985; Simons, 1996).

This study carries out the four characteristics of case study research observed by Gall, Gall and Borg (2005, p. 308):

1. The study of a phenomenon by focusing on specific instances. In this research, the phenomenon of interest to the researcher is the use of e-learning at X University in Saudi Arabia.
2. Conducting an in-depth study of the case. This research involves collecting a considerable amount of data about the specific cases selected to present the phenomenon. In this research, the researcher used different methods to gather data for his research including interviews, observations, focus groups, questionnaires and analyses of documents.
3. The study of phenomena in its natural context. Kirk and Miller (1986), cited in Gall et al. (2005, p. 309), define qualitative research as ‘an approach to social science research that involves ... watching people in their own territory and interacting with them in their own language, on their own terms’. Consistent with this definition, case studies often involve fieldwork. In this research, the researcher interacted with the research participants in their natural settings.
4. The study of the perspective of the case study’s participants. This research will obtain multiple sources of information from the instructors, their students and other participants including leaders and technical staff of the e-learning centre and a leader of the National Centre of e-learning and distance learning outside the university in the data collection to provide an in-depth understanding of their experiences and transformation in the e-learning environment. This information will be analysed and presented in ways that let these voices emerge.

This research will investigate a case study regarding the use of e-learning at one university in Saudi Arabia. The study will take place in Saudi Arabia, where the

recent emergence of e-learning is likely to be at an earlier stage of e-learning maturation (Al-Musa and Al-Mubarak, 2005). This study will focus on X University that has adopted e-learning and established an e-learning centre. An examination of this centre forms part of the case study. It is complemented by four embedded cases of instructors and their web-enhanced courses and one embedded case of a centre of e-learning outside the university, in order to understand how this centre supports universities regarding e-learning. The four embedded cases have been chosen as examples of different experiences in using e-learning with students to produce excellent results.

This research will focus on the current use of e-learning at X University, the understanding of the process of developing instructional design, interaction between instructors and students, delivery of e-content, when and how the e-learning teaching mode is used and the effectiveness of e-learning for the teacher and the student. In addition, innovative practice examples will be considered. The research will also explore whether e-learning was distance-based online learning or online learning blended with campus activities. There will be a discussion of the professional development background and requirements of e-learning for staff and teachers, the background of e-learning for students, and of participants' beliefs concerning e-learning.

As recommended by Yin (2003), the case study methodology used in this research is qualitative. Data will be gathered from one university within Saudi Arabia through observation, semi-structured interviews, focus groups, questionnaires and analyses of documents.

4.3 The Pilot Study

This pilot study helped the researcher understand how to predict key problems and events, classify key people and actively seek opportunities to revisit and revise the design of the research, prompting the researcher to address and add to the original set of research questions.

The researcher conducted a pilot study before beginning the fieldwork in order to avoid obvious obstacles or issues that could occur while collecting data in X University in Saudi Arabia. In terms of collecting data for the case study, researchers need to be prepared for the actual fieldwork for their studies. Accordingly, the researcher in this research conducted a small pilot study to become familiar with the techniques of case studies before conducting the actual case study at X University in Saudi Arabia. This was in keeping with the advice of well-known researchers such as Stake (1995), Simons (1996) and Yin (1994). Following these researchers, a six-step process was outlined for conducting and organising the research successfully. These steps were to determine and define the research questions, select the cases and determine data gathering and analysis techniques, prepare to collect the data, collect the data in the field and prepare the report.

The purpose of conducting this pilot study was to help the researcher understand the basic concepts of the study as well as the terminology, processes and methods required, and to prepare the researcher for how to apply the techniques being used in the study. In addition, the pilot study helped the researcher understand how data could be collected using different methods to provide opportunities to triangulate the data during the analysis stage of the study. The procedures of the case study, including deadlines and formats for narrative reporting, were also considered. This pilot study provided the researcher with valuable experience in being a good

listener during interviews, asking good questions and interpreting the answers as well as recording, transcribing and analysing the data. Further, experience was gained in understanding how to review the documents, seek facts related to the study and observe classes.

4.3.1 Samples in the pilot study.

The researcher purposely selected a polytechnic tertiary institute based on two criteria. The first was its recognition as being a relatively ‘e-mature’ organisation in New Zealand in relation to web-enhanced and ICT-enabled tertiary education. The second was its similarity to the university in which the case study was to be conducted in Saudi Arabia, both in terms of implementing and examining resource allocations and in actively seeking ways to improve the e-learning environment.

The sample of this pilot study was small and limited, and included three staff members. One staff member was chosen on the basis that he was (1) an early adopter of e-learning, having implemented e-learning over 10 years ago, and (2) a teacher of computer science, which is the same subject field as the researcher. An e-learning department leader and an e-learning supporter were also chosen. Table 4.1 presents the data gathered in the tertiary institute for the pilot study.

Table 4.1.

Data Obtained at the Polytechnic Tertiary Institute in New Zealand

Participants	Population	Instructors	Leaders	e-learning supporters
Computer Science faculty	19 tutors	1		
e-learning department	1 leader		1	
e-learning department	1 e-learning supporter			1
Total:	3			

Based on the techniques piloted for data gathering in the pilot study, the research question was re-shaped after negotiating with colleagues and reaching an agreement that the previous question, concerning how the researcher could measure e-learning's effectiveness, was too difficult. This was important because every educational institute that has adopted e-learning considers their e-learning system to be effective. Therefore, the researcher re-shaped the question in order to discover how e-learning is developing at X University within Saudi Arabia. The techniques piloted for data gathering in the pilot study also prompted the researcher to re-think the implementation of the methods used to investigate the data. A need was identified to include the students' perspective, which was not included in the pilot study (see Table 4.9).

4.4 Data Sources

This case study utilised a range of data sources, including on campus sources, the university itself, such as the E-learning Centre, research participants, the university website and, off campus, the National centre of e-learning and distance learning located outside the university in the capital of Riyadh. This centre was chosen in order to triangulate the data.

4.4.1 The selection of the case and samples.

The selection of the case and embedded cases used in this research was in accordance with the purposeful sampling strategies of Gall et al. (2005). The researcher followed systematic sampling strategies to select the samples. These strategies, which were suggested by Michael (2001, cited in Gall et al., 2005), are grouped into four categories based on their underlying rationale: selecting cases that represent a key characteristic of the phenomenon that the researcher wishes to study;

cases that reflect a conceptual rationale; an emergent strategy, which is a snowball type of sampling; and a strategy lacking a rationale.

However, in this research, the researcher has selected only some of the strategies that were appropriate for his case study. The first category chosen was sampling strategies that involve selecting cases that represent a key characteristic of the phenomenon that the researcher wishes to study, including a strategy of extreme/deviant sampling. This occurs when cases represent characteristics to an extremely high or low extent (Michael, 2001, cited in Gall et al., 2005, p. 312). The second category chosen—emergent strategies—includes snowball sampling, which involves chosen participants recommending other individuals they know who are likely to yield relevant, information-rich data. By using snowball sampling, it is expected that suggested participants would be ‘individual[s] who ... have special knowledge or special views or special experiences that make them especially important in obtaining the participants’ perspective’ (Michael, 2001, cited in Gall et al., 2005, p. 310).

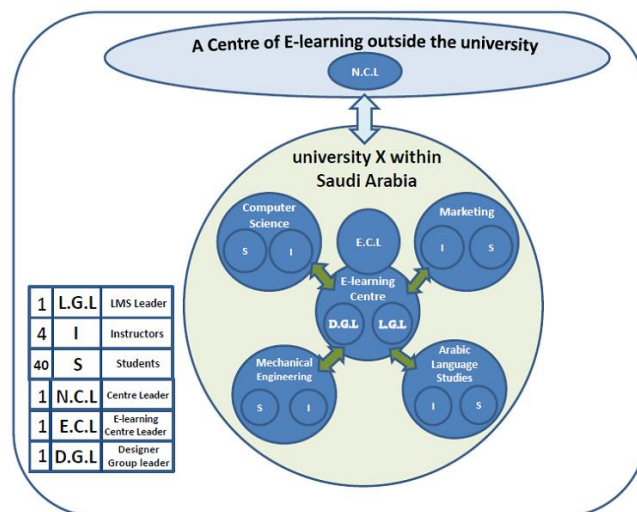


Figure 4.1. The areas and participants selected in the case study of X University in Saudi Arabia

Figure 4.1 above elaborates on the areas and participants selected for inclusion in the study of X University in Saudi Arabia. Instructors from each of four disciplines were chosen to participate in this study. The first three instructors were chosen for two reasons. First, they were early adopters of e-learning and are knowledgeable on the topic of e-learning. Second, they are well known by the E-learning Centre due to delivering their subjects by e-learning, and all of them were perceived to have different experiences in utilising e-learning activities with their students, who achieved excellent results. The Arabic Language Studies instructor was chosen because he had only adopted e-learning recently due to his interaction with the E-learning Centre. These different samples were selected with the intention of establishing a clear picture of how e-learning is developing in X University in Saudi Arabia.

The arrows in Figure 4.1 indicate that these samples support each other. For example, the arrow between a centre of e-learning outside the university and the case study itself means that these sources support each other. The National Centre of e-learning and distance learning outside the university was established by the Ministry of Higher Education in order to provide advice, training programmes and open resources to other universities. X University, sometimes supports this centre by providing training programmes to other universities who have just adopted e-learning.

The arrows between the E-learning Centre and Marketing, Computer Science, Mechanical Engineering and Arabic Language Studies mean that each embedded case has links with the E-learning Centre and support each other. The E-learning Centre is committed to providing training, support, advice and workshops for all staff members, and these four embedded cases also support the E-learning Centre by

providing workshops and training programmes for other faculty members, except in the fourth case of Arabic Language Studies which was not involved in providing workshops for other staff members.

The size of this sample was chosen based on a purposeful sample, and the samples were chosen from four colleges out of seven that were considered excellent for presenting the phenomenon. In addition, the selection of these samples was negotiated with the leader of the E-learning Centre (see Section 4.4.6; Basit, 2010). Basit (2010) advised that researchers seeking in-depth data on people's perspectives and feelings and who wanted to be open to addressing matters raised by research participants while they were collecting data, should use a small sample using a qualitative methodology that works in an interpretive theory. Therefore, the number of instructors was limited to four.

However, Yin (1994, p. 137, cited in Bell, 2005) observed that 'case studies have been done about decisions, about programmes, about the implementation process, and about organizational change. Beware these types of topic—none is easily defined in terms of the beginning or end point of the case'. He added that 'the more a study contains specific propositions, the more it will stay within reasonable limits'. However, specific propositions are not always present, which is good advice and worth following. In this research, the researcher will examine how e-learning is developing in one university in higher education within Saudi context. The researcher has chosen one e-learning environment in the region where he conducted his research as an extreme situation. The researcher will examine different samples (embedded cases) in this environment. Therefore, instead of trying to spend time with every individual in the field setting, the researcher has searched for key

information. As four instructors have special knowledge, their perspectives make them particularly important (Gall et al., 2005).

4.4.2 The university where the study was conducted.

One university in Saudi Arabia was selected out of 24 for two reasons: (1) the university is considered one of the most innovative universities in Saudi Arabia for its early adoption of e-learning (X University website, 2010); and (2) the Ministry of Higher Education provided approval for this research to be conducted in this institution.

This research will focus on e-learning centres while considering instructors' levels of experience and the students who use e-learning (blended learning) in their undergraduate classes. The purpose is to understand how e-learning practices are developing in one university in Saudi Arabia, enhancing teaching and learning, and to understand the processes of how to develop e-content, thereby assisting teachers and students in moving from traditional modes of teaching and learning to the new modes centred on e-learning (see Figure 4.1).

4.4.3 The E-learning Centre.

The E-learning Centre is the heart of the e-learning environment at the university. Accordingly, there were three reasons for selecting the E-learning Centre for this case study: (1) to investigate in-depth how e-learning is developing at X University, (2) to coordinate and facilitate communication between the researcher and the participants in this research, and (3) to provide documents, statistics, previous research work and other information required by the researcher for this study. The E-learning Centre's particular roles at the university include:

- raising the academic community's awareness of the importance and capabilities of modern technology and e-learning in the development process of teaching and learning
- assisting in the development and provision of high-quality e-courses
- providing training for faculty members to help them develop e-courses
- improving the educational process and providing necessary technical support
- emphasising the quality and educational aspects of all activities related to e-learning
- encouraging scientific research and development in the field of e-learning and its applications at the university
- promoting and conducting pedagogic research and development related to e-learning activities at the university
- assisting the university to set up online programmes.

4.4.4 The university website.

The researcher selected the university website as a source due to its information on (1) e-learning e-courses, (2) all courses developed and prepared for teaching, whether fully online or through blended learning, (3) access to the Learning Management System (LMS), including teachers' web pages and their materials for the subject areas they teach, as well as other information related to the research. This information was required in order to investigate in-depth how e-learning is developing within the university and how the E-learning Centre provides support through the university's website, including the LMS. It also provides descriptions of what is happening inside the university regarding e-learning.

4.4.5 The National centre of e-learning and distance learning outside the university.

This embedded case was selected by the researcher for two reasons: (1) to understand the methods being implemented to support universities in terms of e-learning including X University, and (2) to investigate the roles and policies of the centre relevant to improving the use of e-learning among universities. For this research, the centre provided the researcher with documents, statistical data, compact discs, magazines and conference papers. The centre is administrated by the Ministry of Higher Education.

4.4.6 Participants.

The participants included the E-learning Centre leader, the designing group leader, the LMS group leader, instructors, students and the leader of the National centre of e-learning and distance learning located outside the university.

The participants were the main source of data for this research. The selection and sampling of the instructors as participants was made in agreement with the E-learning Centre leader. The instructors were selected from four out of seven different colleges, with selection purposefully dependent on (1) experiences in utilising e-learning, (2) whether the instructor was an early or recent adopter of e-learning, and (3) whether the instructor had implemented an excellent experiment in e-learning. The selection of courses of these instructors was dependent on whether the courses were being taught while the researcher was collecting data for the study.

The selection of students was made in consultation with the instructors of each subject area, who chose students who were willing to participate in the research. The selection of students was dependent on three factors: (1) students were selected from classes in which the researcher could observe the instructor, (2) students were

from a discipline that the researcher had chosen for inclusion in the research, that is, Computer Science, Mechanical Engineering, Marketing, and Arabic language Studies, and (3) students were from the classes selected by the instructors for involvement in the voluntary research. The selection of leaders was made by the researcher. Table 4.2 shows the statistical data gathered in the field.

The researcher triangulated the data sources with each participant to ensure the data's validity. For example, Tables 4.3–4.8 illustrate the number of sources from which the researcher gathered data during the two visits to Saudi Arabia. There were many reasons for collecting these data:

- to understand the nature of e-learning at one university in Saudi Arabia.
- to understand how e-learning practices reflect the language and culture of Saudi Arabia and enhance teaching and learning at X University, and to understand the processes of how to develop e-content, thereby assisting teachers and students in moving from traditional modes of teaching and learning to new modes centred on e-learning
- to understand and discover the methods, strategies, policies and guidelines that X University adopts to develop the e-learning practice; hence, to discern the dilemmas that might affect the process of developing the e-learning environment at the university
- to understand the interactions between teachers and students when they use e-learning, the delivery of e-content, and when and how the e-learning teaching mode is used
- to examine if innovative practice examples were implemented
- to explore whether e-learning was distance-based online learning or online learning blended with campus activities

- to explore the professional development background and requirements related to e-learning of staff and teachers, the background in e-learning of the students and the participants' pedagogical beliefs towards e-learning
- to focus on teachers' beliefs concerning the utilisation of e-learning.

Table 4.3 below presents the sources that were gathered from the embedded case for the Marketing teacher as an early adopter of e-learning at X University in Saudi Arabia. The researcher followed a similar process in each instance to ensure the data were validated. This information was collected using different methods including interviews, observations, student focus groups, questionnaires and analyses of documents. The different data sources presented in these tables were gathered from two visits to Saudi Arabia, from 11 November 2010 to 10 January 2011 and from 16 December 2011 to 16 February 2012.

In Table 4.3, the researcher conducted one interview with the instructor in the first round for 2 hours, a 1-hour long observation of his classroom and one focus group with his students, where all 10 students agreed to participate for 1 hour. In addition, the researcher asked the instructor to provide him with all documents he had for course A, including course materials and online sources. These documents included one syllabus, four assignments, two exams, one project, one presentation, one handout of a Facebook group, three YouTube clips, access for his page on Facebook, Flickr and Twitter, his teacher's page in the LMS, and the Technology, Entertainment, Design (TED) website, which is a website where people can share their ideas with others in different fields.

The instructor encouraged his students to be more interactive with each other and gave his students an assignment to translate some TED talks from English to Arabic. This was a part of the course objective. He commented that, 'we are in a

global market, we're talking also about languages, we cannot ignore it and this is of value to society. Plus you become a TED translator; that gives you credit, you put it in your CV [curriculum vitae], you win, the society wins, all of us win'. Engaging in such an environment means that students go beyond the class and engage with other institutions. The researcher collected these documents in order to understand how e-learning has been used inside and outside the classroom during the course teaching period.

In the second round, one interview was conducted with the same Marketing instructor. This interview lasted 1 – 1½ hours and took place in the instructor's office. The researcher also conducted one class observation using note taking that was adopted and piloted in Phase 1, modified in Phase 2 and implemented in Phase 3. A focus group with the students was also conducted and a TPI questionnaire was also conducted with instructors. The researcher sought documents provided from the instructor related to the courses he taught. This interview, focus group and class observation focused specifically on the teacher's beliefs towards the use of e-learning.

The researcher used a similar technique with the other participants, although there were differences regarding the data sources provided to the researcher by each participant (see Tables 4.3–4.8).

*Table 4.2.**Data Obtained at University X in Saudi Arabia and a Centre of e-learning outside the University*

Participants	Instructors	Population	Students	Students in this course	Participants	Leaders	Population	Total participants
College of Computer Science Faculty, Computer Engineering Department	1	26 tutors	20	25	E-learning Centre	1	1 leader	
College of Engineering Sciences & Applied Engineering, Mechanical Engineering Department	1	72 tutors	15	25	E-learning Centre—design group	1	5 technical staff	
College of Industrial Management, Department of Management & Marketing	1	11 tutors	35	35	E-learning Centre—LMS group	1	2 technical staff	
College of Applied & Supporting Studies, Islamic & Arabic Studies Department	1	28 tutors	12	22	A centre of e-learning outside the university	1	1 leader	
Total	4		82		Total	4		90

*Table 4.3.**Sources of Data Obtained from the Marketing Teacher during November 2010 to March 2011 and December 2011 to February 2012*

Embedded case study for the Marketing teacher as an early adopter of e-learning at university X in Saudi Arabia								
No	Participant	Interviews	Observations	Student focus group	Documents for course A (same course) 11/2010–3/2011	Documents for course A (same course) 12/2011–2/2012	Documents for course A (same course) 12/2011–2/2012	Documents for course A (same course) 12/2011–2/2012
1	1 instructor	1: 1/1/2011 2: 16/01/2012	1: 28/12/2010 2: 25/12/2011	1: 9/1/2011 2: 25/12/11	Course materials 1/1 syllabus 4/4 assignments 2/2 exams 1 project 1 presentation 1/1 handout of Facebook group	Online sources 3 YouTube clips Facebook Flickr Twitter Teacher's page in the LMS TED website	Course materials 1/1 Syllabus 1/1 lecture notes 3/3 assignments 1/1 discussion group-handouts 1/1 exams 1/1 project	Online sources Teacher's page

Table 4.4.

Sources of Data Obtained from the Computer Science Teacher during November 2010 to March 2011 and December 2011 to February 2012

Embedded case study for the Computer Science teacher as an early adopter of e-learning at university X in Saudi Arabia								
No	Participant	Interviews	Observation	Student focus group	Documents for course A (same course) 11/2010–3/2011	Documents for course A (same course) 12/2011–2/2012	Documents for course A (same course) 12/2011–2/2012	Documents for course A (same course) 12/2011–2/2012
1	1 instructor	1: 27/12/2010 2: 04/1/2012	1: 27/12/2010 2: 28/12/2011	1: 29/12/2010 2: 28/12/11	Course materials 1/1 syllabus 1/1 lecture notes 8/8 study materials (presentations) 1/1 reading (for students) 16/16 assignments	Online sources 1/1 syllabus 1/1 lecture notes 8/8 study materials (presentations) 1/1 reading (for students) 16/16 assignments	Course materials 1/1 syllabus 1/1 lecture notes 8/8 study materials (presentations) 1/1 reading (for students) 16/16 assignments	Online sources 1/1 syllabus 1/1 lecture notes 8/8 study materials (presentations) 1/1 reading (for students) 16/16 assignments

16/16 exams
(quizzes)
5/5 programme
tools to support
students

16/16 exams
(quizzes)
5/5
programmes
tools to support
students

Teacher's page

Course
materials

Teacher's
page

*Table 4.7.**Sources of Data Obtained from the e-learning Centre during November 2010 to March 2011 and December 2011 to February 2012*

Embedded case study for E-learning Centre leaders		
E-learning centre leader	Designing group leader	LMS group leader
Interview for two hours on 5/1/2011	Interviews (3 days x 1 hour) on 2–4/1/2011	Interview (1 hour) on 10/1/2011
Documents including pamphlet and magazine	Documents	Online resources (university website)
Online resources (university website)	Online resources (university website)	Documents
Interview for 1 ½ hrs on 21/1/12	Examples of developing e-courses	

Table 4.8.

Sources of Data Obtained from the Leader of the National Centre of e-learning and Distance Learning located outside the University during November 2010 to March 2011 and December 2011 to January 2012

Embedded case study for a centre of e-learning outside the university

No	Participant	Interview	Documents
1	1 leader	18/2/2011	Books Magazines CDs Pamphlets
			Centre website data Conference papers

4.5 Methods of Data Collection

The methods of data collection used in case studies commonly include a combination of quantitative and qualitative methods and the use of multiple sources of evidence or triangulation strategies to compare and confirm the evidence (Denzin and Lincoln, 1994; Merriam, 2001). Yin (1994) identified six sources of evidence that allow researchers to obtain the data they require, including documentation, archival records, interviews, direct observations, participants' observations and physical artefacts. Robson (2002) agreed with Yin's (1994) view, adding that the researcher's aim in any research activity is to discover something. This can be done in different ways, for example, by using different methods of gathering data. Depending on the research objective, the researcher should question the method that is most appropriate for the research. Research data can be collected using methods such as observation, interviewing and surveying.

The case study methodology used in this research is mainly qualitative, as recommended by Yin (2003). Qualitative data was gathered in one university in

Saudi Arabia using interviews, observations, focus groups, document analyses, questionnaires and website reviews.

The research was conducted in three phases. Table 4.9 elaborates on the research phases and data collection methods used in each phase. In Phase 1, the pilot study phase, the objective was to help the researcher understand the nature of e-learning at the polytechnic tertiary institute before conducting the main case study in Phase 3. The techniques piloted for data gathering used in Phase 1 informed the redesign and implementation of the research instruments. Data were collected using different methods including semi-structured interviews, class observations, documents and website data.

Phase 2, which involved redesigning the research instruments, implementation and the refining phase, was informed by the techniques piloted for data gathering used in Phase 1. In Phase 2, the researcher translated all instrument questions into Arabic in case participants were unable to read the questions in English or were uncomfortable doing so. The basic language of instruction in this university is English, with the exception of Arabic subjects including Islamic Studies and Arabic Language Studies.

Phase 3 was the case study phase, where the main methods of data collection included semi-structured interviews, focus groups, class observations, questionnaires for the four instructors only, documents and website data. Phases 2 and 3 were the parts of the case study conducted at X University in Saudi Arabia. Each data collection method used in this research is described below.

Table 4.9.

Research Phases and Methods Used

Phase 1: Pilot study	Research methods
Research questions: How can e-learning be developed for effective practice in higher education in New Zealand and Saudi Arabia? What has the institution been doing to accommodate e-learning? What professional development is needed by educators? How are these needs being met? What technical staff work with teachers and students to support the e-courses? What are the current pedagogical beliefs of educators at the tertiary level relating to e-learning? What are the conditions needed to tailor e-learning courses to serve current needs, cultures and contexts suitable for diverse educators?	The techniques piloted for data gathering 1: Data collection through a pilot study consisting of: Interview Observation Document Analysis Website Data
Phase 2: Refine the research instruments, implementation and refining and translation	
In this phase, the researcher redesigned the research instruments and implementation and refined them before starting to gather the case study data in Saudi Arabia in Phase 3, which was based on the techniques piloted for data gathering in Phase 1.	
Phase 3: The case study (real-life situation) <i>in situ</i> 2010–2011 and 2011–2012	Research methods
Research questions:	Methods used to answer the research questions

To what extent does the practice of e-learning at university X in Saudi Arabia match the guidelines provided by the university?

What influence do teachers' pedagogical beliefs have on the practice of e-learning at the university?

1: Data collection through a case study

consisting of:

Interview

Focus group with students

Observation

Document analysis

Website data

Questionnaire for the four instructors only

4.5.1 Instruments.

4.5.1.1 Interviews.

The primary method of gathering data on perceptions for this study was through interviews. Interviews are conversations with a purpose (Basit, 2010; Maykut and Morehouse, 2001). They allow the interviewee to ‘move back and forth in time to reconstruct the past, interpret the present, and predict the future’ (Lincoln and Guba, 1985, p. 273). Researchers usually conduct interviews of field participants in case studies (Gall et al., 2005), as this is considered a useful method of obtaining a person’s ‘knowledge or information, values and preferences, attitudes and beliefs’ (Cohen et al., 2005, p. 268). Gall et al. (2005) also clarified that interview questions are always open-ended, allowing the interviewee space to answer in his or her own words and on his or her own terms, rather than selecting from a fixed set of responses.

After preparing the research instruments for this research and developing the skills as a researcher, this research started collecting data for the case study. Interviews were used to obtain data from participants, including instructors, e-learning leaders, technical supporters and students. The semi-structured interviews, which are the favoured type of interview in educational research (Basit, 2010), began with the preparation of three sets of questions covering perceptions on five topics (see Figure 4.2), including the adoption of e-learning, professional development, technical support, pedagogical beliefs related to e-learning and conditions in developing e-courses.

Patton (2002) clarified that, even though qualitative interviewing is naturally conducted via open-ended questions or a combination of open-ended and open-closed questions to allow for a richer variation in responses from the participants,

there are four types of interviews, including informal or conversational interviews, semi-structured interviews, standardised interviews and open-ended interviews.

Basit (2010, p. 100) clarified that the research interview is different from the other types of interviews, stating that ‘while all the interviews are conducted for a purpose, a research interview is specifically designed to collect research-relevant data on a particular issue and illuminate certain phenomena’. In this research, the researcher conducted the semi-structured interviews. The advantage of using this type of interview is that the researcher is able to gain access to participants’ ideas, thoughts and memories in their own words and to encourage free interaction and opportunities for clarification and discussion between the researcher and the interviewees by using open-ended questions rather than close-ended questions (Bishop, 1997).

Further, the researcher is able to gain a more in-depth understanding of the perceptions and attitudes of the participants. The researcher can play an explicit role in the data collection process by telling the interviewee about his or her experiences and reactions in the field. For example, while this researcher was in an interview with one participant, the researcher reminded the instructors that there was an evaluation part in the LMS that he could use with his students, as the instructor knew nothing about it for such a purpose (Gall et al., 2005). Gall et al. added that the researchers could explain how their beliefs, personal knowledge and background influence the phenomena they are studying.

4.5.1.2 Phase 3: Interview for on-campus instructors.

In Phases 3, scheduled interviews were conducted with the course instructors. Sub-questions of the two research questions were framed with the purpose of fostering improvements through collaboration, and any negative interpretations of

the skills of staff were avoided. The questions focused on the interaction between teachers and students, the delivery of e-content, when and how the e-learning teaching mode is used and how effective the e-learning is for both teacher and student.

Further, innovative practise examples were also considered. The study explored whether e-learning was distance-based online learning or online learning blended with campus activities. There was a consideration of the professional development background and requirements related to the e-learning of staff and teachers, the background in e-learning of students, the participants' pedagogical beliefs towards e-learning, and a focus on teachers' beliefs. Information was obtained from the participants, who were informed that they had the right not to answer questions if they did not wish to.

Eight interviews were conducted with the course instructors during the two visits, and two interviews were conducted with each participant. The interviews were organised according to the availability of the instructors. Each interview lasted between 1 and 2 hours and were conducted in the instructors' offices between 11 November 2010 and 10 January 2011 and between 16 December 2011 and 30 January 2012. They aimed to obtain broad perspectives about instructors' teaching experiences. The interview questions were designed, piloted, developed and modified (see Section 4.4). The interview schedules used are attached in Appendixes 1 - 5 respectively. The interviews with instructors that were conducted in the first round identified broad issues such as the high number of students in classes, causing reduced personal communication and interaction between the instructor and his students, limiting the instructors' ability to reflect on student questions. Regarding the designing of e-courses, the researcher recognised that with some subject areas the

instructors' belief is that there are no special needs or requirements when designing e-courses, especially with science and engineering courses, as the nature of these subjects is practical rather than theoretical, and the students are treated as equals.

Other key issues raised from these investigative interviews identified that, although there are teachers who adopt and use technologies confidently and proficiently, this does not mean that they believe they are a valuable tool when they use them for educational purposes (Steel, 2009). In this study, some instructors used LMS regularly, some used it to make an announcement, post exam results or collect assignments, and others did not use it at all. In this study, some instructors did not believe in using LMS in their subject areas. Even if they used it for certain things, they still believed it was too rigid, like having another classroom in a system that is locked. The LMS was not appropriate for their subject areas, with one instructor stating that '... we need to go beyond what WebCT does ... When it comes to discussion, I don't think it's the platform to use because to encourage discussion, make it more lively, we need to be in an open space'.

The teachers were more likely to incorporate technology when they identified how it could support their pedagogical beliefs. Thus, to understand how teachers use or do not use technology, there is a need to consider a teacher's beliefs concerning teaching (Steel, 2009). One instructor observed that 'the idea with e-learning is, I think, at the end you want to do something that you enjoy doing and that you feel is also engaging and of value to students'. However, although there is a familiarity with current face-to-face models of teaching, some teachers who adopted e-learning still appear to believe that providing a large amount of 'stuff' online means that they have activated the use of e-learning in their teaching. Other groups believe that having access to the Internet will represent an engaging learning experience but this action

ignores the need for experienced and effective teachers (Steel, 2009). Accordingly, the researcher reviewed the findings in phase 3, re-examined the themes and emphasised Kahn's framework of (2005). This framework, comprising eight dimensions, was designed to create a meaningful online learning environment. Khan attempted to discover what was required to provide the best and most meaningful open, flexible and distributed learning environments for learners worldwide. This framework was adopted to explain the emerging themes observed in the data and to support the researcher in order to discover what data were not covered in Phase 3.

Based on the findings from Phase 3, the researcher found that influencing the utilisation of e-learning at X University is not about the technology itself; rather, it concerns involving academic staff who will drive or lead the change. When teachers try to implement new methods without experience or enough time to practise, they may revert to traditional methods. Hence, some studies have suggested changing teachers' beliefs about technology in order to change the classroom use of technology (Park and Ertmer, 2007; Campbell, 2003).

Based on this, the researcher found that the data for teachers' beliefs needed to be covered in-depth. Accordingly, in the second round, the researcher focused on teachers' beliefs about the utilisation of e-learning and how their beliefs might influence practice in their classroom when they utilise e-learning. In order to answer the second research question and to understand the similarities and differences in different teaching practices, it may be useful to recognise how e-learning is developing in X University in Saudi Arabia.

4.5.1.3 Phase 3: Interview for e-learning supporters on campus.

After completing the first part of the data collection (interviews) with the instructors, the researcher moved to the second stage, which was to interview the e-

learning support staff. The structure designer, web programmer and the group leader of the e-content developers were interviewed. The order in which the interviews were conducted depended on the staff members' availability (see Appendix 3).

4.5.1.4 Phase 3: Interview for e-learning leaders on campus.

In the first round of the data collection process, the researcher interviewed the leader of the E-learning Centre at the university. This interview was conducted in the leader's office and lasted 2 hours. The researcher asked the leader to provide documents including magazines, statistics and previous research in the e-learning field (see Appendix 4).

4.5.1.5 Phase 3: Interview for the leaders of a centre outside the situ.

In addition, the researcher visited and interviewed the leader of the National centre of e-learning and distance learning outside the university, in the capital Riyadh, to see how the centre worked and to learn about the roles and policies that shaped their communications with universities and colleges including X University and how they support them (see Appendix 5). The interview was conducted in the leader's office and lasted 2 hours. The researcher was keen to triangulate the data regarding this centre and asked the leader to provide documents that related to the study (see Table 4.8).

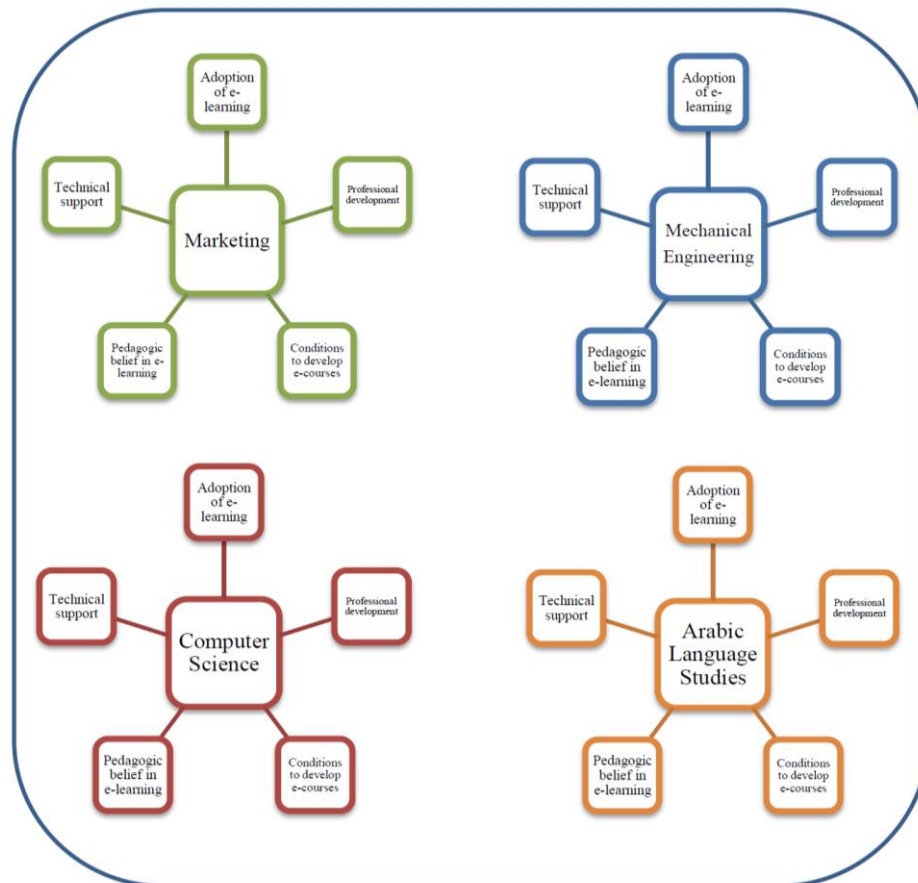


Figure 4.2. The five areas that were covered by the interview with instructors.

4.5.1.6 Phase 3: Focus groups with students on campus.

Focus groups are a type of interview (Basit, 2010) and are a valuable tool in qualitative research enquiries to obtain ideas, participants' views, and the opinions generated by diverse groups (Cohen et al., 2005). The focus groups conducted in Phase 3 by the researcher comprised groups of students according to the subject area they were studying. These focus groups were held at X University and aimed to identify key issues relevant to the utilisation of e-learning in the university.

The researcher began the meeting by asking the students who wanted to participate in the focus group discussion. All students raised their hands in agreement. The students were then given further explanation about the focus group discussion. The focus group discussions were conducted face-to-face and each lasted around 1 hour. The first focus group was conducted on 29 December 2010 for

Computer Science students, with 8 out of 10 students participating voluntarily. The second focus group was held on 9 January 2011 for Marketing students, with 10 out of 15 students participating voluntarily. Both focus groups were conducted in empty classrooms. The researcher recorded the discussion after receiving permission from the students, and the recorded discussion was then transcribed and analysed. The researcher followed the same process with both focus groups.

The group discussion identified broad issues relating to the Information Technology (IT) centre at the university, such as who was responsible for the server and the Internet, and the fact that some services were yet to be completed. Comments indicated that the Internet at the university was slow, some machines were old and the email was not very good. These questions were developed after the researcher conducted the interviews in Phase 1 and piloted them in advance (see Appendix 6).

In the second round, which took place between 16 December 2011 and 30 January 2012, the researcher conducted two focus groups each with different subject areas including Marketing, Computer Science, Engineering and Arabic Language Studies.

4.5.1.7 Phase 3: Observation.

The observations in this research were conducted using the field notes technique (Gall, Gall and Borg, 2005). Observation data are usually used for description purposes, as this method can obtain sufficient descriptive depth and detail to immerse the reader in the research setting, activities and participants who contributed in the activities. Observation was selected for use as it is considered a useful instrument for researchers to triangulate the emerging findings with other data collection methods, including interviews and document analyses to validate the findings.

Further, observation provides opportunities for researchers to gain more in-depth data and understanding of a research topic compared to using interviews alone (Merriam, 2001). To conduct observations, there are several suggestions for using field notes to collect data. Lofland (1971), cited in Cohen et al. (2005), indicated that:

- The researcher has to record the notes as quickly as possible, especially when finishing the observation, as the quantity of information that is forgotten increases as time passes.
- The researcher must reconcile him or herself to the fact that the recording of field notes can be expected to take as long as the time spent in actual observation.
- Dictating rather than writing is acceptable if one can afford it, but writing has the advantage of stimulating thought.
- Typing field notes is vastly preferable to handwriting because it is faster and easier to read.
- It is advisable to make at least two copies of field notes and preferable to type on a master for reproduction.
- The notes should to be full enough for the researcher to recall the situation again adequately, months later. This means that, at the very minimum, at least a couple of single-spaced typed pages should be written for every hour of observation (Cohen et al. 2005).

In this research, the researcher conducted seven classroom observations with participants using field notes taken between 11 November 2010 and 10 January 2011 and between 16 December 2011 and 30 January 2012. The researcher adopted existing field notes related to the study that was adopted and piloted in Phase 1, and

modified them to fit with the aim of the observation in the main study (see Appendix 7).

Observations were conducted during a normal class. For example, the first class observation was conducted with the Computer Science instructor and his students were observed in their field. The students were informed and approval was gained for the researcher's observer presence. The researcher organised a time and date to attend the Computer Science instructor's class to observe how e-learning was being used in the classroom. The interaction with students using these Information Communication Technology (ICT) tools was also considered, as were the activities that the instructor conducted with his students.

The researcher performed a further observation with the Marketing class, following the same procedure as in the first observation. During the observation, some unexpected occurrences prompted the researcher to note that more information is needed about these unexpected topics, to be gathered through another interview, the sending of an email or even another observation. The researcher noted that, with some subject areas that included the use of e-learning tools, the students did not interact much with their instructor. For example, some Computer Science students interacted with their instructor by asking and answering questions while others were only concentrating and taking notes. However, with other subject areas, including Marketing, students were active and interacted with their instructors.

4.5.1.8 Phase 3: Documents.

The document search was conducted in the same way as the literature search and included both national and local sources of evidence (Bell, 2005, p. 123). Bell noted that such a search is an important step and involves the researcher asking about what archives or collections of records exist in the organisation. For example, in this

research, at the local level, the researcher asked for existing documents preserved by the E-learning Centre and for documents stored by individuals or departments in the university.

Nationally, the researcher searched for documents relevant to the research first by searching, and later by deciding what official sources were necessary for inclusion in the research. These documents included guideline papers, government statistics, inspection reports, statutes and policy papers (Bell, 2005). Bell (p. 125) cautioned that the researcher should be careful when using the term 'document' as it is 'a general term for an impression left on a physical object by a human being'. Consequently, the researcher had to clarify what was meant by using this term as it includes the analysis of photographs, films, videos, slides and other non-written sources, all of which are classified as documents. This research includes national documents such as books, magazines, CDs and pamphlets regarding e-learning from a centre of e-learning outside the university, and government statistics documents relevant to e-learning, the aim of which is to understand the nature of e-learning in Saudi Arabia.

Researchers also need to be aware of selecting documents that are relevant to their research, as it is not possible to analyse everything. Therefore, they must decide on documents suitable for their research. Familiarity with different categories of evidence will occasionally support researchers and help them to make decisions regarding what is vital to their research. Bell (2005, p. 128) suggests that a 'controlled selection' is needed to ensure that no important categories are left out (Elton, 2002, cited in Bell, 2005). Documents in this research were selected for three reasons: (1) to understand how e-learning has been used inside and outside the classroom during the course's teaching period, (2) to present a picture of how e-

learning is developing from national and international perspectives, and (3) to create a timeline of e-learning development that may help the researcher to understand the changes occurring in this field in Saudi Arabia.

4.6 Analysis

4.6.1 Data analysis of interviews.

In interpretive research, the interpretations analysis method is often used. Basit (2010) noted that qualitative data generated from a large sample of participants could be broad and ‘sketchy,’ and could be detailed and in-depth when gathered from a smaller sample. The aim of analysing qualitative data is to establish the categories, relationships and hypotheses that reveal the respondents’ views of the world in general and of the topic in particular.

In this research, the interviews were conducted in three stages, including interviews with instructors, leaders and support staff. The researcher conducted qualitative analysis as a method to analyse the raw data collected from the research instruments, that is, the interviews and observations, in Phase 3. The researcher selects a suitable method to analyse the type of data collected. Cohen, et al. (2005) described how to analyse data in qualitative research. The analysis of qualitative data is interpretive and the data analysis does not give an accurate illustration but rather a reflexive, reactive communication between the researcher and the decontextualised data, which are already explanations of social encounters. At this stage, the researcher needed to produce significant, meaningful findings, as the first step in data analysis is the review of the research questions. By conducting this step, the researcher was able to focus on the purpose of the research, that is, the participants.

Developing the ability of the researcher to use the preliminary research questions and relevant literature review in the early stage of conducting the research will help later in designing a guideline for data analysis. Researchers have to take several steps before analysis can begin, including reading the data they have collected during their research. As qualitative data is mainly textual, or is often converted into textual form, the researcher is required to read it first. Mason (2002, p. 149), cited in Basit (2010, p. 184), recommended that researchers take the following approaches to reading their data:

- Literal reading: this will allow the researcher to examine the content, structure, style and layout of the data. It involves considering the interview by examining the language, words, progression of interaction, and the form and structure of the dialogue. In terms of documents, the researcher may want to document a literal version of the data that are available.
- Interpretive reading: researchers will be concerned with how the interviews make sense of the social world and how they interpret the interviewees' perceptions of the social world. In the document, the researchers will interpret the documentary evidence to understand what the data are conveying to them.
- Reflexive reading: this will consider the researchers as part of the data they have collected, exploring their role and viewpoint in the collection and interpretation of the data and thus depicting their relationship with the data.

Researchers have to be aware that reading their data from the beginning is an important step so they can analyse the data later. Involving themselves as part of the

social world of their subject is an advantage and not something for which they should apologise. When researchers read the gathered data, they must be engaged and not disconnected. In this way, the researcher will be able to see the similarities and differences between their interpretation of the meanings and those found in the documents during the analysis process.

Basit (2010, p. 183) explained that ‘writing up notes or transcribing tapes and simply listening to the conversations assist the important analytical stage of becoming familiar with the data’. Accordingly, the researcher first recorded the interviews and then, before transcribing them, listened to the interviews many times to help him focus on the purpose of the research and to establish an overall understanding of the data gathered. The researcher then transcribed the data gathered from the interviews, observations and focus groups. Next, the researcher reviewed the questions, grouped the collected participant information into themes and sought links with the main research questions.

Based in Khan framework (2005), the researcher created five groups that would later become the themes, including the adaptation of e-learning, professional development, conditions to develop e-courses, pedagogical belief in e-learning and technical support (see Figure 4.2). The researcher dissected these answers and put them together to make sense of the data. Further, the researcher reread the literature review to help him focus on the research questions and the data he had gathered to answer the questions. Occasionally, the full answer for a question was not found under the same question that was asked. Therefore, where possible, it was necessary to locate the other parts of the answer in order to reconstruct the answer.

During the process of data analysis, the researcher was able to locate specific interesting observations and develop those specificities into general patterns or

themes inherent in the phenomena studied to make sense of it. Basit (2010) identified that researchers need to depend on their skills to decide what data are relevant to their research questions and to start analysing them accordingly. In this research, the researcher chose the most important finding that related to the research questions. For each type of interview, a list of descriptive codes was drawn up in relation to the research questions, the interview questions and a number of other themes that emerged from reading through the participants' data.

The data were also analysed individually by interview or observation, beginning with the first teacher interviewed. The analysis included the interview, observation, focus group data and questionnaire. The researcher moved on to the next teacher when he was finished with all data relevant to teacher one. Using this method, each transcript was carefully read several times and early perceptions were noted before the analysis began. The researcher's preliminary observations and thoughts about each case were recorded for further verification as the analysis progressed. Categories with supplementary descriptions were created to include the emergent patterns and themes. The researcher then started to tell the story of each participant. When he finished describing, interpreting and telling the story, he moved on to another participant. The researcher constantly refined the list of themes and his impressions of the data to accommodate any overlaps and doubts.

4.6.2 Document analysis.

According to Bell (2005, p. 129), document analysis can be divided into two categories: external and internal criticism. External criticism aims to 'discover whether a document is both genuine (i.e. not forged) and authentic (i.e. it is what it purports to be and truthfully reports on its subject)'. In this type of analysis, the researcher needs to be certain of the authenticity of the document.

The second type of document analysis is internal criticism, which is more likely to be used with small-scale educational research. Bell (2005, pp. 130–131) noted that, in this kind of analysis, the researcher needs to seek answers to the following questions:

- What kind of document is it? A government circular? A statute? A policy paper? A set of minutes? A letter from a long correspondence? How many copies are there?
- What does it actually say? Are the terms used employed in the same way as you would use them?
- Who produced it? What is known about the author?
- What was its purpose? Did the author aim to inform, command, remind or want to have some other effect on the reader?
- When and in what circumstances was it produced? How did it come into existence?
- Is it typical or exceptional of its type?
- Is it complete? Has it been altered or edited?

Bell (2005) observed that there are further questions that researchers need to ask about the author of these documents, including:

- What is known about the author's social background, political views, aims and past experience?
- Did the author experience or observe what is being described? If so, was he or she an expert on what was being witnessed and a trained observer of the events described?
- Did the author habitually tell the truth or exaggerate, distort or omit?

- How long after the event did the author produce the document? Is it possible that memory played tricks?

The researcher may find that these questions are not relevant to his or her selected documents. However, it is important not to accept sources at face value, but rather to examine them carefully. According to Bell (2005, p. 132), biased documents 'need to be analysed cautiously and compared with other evidence from other sources, but [they] can still be valuable'. He added that, when analysing documents, the researcher needs to consider the perspective of the author. Rather than jumping to early conclusions, the researcher should deliberately seek contrary evidence to test the truthfulness of the document as rigorously as possible and to avoid introducing his or her own bias (Bell, 2005, p. 133).

In this research, the researcher collected different types of documents including statistics information, national and international perspectives towards e-learning, magazines and programme details conducted to support e-learning on the university's level. These documents were read carefully many times, and the researcher created themes based on the strategy recommended by Bell (2005). The researcher started with defining the types of documents, collating all documents from the same category, examining the information that he found to be useful and related to his research and placing them into groups including authors, national or international information and the purpose of the documents. For example, the researcher read the information analysed under the themes that he created and created a timeline of how e-learning has developed in Saudi Arabia (see Table 2.2). The researcher used this information to complete the story of how the e-learning is developing at X University in Saudi Arabia.

4.7 Validity and Reliability

This research used the definition of validity defined by Cohen, et al. (2005, p. 105). ‘Validity is an important key to effective research. If a piece of research is invalid then it is worthless. Validity is thus a requirement for both quantitative and qualitative/naturalistic research’. This case study was conducted using interviews with a sample of four instructors drawn from the fields of Computer Science, Marketing, Mechanical Engineering and Islamic Studies. These samples were selected according to the criteria mentioned in Section 4.4.1 in order to provide rich information about the use of e-learning in higher education.

To achieve quality in the form of questions, the researcher must address not only substance, but also style. Molhem (2005) explained that, to obtain valid information from a chosen method, purposeful and concrete questions must be asked, and times allocated, based on the importance of the question, using conventional language. The questions should be easy and understandable. Questions may be designed to gather either qualitative or quantitative data. In this research, different methods of collecting data were used in different ways to triangulate the responses and thereby ensure quality analysis.

In terms of validity and reliability, the researcher chose to conduct multi-method research, which is characterised by the triangulation approach (Cohen et al., 2005). The researcher used this method to ensure the validity of the data gathered.

4.7.1 Reliability in qualitative research.

According to Cohen et al. (2005), reliability in qualitative research can be misleading as it is not the same as reliability in quantitative research. In quantitative research, reliability presumes the possibility of replication, meaning that if the same methods were used with the same sample, then the results would be the same.

However, reliability in qualitative research can be regarded as a fit between what researchers record as data and what actually occurs in the natural setting that is being researched. They added that ‘this is not striving for uniformity; two researchers who are studying a single setting may come up with very different findings but both sets of findings might be reliable’ (Cohen et al., 2005, p. 119).

In this research, several methods were used to achieve the reliability of the data, including using the same guiding questions for the four instructors who participated in the research as well as for the leaders, technical staff and students. Secondly, to strengthen reliability, the data were transcribed and returned to the participants for checking. The coding of the data during data analysis to arrive at different themes further strengthened reliability.

4.8 Ethical Considerations

For this research, ethical approval was obtained from the College of Education’s Ethical Committee of the University of Canterbury as well as from X University in Saudi Arabia. The government of Saudi Arabia requires that all research carried out in Saudi Arabia have official approval. For this case study, approval was required from the Ministry of Higher Education to allow the researcher to conduct the research at the selected organisation. Based on the letter from the Ministry of Higher Education, the university approved the study and confirmed their willingness to take part, enabling the researcher to start collecting data for the case study.

4.8.1 Informed consent and benefits.

Informed consent was sought and granted from the participants in the research. Teachers, students and e-learning staff were informed of the aims and

parameters of the research. Teachers were issued with a letter inviting them to participate, which included an explanation of the research. The data collection commenced as soon as permission was granted. The anonymity of participants and the organisation has been ensured and there are no anticipated adverse affects. Data will be stored securely and destroyed five years after the completion of the study. Confidentiality has been respected and maintained at all times. The completed observations and interview data will not be accessed by anyone other than the researcher and his supervisors. The data will not be used for anything other than the purposes of this study and the publication of the results.

This research is significant in order to:

- Understand the nature of e-learning at one university in Saudi Arabia
- Understand the processes of how to develop e-courses at X University
- Provide guidance for the good practice of e-learning for educators at X University in Saudi Arabia.

This research will inform administration-level staff, support staff, teachers and students' understanding of how e-learning is developing in X University and the importance of building a strategy adopted to the e-learning environment and context of the institution when conducting e-learning with a specific emphasis on improving e-learning practises. This study will propose guidance for the good practice of e-learning for educators particularly at X University and this guidance may give valuable insight that could be usefully applied to other universities in Saudi Arabia if future research takes into consideration the recommendations made in this thesis, including recommendations that overcome the issue of the generalizability of the current research findings. Those findings should assist other researchers, educators,

and policy makers to benefit from the lessons gained and to make more informed decisions in their own context.

This guidance includes a suitable theory to underpin the use of e-learning and a practical pedagogy in order to provide a suitable method for utilising e-learning at one university in a Saudi classroom at the tertiary level.

This research describes the skills that tertiary teachers, students and staff at X University require to enhance teaching and learning, as well as the impact of e-learning on teacher-student interactions. It is hoped that the results of the study will give valuable insight that could be usefully applied to other universities in Saudi Arabia and that it will assist other researchers, policy makers, and educators to benefit from those lessons.

4.8.2 Participants' right to decline.

Participants in this study were given the right to decline to participate and they retain an ongoing right to withdraw from the project at any time up until the time that the data have been analysed. Participants were informed that they could withdraw from completing the observation and from being interviewed during its completion. Those who decided to withdraw later in the project could do so by emailing or phoning the researcher directly. Participants will receive feedback at the completion of the thesis, including a statement of gratitude for their valued participation.

4.9 Research Limitation

The research instruments included 14 interviews, 8 focus groups, and 8 class observations and analyses of documents. A small number of samples may not be

considered to provide a wide range of data. However, with the triangulation of the data, the information was rich and in-depth and considered satisfactory.

This research was conducted in one of Saudi Arabia's cities in 2009–2012. The participants were selected at X University and included an e-learning centre leader, an LMS leader, a design group leader, 4 instructors and 82 students. Outside the university, included were an e-learning leader of the National centre of e-learning and distance learning from a city outside the region where the research was conducted. The effect of distance was limited as the researcher had no difficulty visiting the actual sites where the research was conducted.

Another difficulty the researcher faced during the first round occurred as he planned to conduct a focus group with students and observe the Mechanical Engineering instructor's class. As the students were preparing for exams in the same week that the researcher planned to conduct the focus group and class observation, he was unable to do so.

However, the researcher gained access to the university's website, in particular, the Open Courses link, and was able to download the course materials. In the second round, the researcher covered what was missed in the first round by conducting class observations and focus groups with the students.

4.10 Researcher's Role

This research was the researcher's second journey into qualitative research. As explained in Chapter 1, the stimulus for this research and the researcher's interest in it are drawn from his academic and professional background. The researcher came to this research with an interest in the utilisation of e-learning; in particular, how the use of e-learning in higher education is developing in one university in Saudi Arabia.

The researcher's academic background and experience of the situation in Saudi educational institutes motivated him to investigate the possibilities, issues and challenges involved in the implementation of e-learning in higher education. The researcher's familiarity with this area of educational development and his academic knowledge in the field of ICT tools has grown with the studies he has undertaken. Through his visits to different schools and institutions, the researcher became increasingly aware that teachers need to be better prepared if they are to be fully aware of the benefits of the ICT tools that could enhance teaching and learning. To achieve this, extensive professional development is needed to increase their skills and abilities to use ICT tools in the e-learning environment.

The methods used in this research presented several challenges. In particular, before the research began, a great deal of time was spent formulating a relatively robust research design, and formulating interviews, observations, group discussion guides and questions. The researcher attempted to encourage all participants involved in the research by interviewing them in their own places in order to be more comfortable and confident, and also by providing them with incentives such as books about e-learning. As Cohen et al. (2005) noted, to maximise the response rate, the researcher should use incentives.

4.11 Conclusion

This chapter introduced the methodology of this research in 11 sections. Section 4.1 addressed the research on interpretive methodology. Section 4.2 introduced the research design, followed by a full explanation of the pilot study in Section 4.3. The research data sources in Section 4.4, the methods used to collect the data in Section 4.5 and the techniques used to analyse the data in Section 4.6. The

measures taken to ensure quality in the research were outlined in Section 4.7 and ethical issues surrounding participation in the research were discussed in Section 4.8. The research limitation in Section 4.9, the researcher's role is covered in Section 4.10 and finally the Conclusion supplied in Section 4.11.

This qualitative research will use the case study method, and the case study described here is part of the PhD study that the researcher is undertaking at the University of Canterbury. This chapter begins by addressing research on interpretive methodology. In this research, the interviews, focus groups, class observations, questionnaires and analyses of documents were used as data collection methods. Section 4.5 explained that the research was designed to investigate how e-learning is developing in one university in Saudi Arabia and provided details about how the methods were conducted, how the data were handled and how issues relating to research ethics, reliability and validity were dealt with. The bulk of the data collection for this research was directed towards answering research questions.

Chapter 5

5.0 Research Results

5.1 Phase 2—Reviewing the Existing Situation: Findings from the Views of Instructors, Leaders and Students.

In establishing the research methodology, the earlier chapter presented an understanding of the methods and procedures used to conduct each phase of this research. This chapter presents the research findings from Phase 2. That is, the participants' responses to the research instruments that have been applied, including semi-structured interviews, class observations, focus groups and analysis of documents. This chapter comprises six sections that attempt to achieve the research objective, namely: *How is e-learning developing in one university in higher education sector in Saudi Arabia?* Section 5.2 describes the participants' backgrounds and the nature of the e-learning environment at X University. The four embedded cases that have been chosen to provide an in-depth understanding of the participants' experiences and transformation in the e-learning environment will then be discussed. Each of the four embedded cases included has two parts. The first relates to the first research question, 'To what extent does the practice of e-learning at X University in Saudi Arabia match the guidelines provided by the university?' The second part presents findings to the next research question, 'What influence do teachers' pedagogic beliefs have on the practice of e-learning at X University?' Section 5.3 details the findings regarding Dr. Ahmed (case study one) and Section 5.4 presents the findings regarding Dr. Saud (case study two). Section 5.5 discusses the findings regarding Dr. Morad (case study three) and Section 5.6 presents the findings regarding Dr. Dawood (case study four).

5.2 Participants' Backgrounds and the University's Background

This section will describe the backgrounds of the participants who agreed to participate in this research.

5.2.1 Instructors' Backgrounds.

The main target of this research is the instructors. The four instructors chosen to participate in face-to-face interviews teach courses using e-learning (web-enhanced courses) in four different colleges (College of Engineering Science and Applied Engineering—Mechanical Engineering, College of Computer Science and Engineering—Computer Engineering, College of Applied and Supporting Studies—Islamic and Arabic Studies, College of Industrial Management—Marketing Faculty). Table 5.1 illustrates the number of years they have taught courses using e-learning, the level of the courses they teach and the number of students enrolled in their courses during Semester A in 2011 and Semester A in 2012, when the researcher conducted his research. The instructors—Ahmed, Saud, Morad and Dawood—were chosen from different colleges based on purposeful sample strategies (see Section 4.4.1).

Table 5.1.

Participating Instructors

Instructors ²	E-learning teaching experience (years)	Course name	Course level	Number of students (E = Enrolled, P = Participated) 2010–2012	
				E	P
Ahmed	12	Marketing	Undergraduate	35	25

² All names used in this research are pseudonyms.

Saud	12	Computer Science	Undergradu ate	35	10
Morad	12	Engineering	Undergradu ate	25	25
Dawood	5	Arabic Language	Undergradu ate	25	22

The four instructors teach at the undergraduate level and their teaching experiences using e-learning vary from 5 to 12 years. The first three instructors (Ahmed, Saud and Morad) were chosen for two reasons. First, they were early adopters of e-learning and are knowledgeable about the subject. Second, they are well known to the E-learning Centre because they deliver their subjects via e-learning and they have all had a variety of experiences utilising e-learning activities with their students, who achieved excellent results.

The Arabic Language Studies instructor (Dawood) was chosen because he had adopted e-learning only recently due to his interaction with the E-learning Centre. The different samples were selected to establish a clear picture of how e-learning is implemented in Saudi Arabia, particularly at this university, to understand the processes of developing e-courses (i.e. instructional design) and to provide guidance for educators for good e-learning practice.

5.2.2 Leaders' Backgrounds.

The research participants also included the E-learning Centre leader (ECL), the Design Group leader (DGL), the Learning Management System (LMS) group leader (LGL) and the leader of the national centre of e-learning and distance learning (NCL). Table 5.2 describes the background of the participating leaders in the interviews.

*Table 5.2.**Participating Leaders*

Leaders	Acronym used in the research
E-learning Centre Leader	ECL
Design Group Leader	DGL
LMS Group Leader	LGL
National Centre of Distance Learning and E-learning Leader	NCL

5.2.3 Students' Backgrounds.

Face-to-face focus groups were conducted with students who agreed to participate in this research. A total of 82 students participated over a 2-year period. Table 5.3 describes the background of the participating students in these focus groups.

*Table 5.3.**Participating Students*

Characteristics	
Age group	18–24
Education level	Undergraduate
Experiences with LMS (workshops, training programmes, orientation provided by university) or self-learning	Self-learning + explanation from instructors on how to use LMS
Performance with LMS	Easy to use

5.2.4 The Nature of the E-learning Environment at X University.

The data obtained from interviews, class observations, focus groups with students and the analysis of documents were synthesised to arrive at key themes in order to answer the question. This section describes the existing e-learning environment at X University.

5.2.5 The Department of Academic Development at X University.

There are eight departments at X University and one of the most important is the Department of Academic Development which was established to support the university's academic system, including the faculty, curricula and facilities. The department provides resources for faculty development and quality assurance in order to enhance student learning. Different facilities are provided for the faculty, including workshops, seminars on developmental activities, consultation on teaching skills, developing and implementing instruments for quality assurance, promoting instructional technology and supporting research on learning (University magazine, 2010).

The Department of Academic Development has four centres: the Teaching and Learning Centre, the Programme Assessment Centre, the Testing and Evaluation Centre and the E-learning Centre (see Figure 5.1). All four work together to enhance teaching and learning at the university. In addition, each centre is engaged in various activities in a specified domain and is chaired by a director, who reports to the Dean. The latter reports directly to the Rector of the university. The university was established by the Standing Committee on Academic Development and includes members from all academic departments at the university, who support the implementation of department activities. The Department of Academic Development

has collected all the existing resources and continually looks for new ways to achieve even better academic standards.

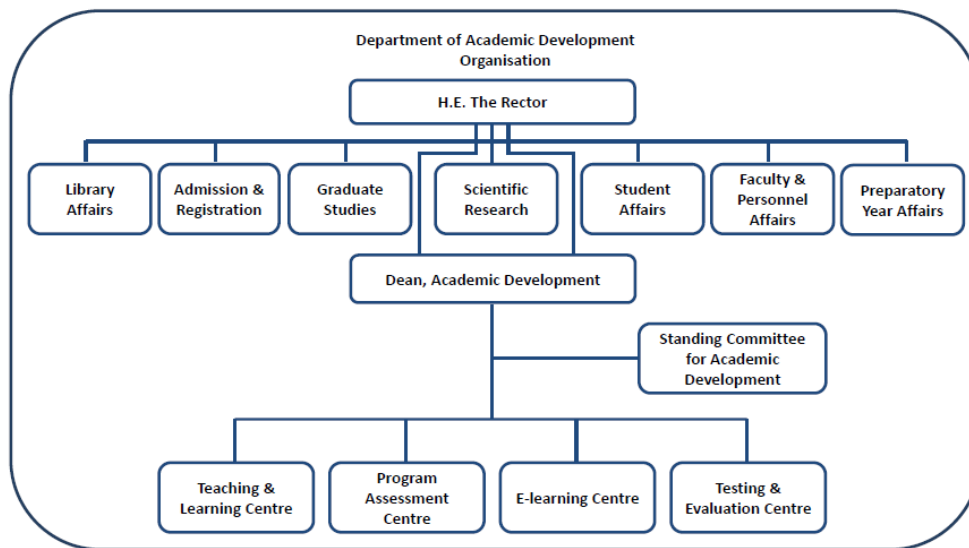


Figure 5.1. Organisation of the Department of Academic Development at X University (University documentation, 2010).

5.2.6 Institutional Dimension: E-learning as an Initiative at X University.

Like other universities around the world, X University aims to expand its capabilities by enhancing teaching and learning (university website, 2010). It continually investigates the latest developments in education at reputable universities around the world and increases the capacity of students in order to maintain its position among other universities, whether they are in the same or in different regions.

In 2002, the university adopted e-learning, which aligned with its mission. At that time, however, the aim was not to implement distance learning but rather to use e-learning to enhance teaching and learning. The E-learning Centre had not been established at that point. However, some instructors, including the engineering instructors, showed interest in using Information Communication Technology (ICT)

tools and persuaded the university administrator to implement the LMS Blackboard: ‘We used the old version of Blackboard even before 2003, when the new version was first released, with the aim of making learning more flexible for students’ (ECL, Interview 1, 5 January 2011).

The E-learning Centre leader indicated that most academic staff members did not use Blackboard very often during that time because few were aware of it and there were no guidelines on how to utilise it. Consequently, the university decided to depend on those people who were using Blackboard and they were chosen to lead the shift that was taking place in the university.

5.2.7 Infrastructure Readiness.

Having adequate human resources to support the e-learning initiative required the university to build an infrastructure for the e-learning environment. The university (Rector) selected staff members who were using Blackboard in different colleges to cover all colleges in the university. The first three instructors who participated in this research (Ahmed, Saud and Morad) were members of that group, along with other staff members. The university invested in the group and provided them with intensive training, both overseas and in house (ECL, Interview 1, 5 January 2011).

In 2002, the university decided to keep pace with the technological revolution occurring around the world. At that time, the Ministry of Higher Education had not yet established any policies or guidelines as to how e-learning should be implemented and practised. Each university had its own approach, especially in the beginning, and implemented what they thought appropriate for them based on their abilities, including qualified people, funds, infrastructure, etc. As a result, the university decided to meet its needs by sending personnel overseas to receive

training and discover how other countries adopted e-learning and developed e-content. When they returned, they could put their new knowledge into practice at X University (LGL, Interview 1, 10 January 2011).

For the group of people selected from different colleges and departments and teaching various subjects, the training programme (see Table 5.4) involved:

- Training at the University of British Columbia in Canada
- Training at the University of South Queensland in Australia
- Attending workshops and conferences in different places.

In 2002, the first group was sent to British Columbia to attend WebCT training programmes. British Columbia created this LMS, which later became a company. The Ministry of Higher Education agreed with what some universities were doing in regard to e-learning but the Ministry was not actively involved and, as mentioned earlier, there was no organization established by the Ministry specially for e-learning. In 2005, the Ministry decided to establish an e-learning group. One of its responsibilities was to investigate the e-learning environments at universities at that time. Beginning in 2005, this group appointed various discussion panels regarding e-learning. That same year, the first panel discussion was held in Al-Riyadh city with the title 'E-learning and Distance Learning in Saudi Universities: Reality and Vision for the Future.' The participants in this discussion panel were from E-learning Centres at Saudi universities. The aim was to discover how e-learning practices and boundaries operated in universities that had adopted them, understand the institutions' technological and educational visions and what obstacles and challenges those universities faced with e-learning.

This discussion resulted in a number of suggestions, including establishing a global conference of e-learning in the Kingdom of Saudi Arabia controlled by the

Ministry of Higher Education; establishing a centre of e-learning to act as coordinator between universities in related e-learning areas; and providing strategies and guidelines for good practice in e-learning for educators in Saudi Arabia. This discussion yielded further suggestions, such as reshaping Ministry of Higher Education strategies to be compatible with e-learning systems and establishing a centre or deanship of e-learning in each university (National Centre for e-Learning and Distance Learning, 2010).

In 2006–2007, the university sent a second group to the University of South Queensland in Australia to obtain its perspective about e-learning. A third group was sent to British Columbia to attend a training programme about support, theories, ideas and different e-learning experiences. In addition, the group attended an online course as students to understand how online courses work (LGL, Interview 1, 10 January 2011).

The university Rector at X University expects that when this group returns after their training they will assist the university to spread an awareness of e-learning among its colleges, providing help with:

- Presentations and workshops about e-learning in general
- Workshops on education using e-learning
- Information on the roles of software designers
- Enhancing teaching and learning through e-learning
- Instruction design for e-learning
- How to develop online courses to be taught fully online or for use as supplementary courses (ECL, Interview 1, 5 January 2011).

In 2007, the Ministry of Higher Education established the National Centre for e-Learning and Distance Learning as recommended in the first discussion in 2005. In

the same year, the Centre conducted the fourth discussion panel which was opened by the Minister of Higher Education under the title 'E-learning Industry in Institutions of Higher Education: Towards an Optimal Cooperation. With this panel, the Centre was keen to establish an effective e-learning model for cooperation and coordination between the National Centre for E-learning and Distance Learning and universities and colleges, and among universities themselves. The Minister of the Ministry of Higher Education approved six different Centre projects, including the Jusur programme (LMS) in the Arabic version.

The second project was the Maknaz programme (Saudi Repository for Learning Objects). The Maknaz programme aims to enrich the curriculum and digital courses by providing interactive learning objects, and by retrieving and reusing educational content designed according to the latest international standards for all higher education institutions. It allows other users to add, create or design new reusable learning objects and share them among users. There were other programmes also, such as the Saudi Digital Library, Saneed, which includes experts and specialists in the Saudi Centre for support and guidance. Saneed provides technical and academic support for all users of e-learning programmes and distance learning. The centre provides training courses in the field of e-learning and distance learning, and also organises a number of events related to e-learning, including conferences and seminars every year (National Centre for E-learning and Distance Learning, 2010).

*Table 5.4.**Overseas Training Programmes Provided by X University (university website, 2010)*

Year	Location	Training programme content	Participants	Duration
2002	Canada: University of British Columbia	WebCT, blended learning and distance learning	20–25 staff members	One month
2006– 2007	Australia: University of South Queensland	Blackboard, blended learning and distance learning	20–25 staff members	One month
2009	Canada: University of British Columbia	Blackboard, blended learning and distance learning. Support, theories, ideas, etc. Attending online courses	20–25 staff members	One month (8–10 hours per week, 3 weeks fully online)

5.2.8 E-learning Centre at X University.

The first group took the initiative to establish a centre of e-learning at X University, as they believed that e-learning was a great tool to enhance teaching and learning. The Dean of the Department of Faculty Development, who was a member of that group, said that ‘e-learning is flowing in my veins’. The centre was established in 2003 under the Centre of Academic Development and the centre’s leader was also trained overseas. The use of technology in teaching has grown rapidly since 2003 and the E-learning Centre has played an important role in encouraging the use of the Internet in teaching and learning. It also provides professional development to support academic staff members.

The E-learning Centre at X University was established with a limited number of staff members, including the LMS group with only two staff members employed. The centre recognised that designing and developing e-content requires qualified people and sought help from outside the university. It signed a contract with an educational agency that develops and designs e-content which was added later as another group, the Design group, was formed at the E-learning Centre. This group collaborated as one team at X University and were supervised by the E-learning Centre (see Figure 5.2).

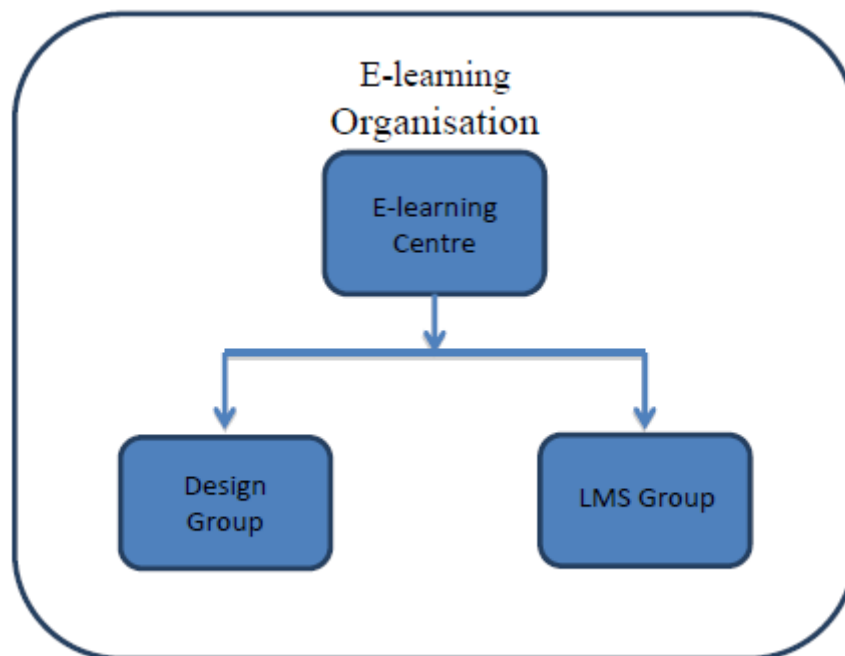


Figure 5.2. E-learning Centre at X University (university website, 2010).

5.2.8.1 The LMS Group.

Since the centre was established, LMS group staff members have received training every year to keep up to date with the latest e-learning technology. For example, the leader of the LMS group attended a one-month workshop about Blackboard in October 2009. This workshop was offered only to the leader, who received a certificate and license as a Blackboard trainer. He travelled to the US to present his training method to the Blackboard Company, which evaluated him and

provided theories and ideas for improving his training on how to use the programme (LGL, Interview 1, 10 January 2011).

The E-learning Centre started using Blackboard and then WebCT and it also uses Centra, which is a Blackboard system. The LMS group is the administrator of Blackboard, WebCT and Centra and is responsible for providing workshops in these areas as well as in graphic learning and Articulate. The two staff members in the LMS group received their Masters degrees from X University, one in computer science and the other in graphic design.

The LMS group is responsible for operating these technologies and training academic staff members. Different workshops and training programmes are provided, including workshops for micro-media offerware, which ran from 2003 to 2007. Offerware was the main tool used at that time to develop online courses. In addition, the LMS group provides training in WebCT, Blackboard, Flash, Graphics, Photoshop and Twitter. The LMS leader commented that ‘in addition to the workshop, we offer support for faculty members. If there is any problem, they contact us directly by email or by phone call and we can support them then’ (LGL, Interview 1, 10 January 2011).

The LMS group uses different techniques to deliver training programmes, including hand-outs and work on computers. The LMS group leader explained that ‘we have used or conducted computer lab workshops, where everybody has a computer in the beginning. Sometimes we tell them to bring their laptops so they can install some software programmes before they come to the training programme’ (LGL, Interview 1, 10 January 2011).

The LMS group leader said that the E-learning Centre did not offer any e-learning workshops or orientation to support students, as they expected that all students would be familiar with the technologies.

When asked how many courses had been developed and taught fully online, the LMS group leader replied that ‘the policy of the university is not to provide that mode of teaching, as they do not want to be rushed in using these things’ (LGL, Interview 1, 10 January 2011).

Since 2002, the LMS group has developed approximately 64 online courses that have been uploaded onto the university’s website and used as supplementary tools with face-to-face teaching. It aims to develop at least 8–10 courses each year. The E-learning Centre also started a project to develop those courses that have been developed before to cope with new technology.

The ECL added that the centre has been following e-learning policies, including study guidelines, and it has revised these policies regarding how to develop courses and the criteria required for the courses and for the developer team (ECL, Interview 1, 5 January 2011).

The objectives of the E-learning Centre, as suggested by the Department of Faculty Development and the leader of the centre, include:

- Increasing the academic community’s awareness of the importance and capabilities of modern technology and e-learning in the development process of teaching and learning
- Assisting in the development and provision of high-quality e-courses
- Training staff members to help them develop their instructional design in order to improve the educational process and provide necessary technical support

- Emphasising quality and educational aspects in all activities related to e-learning
- Encouraging scientific research and development in the field of e-learning and its applications in the university, and promoting and conducting pedagogic research and development related to e-learning activities
- Assisting the university to set up online programmes (university documentation, 2010).

The E-learning Centre adopted these objectives as the means to accomplish its mission to provide opportunities for the university community by utilising technology to enhance education through self-paced learner-centred education (university website, 2011).

5.2.8.2 Partnerships with Other Institutions.

Through the E-learning Centre, the university has created partnerships to share knowledge. For example, it worked with the University of Illinois to conduct three workshops to train university staff members. The university also shares open courses with other universities. The LMS leader noted that ‘We offer open courses as well. These are not exactly online courses but are somewhat related...we have had open courses for members since 2009 and since you are a member, you can share additional courses which others can see’ (LGL, Interview 1, 10 January 2011).

E-learning at X University was adopted by the open source institute and this initiative was supported by the administration (see Figure 5.3) (university website, 2010).

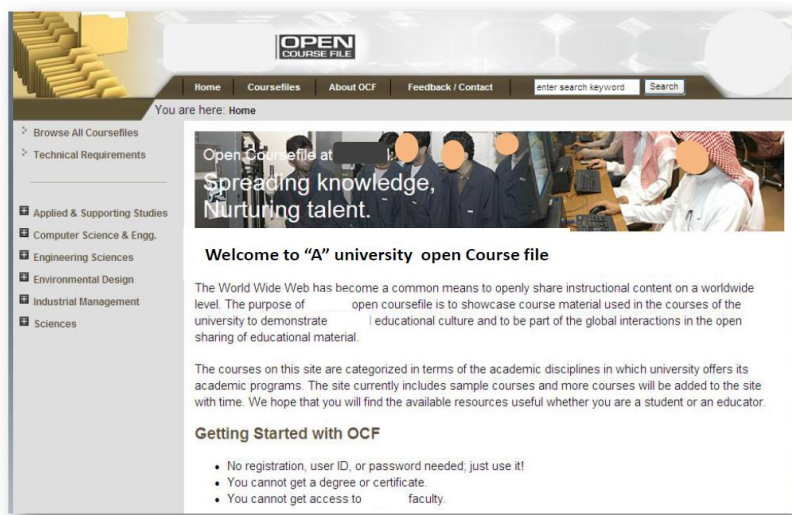


Figure 5.3. The Open Course File website for X University (university website, 2011)

The ECL explained that:

we make all our courses and course material available to everyone. So faculty can choose to offer only part of their course materials, all exams, or everything they discussed throughout the course, for example lab assignments. The statistics show that there are more than 300 courses available online. In 2009, the X University joined with a source consortium, where you have universities that have open courses or open sources (ECL, Interview 1, 5 January 2011).

In addition, the E-learning Centre works collaboratively with national and international universities to increase and share knowledge regarding e-learning. The

ECL indicated that:

the group that received training overseas is undergoing ongoing training. Last year (2010), a group went to British Columbia again. These people have also worked in collaboration with others and have held workshops in instructional design for other universities in the region, including the Gulf State University. We have collaborated in this way for a long time (ECL, Interview 1, 5 January 2011).

Moreover, the E-learning Centre works collaboratively with the following universities by sending staff to train there:

- University of British Columbia in Canada
- University of South Queensland in Australia

- University of Illinois in the USA
- University of Calgary in Canada.

The E-learning Centre also collaborates with the ‘Gulf State University’. It is in contact with Bahrain University and with universities in Saudi, and it holds meetings twice a year at the E-learning Centre at X University. The ECL pointed out that:

there is a yearly meeting for Gulf State University regarding e-learning... We provide a workshop in instructional design... We can share experiences and talk about our problems in these meetings...but we have no direct contact with them except in the meeting (ECL, Interview 1, 5 January 2011).

5.2.8.3 Budgeting and Return on Investment.

The ECL indicated that since the centre was established in 2003, ongoing support has been received every year from a grant programme to encourage them to develop online courses. However, not all university instructors were interested in receiving the grant. They receive monthly incentives and also one summer salary if they achieve their goals: ‘A lot of encouragement is given in this area. We have a very strong IT centre and IT support and the whole campus is wireless. All faculties have laptops and students have access to all labs’ (ECL, Interview 1, 5 January 2011).

5.2.8.4 Guideline for developing e-courses – The Grant.

This programme is tightly structured, and includes guidelines for applying to develop an online course from beginning to end (see Figure 5.4) (university website, 2010). ‘Computing age culture is a reality’ (ECL, Interview 1, 5 January 2011).

In addition, X University had a policy of rewarding its staff for general improvement. Staff members who use the technology receive a yearly award called ‘Excellence in using PC Technology.’ This award is not made by the E-learning Centre since ‘we are the people who control’ (ECL, Interview 1, 5 January 2011).

The award is given every second semester and the E-learning Centre selects the best instructor.

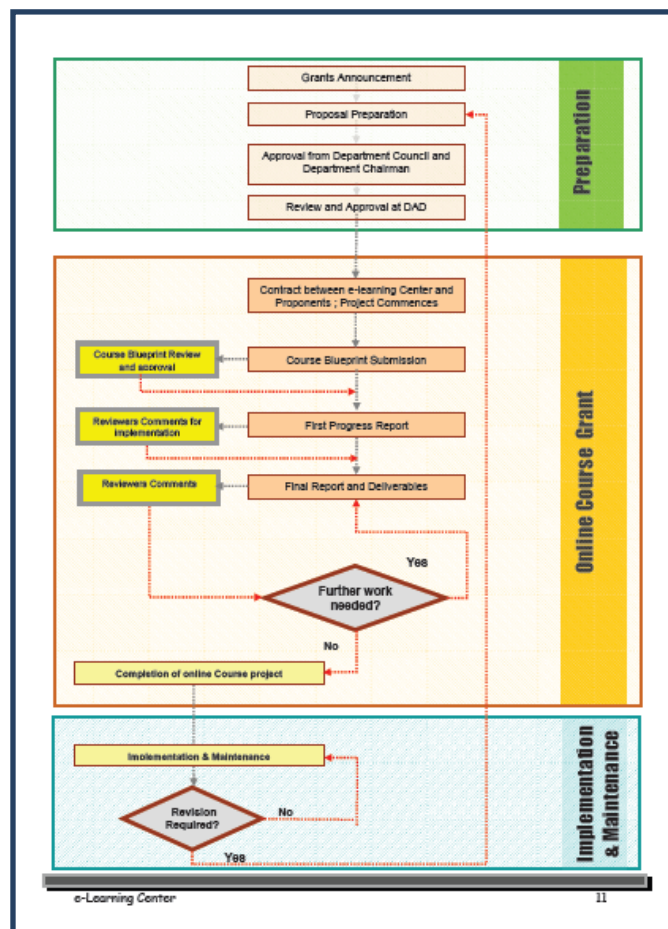


Figure 5.4. Guidelines for authorising online course grants (university website, 2010).

5.2.8.5 The Design Group - Working with Educational Agents to Design and Develop Courses.

The second group at the E-learning Centre is the Design Group. Most of the staff working at the centre were of various nationalities, including Saudi, Jordanian, Indian, and Pakistani. The E-learning Centre leader was asked if staff members were aware of Saudi culture, since they were developing content to fit the Saudi context. The leader explained that:

whether they graduated from X University or had been working in Saudi for a long time, most of these people knew Saudi culture and customs, knew how students learned, what should or should not be present when developing or designing courses and were skilled in supporting teaching and learning in the educational organisation where they worked (ECL, Interview 1, 5 January 2011).

5.2.8.6 Instructional Design and Media Services—Design Group and its Roles within the E-learning Centre.

As mentioned above, the E-learning Centre contracted a professional company that develops online courses. The group included:

- Graphic designers
- Programmers
- Instructional designers
- Multimedia designers (DGL, Interview 1, 4 January 2012).

The researcher was eager to understand how e-learning was supported from the DGL's perspective. The leader of the Design Group described his team's role at the E-learning Centre and indicated that it had encouraged academic staff members to utilise e-learning through workshops, seminars, developing online content and using Open Course Ware.³

The Design Group's role was to develop its materials and provide support and help to instructors using its websites. This support could encourage users to convert to the new LMS, or it could influence their websites.

Since 2002, the university has designed courses materials and uploaded them to its website. However, those materials were developed with limited knowledge by

³ Open Course Ware is a term that is applied to course materials in a virtual learning environment created by universities and shared freely with the world via the Internet. In 1999, the University of Tübingen in Germany published videos of lectures online in the context of its TIMMS initiative. However, it only took off with the launch of MIT's OpenCourseWare in October 2002. Since then, a number of universities have created Open Course Ware projects, some of which have been funded by the William and Flora Hewlett Foundation.

instructors who were interested in doing this job (more details in Morad's case). The E-learning Centre now runs a project that aims to develop these courses. The DGL indicated that:

the aim of this project was to provide maintenance for courses that were developed as online e-courses. If we get this idea across, they will not just complete the project, forget it and move on...as was done with some of the courses designed 3 years ago. The university wants to provide ongoing maintenance for these courses (DGL, Interview 1, 4 January, 2011).

I was interested to understand the processes used to develop old materials and asked the DGL to clarify their exact roles. 'Actually,' he replied, 'there are some courses that were developed using older methods and older software which is not very web-friendly' (DGL, Interview 1, 4 January, 2011).

The Design Group leader explained that it was hard to access these materials from outside the campus, as they were slow to load. However, the role of the Design Group was to convert the old version to the new. For example, if instructors wanted to develop their courses, they had to contact the Design Group and provide their proposed modifications. The Design Group would then incorporate the changes into the new version (DGL, Interview 1, 4 January, 2011).

According to the DGL, the group uses the latest technology when developing the courses 'so that it can always be an up-to-date product' (DGL, Interview 1, 4 January, 2011). He pointed out that their role was not just to maintain the materials until people no longer used them; rather, there was ongoing development. The DGL remarked:

The main thing they are doing is to develop a long-term project lasting several years. Every year they have to develop a large number of courses—10, 15, or 20 courses, as many as faculties would like to have online. They provide the content, and the e-learning unit or centre takes responsibility for developing these courses into interactive, enriched material that is an asset to the university. Of course there is also access from outside the university. Then through the faculty, they persuade students to use this e-content by having them do surveys, check what they are missing, and what they need to

begin to review their courses through online activities (DGL, Interview 1, 4 January, 2011).

The DGL explained the E-learning Centre's strategy for recruiting educators to use LMS—either Blackboard or WebCT. First, the E-learning Centre announces a project for developing online courses and then the instructors apply for the project. However, the instructor should follow up with his students because 'you are targeting the students, not the faculty, in using the system' (DGL, Interview 1, 4 January, 2011).

In addition, training the instructors is one of the Design Group's roles. They organise group training for courses they develop and show instructors how the courses were created. 'We show them the original content,' he said, and:

how it first looked, how it was set up in our PowerPoint slide presentation and then we show how it was converted into this new exciting interactive form. People become very interested in having their courses redone in the same way (DGL, Interview 1, 4 January, 2011).

5.2.8.7 Instructional Design and the Consideration of Culture, Language and Religion.

The DGL was questioned whether there were any influences on culture, language and religion when developing e-learning courses. His answer was given during three different interviews that followed. The DGL indicated that, when developing online courses, they follow certain guidelines and must consider various aspects:

So, for example, if as a writer I said okay, I need to display a photo of a group of students studying in city A. Now we have guidelines indicating what in such cases I may not use. We are in Saudi Arabia and we know the culture. So we say, do not use a photo that shows a mixed group. Don't display female and male students studying together in city A because it's not allowed. It should be a male-only environment because this is our culture. So I cannot use a photo of the university with a mixed group of men and women in a cafeteria, seen together and studying together because it might hurt the culture (DGL, Interview 1, 4 January, 2011).

The DGL was asked to explain how they consider factors related to the language, culture and religion of Saudi Arabia when they design e-content. He indicated that there are guidelines to be followed so that the instructional design team considers these factors (see Table 5.5).

Table 5.5.

Domains Considered in Instructional Design in the Saudi Context at X University

Domains	DGL comments
Voices	It should be a male voice if there is any material that includes a voice.
Photos	Should not harm Saudi culture.
Cities	These courses are developed for Saudi people, so any examples that discuss destinations between two cities have to be within the country.
Environment	Do not use a mixed environment photo; for example, do not display female and male students studying together because it is not allowed. It should be males only or females only.
Syllabus	For example, small letters or capital letters and colours.
Language	Material using easy vocabulary, short rather than long sentences etc.
Religion	For example, instead of saying ‘John goes to church every Sunday,’ it should say that ‘Ahmed goes to the mosque every Friday.’

The DGL gave the following example:

It’s like saying that ‘John goes to church every Sunday’ when it should be ‘Ahmed is going to the mosque every Friday.’ So I have to consider this also in my writing which must allow for two factors: first, I have guidelines, which all writers have to follow, and second, I have the language expert. What might be suitable in a Western country may not be suitable in Saudi Arabia (DGL, Interview 1, 4 January, 2011).

Regarding the language, the DGL indicated that there are also experts who are responsible for relevant issues, including evaluating and revising the language.

He explained that:

They review the language itself, reconstruct a statement to make it more understandable, divide a long sentence into smaller ones, substitute easier words for more difficult ones, etc. But they do not change the text, i.e., they do not change the content (DGL, Interview 1, 4 January, 2011).

The DGL clarified that his team is responsible for writing, reviewing and evaluating the content, its delivery and learning objectives, and checks for cultural compatibility. Despite members of his team being from different nationalities, they are aware of the culture they are working for. Thus, they consider all cultural elements (DGL, Interview 1, 4 January, 2011).

5.2.9 Issues Facing the E-learning Centre.

At the management level, the ECL noted that the e-Learning Centre team was continually evaluating different aspects of e-learning to find the best way of meeting the Centre's aims and learners' needs. The ECL faced many issues, including issues beyond their control but that affected them. For instance, in 2010 there was a problem with the Blackboard server, which was the IT group's responsibility. The server was stopped for assessment for one hour, when most of the faculties were entering their assignments which they would then 'send to Blackboard, so that when you stop it for 1 hour, it is really hard' (ECL, Interview 1, 5 January 2011).

Another issue related to academic staff members was that there were some instructors who had just arrived at the university who did not know what Blackboard was. The students challenged the faculty. The ECL said that:

they drew on more information from outside and you have to respond to this. The students are eager to have the techniques but we also have to maintain our own competence as some important topic covered online might not be dealt with very successfully, especially for engineering and science subjects (ECL, Interview 1, 5 January 2011).

Students' perspective:

The finding showed that students considered e-learning an important matter in their study as learning was facilitated using e-learning tools including the LMS with its applications. Students were asked to clarify why they had become involved with e-learning. The researcher found that the impact of the technologies students live with today has encouraged them to learn everything about them, as most students own the more modern technological devices, including iPads, iPods and smartphones. Thus when their instructors use these technologies in their teaching, students become interested as they are familiar with their uses.

The students believed there was a need for instructors to acquire at least the basic skills of using programmes and knowing how to make e-learning entertaining and they were convinced that e-learning is not simply a matter of using PowerPoint, even though many instructors seem to think so. More than the use of these technologies, e-learning concerns the use of activities that attract students to the subject they are teaching. E-learning makes it possible to deliver content by using these technologies in a way that interests students and enables them to understand easily. One student group commented:

Sometimes we see that instructors using just discussion and Blackboard can't deliver the information they want to convey. We believe that if they have useful techniques in how to use e-learning for delivering information, the process will be easier and faster than with the traditional methods they use. (Student focus group 1, 28/12/2011).

Teaching practices were limited to inside the classroom as there were few other activities planned and the interaction between instructors and students was so limited that the students lost interest.

There is little variety in activities available to meet student needs. We need to see activities that meet our needs. Most of our instructors are not active in discussions in the LMS as they use it just for announcements or receiving our assignments (Students in focus group 1, 27 December, 2011).

Students complained of the failure for a variety of reasons to implement e-learning methods, including:

- The great age of some instructors who do not want to change their style;
- The unwillingness of some instructors to take a step forward toward e-learning as they remain unconvinced that it is a beneficial method of learning;
- A lack of awareness of the benefits of e-learning and what instructors can do with it. Most thought they were using e-learning when they used a PowerPoint presentation or when they uploaded a PDF, Word, Excel or PowerPoint file in the LMS; and
- The lack of ongoing training for both instructors and students on e-learning (focus group 1, 27 December, 2011).

5.2.9.1 Confusing the E-learning and Distance Learning Concepts.

The ECL indicated that there is often confusion regarding e-learning and distance learning, even among educators: ‘There really is a need to think the matter through carefully, even in international organisations such as UNESCO. They have to emphasise those issues in all countries because this is the way communication works today (ECL, Interview 1, 5 January 2011).

5.2.9.2 Cultural issue.

The DGL reported that the group occasionally faces issues with some instructors who think that they will lose their jobs when the online courses have been developed. They believe that students will not come to them or that if they do, they will have negative attitudes. However, the DGL indicated that:

sooner or later, these fears subside. However, it takes some time to convince such teachers that the new methods will not replace their jobs. Besides, some of them are really not good in using computers in general. Some come with only basic computer knowledge and have this fear of exploring more in the world of computers...the fear that they will not be able to keep up with their students, who are better than them in using computers, so they make minimal use of them (DGL Interview 1, 4 January, 2011).

As the practical parts of lessons may take 15–20 minutes to complete, the instructor could ask his students to visit the website rather than writing on a piece of paper. ‘The aim is to introduce the faculty to the technology’ (ECL, Interview 1, 5 January 2011).

5.2.10 Professional Development.

5.2.10.1 Faculty and Staff Support—Training in Instructional Design.

The E-learning Centre at X University provides frequent training programmes for academic staff members to teach them how to use ICT tools in their daily teaching (university documentation, 2010). To demonstrate how the E-learning Centre supports instructional design, X University’s website details extensive workshops that provide instructors with ideas of how to develop their instructional design online (see Table 5.6). These programmes include the development of e-content using Flash, Authorware, Adobe Photoshop and Adobe Illustrator.

Table 5.6.

Training Programmes Provided, 2003-2004 (University Website, 2010)

Workshop title	The frequency of workshops	Number of trainees
Designing the study	2	40
Blackboard, WebCT and Moodle	6	73
Development of e-content using the Flash programme	1	18
Development of e-content using the Authorware programme	2	31
Principles of graphic drawing using the Adobe Photoshop programme	1	16
Techniques and illustrations using the Adobe Illustrator programme	3	38

In 2007–2008, it was recognised that several programmes, including Centra, should be conducted by instructors with their students, along with other programmes that support the instructors in developing their instructional design (see Tables 5.7 and 5.8) (university website, 2011).

Table 5.7.

Training Programmes Provided in Fall Semester, 2007–2008 (University Website, 2010)

Fall Semester 2007–2008 (Term 071)		
1	26–29 August 2007	Workshop on online course content authoring using Adobe e-Learning Suite (Flash, Photoshop, Illustrator) Sunday–Wednesday 08:00–11:00 AM
2	3 September 2007	Seminar on Centra Monday 1:30 PM
3	11 September 2007	Workshop on Centra Tuesday 8:00–11:45 AM
4	22, 27 and 29 October 2007	Workshop on basics of WebCT Monday and Saturday 8:00–10:00 AM
5	4, 6, 11 and 13 November 2007	Instructional design for online courses Sunday and Tuesday 8:00–11:00 AM
6	19, 24 and 26 November 2007	Workshop on publishing content and quizzes in WebCT, Monday and Saturday 8:00–10:00 AM
7	6, 8, 13 and 15 January 2008 (new)	Workshop on 3D graphics and e-learning Sunday and Tuesday 8:00–11:00 AM

Table 5.8.

Training Programmes Provided in the Spring Semester, 2007–2008 (University Website, 2010)

Spring Semester 2007–2008 (Term 072)		
1	26 February and 2, 4 and 9 March 2008	Workshop on using online discussion for e-learning Tuesday and Sunday 8:00–10:00 AM
2	1, 3, 8 and 10 March 2008	Advanced Flash (I) workshop Saturday and Monday 8:00–11:00 AM
3	11 March 2008	Workshop on experience sharing in online courses Tuesday 8:00–12:00 PM
4	17, 19, 24 and 26 March 2008	Workshop on introduction to illustration techniques using Adobe Illustrator Monday and Wednesday 8:00–11:00 AM
5	30 March, 1 and 6 April 2008	Workshop on basics of WebCT Sunday and Tuesday 8:00–10:00 AM
6	20, 22, 27 and 29 April 2008	Workshop on online course content development using Macromedia Authorware Sunday and Tuesday 8:00–11:00 AM
7	4, 6 and 11 May 2008	Workshop on publishing content and quizzes in WebCT Sunday and Tuesday 8:00–10:00 AM
8	13, 18, 20 and 25 May 2008	Advanced Flash (II) workshop Tuesday and Sunday 8:00–11:00 AM

The ECL noted the importance of instructional design and organised programme training for academic staff members to increase their awareness of instructional design (see Table 5.9).

Instructional design is a process of designing and developing a course to ensure that it is well defined and meets its objectives. The process usually consists of

systematic steps. However, it is loosely structured because different courses require different approaches. The workshop introduces participants to some well-known instructional design methods, as well as the tools that help to streamline the instructional design process. The workshop also discusses the pedagogical issues that an instructional designer should be aware of when designing and developing a course (university website, 2010).

Table 5.9.

Training Programmes Provided by the e-Learning Centre, 2007–2008 (University Website, 2010)

Day 01	Introduction to Instructional Design Analysis
Day 02	Analysis (continued) Instructional Strategies
Day 03	Instructional Strategies (continued)
Day 04	Course Blueprint Assessment and Evaluation
3-hour sessions each day	

For academic staff members, in 2011 the E-learning Centre organised e-learning workshops, which were presented by international and local speakers (university website, 2011) (see Figure 5.5).



Figure 5.5. Reporting-week programmes, 2011–2012 (university website, 2011).

Two main factors were noted regarding the progress of e-learning at X University, including awareness and training. The ECL indicated that ‘we have quite number of our faculty who are not using even Blackboard. Although statistically we have 88 percent of faculty using Blackboard, the rest do not use it but use their own pages instead’ (ECL, Interview 1, 5 January 2011).

One example provided by the ECL illustrates the importance of awareness. He mentioned that one of his colleagues was not even aware of e-learning. Similar examples could be found in several faculties. Consequently, the E-learning Centre declared that it needed to convince faculty how much easier it is with e-learning to:

- Communicate with students
- Hold discussions
- Allow students to contribute their own knowledge, experience and questions (ECL, Interview 1, 5 January 2011).

The E-learning Centre leader believes that students can encourage their instructors to use e-learning and can provide good suggestions and ideas to support

its utilisation for their classes. In the university, for example, they have a blended learning initiative where part of the course is face-to-face while the other part is online. The leader of the E-learning Centre explained that:

for this initiative, we recently started with a survey of students and focus groups, asking students for their feedback about how they feel, what concerns they have. We were surprised that only 400 students out of 8000 responded but at least they offered good support (ECL, Interview 2, 21 January, 2012).

In summary, he remarked that ‘these instructors need to be involved in e-learning but I think the first thing is awareness and the second is training’ (ECL, Interview 1, 5 January 2011).

On the students’ side, the researcher found that they became involved in e-learning as the background and experiences they gained after secondary school study encouraged and motivated them to make use of technology. One student commented that:

in the university here there are instructors who know what e-learning tools their students are familiar with and they try to take advantage of those technologies with their students to deliver their content. Students engage more with those instructors. For example, we use social technologies that include Facebook, Twitter, Flickr etc. (Focus group 2, 25/12/2011).

The students were asked to give their perspective concerning what essential skills they believed their instructors needed in order to utilise e-learning. They replied that the most important thing was belief in the validity of these technologies, then training in how to use them, what their applications are and how to use them in a way that attracts their students. The students continued by explaining that these instructors also need support from technical staff who should be ready for any request from these instructors while they use e-learning tools in the classroom.

The students were asked whether they thought they could provide suggestions or encouragement for their instructors on how to use e-learning. Most of the students

in this focus group agreed that their experiences and background in the use of e-learning technologies could be considered a kind of encouragement for their instructors and they sometimes tried to persuade them to use these technologies. There were some students, however, who disagreed and said that they themselves needed more training in the use of these technologies employed by their instructors since not all students have the same knowledge and experience with them.

It was found that the students had received no guidelines on how to use the LMS operated by the university and had to discover it by themselves. Student (A) explained that:

the WebCT is easy to use. It's like checking your email... You just log in and you will see the list of courses you're taking this semester. Then you click on any course and the content appears there, available for download (Student A, focus group 1, 29 December, 2010).

In the WebCT, students can find various things related to their courses, including PowerPoint slides, their syllabus, announcements from the instructor, homework and quizzes. However, the university failed to provide orientation for students on how to use WebCT but did provide training for some instructors. In the orientation year, for example, student B's friend did not know the meaning of WebCT. Other students showed him how to use it and he is now a proficient user of WebCT.

The students noted that there are no policies on how to learn in the e-learning environment. They believe that Saudi culture has changed and has been influenced by the adoption of e-learning, explaining that as students they live in the digital age and now they can go beyond their text books. They use the Internet to communicate with others in different places in the world and can also find different resources related to their courses. One student commented that:

most students like the idea of using e-learning in schools. For example, at the primary school level, my father was searching for a school that used technology as these schools were classified as the best. People's beliefs about technology have changed and the culture we live in has changed too. (Students' focus group 1, 26/12/2011).

5.2.10.2 Issues in Professional Development at the E-learning Centre.

Findings from the interview identified two issues that face the professional development (PD) of e-learning. First, the ECL observed a lack of training in the use of ICT tools: 'You always need more training programmes because if, for example, you have technology that you just bought lately and are using web technology on a social network, this is an issue. So we have to do a workshop on these things' (ECL, Interview 1, 5 January 2011).

He added that there is a plan that includes many steps for faculties to follow up. Similarly, the plan shows the types of workshops and training they want to offer students, the current initiatives around the world and how the staff and students know about it.

The DGL's perspective was that the issue was not having these technologies set up in the first place but rather, how to activate these tools and how to encourage people to use them. Therefore, there is a need to build a strong infrastructure for e-learning so they can reach their objectives by using these technologies. He indicated that:

the main issue is whether the educator himself wants to adopt this technology, so it depends on that. You can make some things mandatory but in the end, it's the educator's decision about how much he wants to adopt e-learning (DGL Interview 1, 4 January, 2011).

5.2.11 Online Community.

The ECL pointed out that there was an online community at X University but there was a lack of involvement with it. People were unaware of the importance of these communities, he said, and the role they can play in enhancing e-learning. He

added that online Saudi university communities had only recently been established. However, academic staff members at X University sometimes participate when there was talk of certain research.

Moreover, the ECL noticed that student awareness of these communities was higher than that of their teachers. Students recognised the importance of utilising these communities, believing that it increased their knowledge and experience when they shared information. It also helped them solve issues, for example, in using Blackboard or the network. As the students at X University used e-learning facilities more actively than the academic staff members, they established an unofficial community (forum) about e-learning. The E-learning Centre has adapted the forum in order to hear students' voices. However, this site has not been advertised well among staff members and students: 'It is not well advertised. We have to do more to advertise among all the students. Sometimes people within the university do not know what is going on around them' (ECL, Interview 1, 5 January 2011).

Students' perspectives:

In this research it was found that even the interaction between students and their instructors was not such that they would get involved in such an online community. The researcher has encouraged students to talk not only about the current subjects they are studying but also about their experiences with other courses. The students did not have significant interaction with their instructors who use e-learning: 'With some instructors, there was no interaction during the class, as we just listened to the instructor's lesson. However, there were some instructors who made use of the capabilities of e-learning with us.' (Focus group 1, 9 January 2011).

Other students have indicated that some instructors do not reply to students' emails or questions. This is dependent on whether the instructors like WebCT. 'If

they believe in the benefits of e-learning and the use of WebCT, they will use it a lot.' (Focus group 1, 29 December, 2010). Some students mentioned the instructors' lack of time.

Some students enrolled in the course were very busy so that when the instructor posted questions on the class forum, the students could not reply. However, other students were actively involved and followed up regularly and interacted with each other to answer the questions. The interaction between students might occur individually or in teams, particularly when a presentation was required of them. In this case, one student would send his finished segment to his friend, who would add comments and take notes. Later, they would complete the presentation as a team (focus group 1, 29 December, 2010).

They also indicated that the IT Centre at the university, which is responsible for the server and the Internet, still had some services requiring more work, including:

- Speed of the Internet
- Machines needing to be changed
- Email is not very good (focus group 1, 29 December, 2010).

Furthermore, access to the university's website from outside the university should be faster than the current speed.

On campus here it is really fast. However, off campus—for example, during registration time—there would be an overload. If you want to register outside the campus, you may have a problem and sometimes you cannot register. The infrastructure of the IT Centre at the university is really way, way behind (focus group 1, 29 December, 2010).

5.2.12 How the Instructional Design is Supported.

The DGL indicated that when they develop any courses, they need to design surveys for them, which aim to obtain feedback from both instructors and students.

The surveys include two sections regarding the concept itself, which is created by the E-learning Centre, and includes various questions:

- Does the material cover the course in a satisfactory way?
- Is it easy or hard to understand the material?
- Is the language used easy or difficult?

The survey is received by the instructor so that he can modify the way the material is presented:

So we don't have any real problems, actually, but it all depends on the concept itself and how the concept flows, so these surveys will help in estimating the work done and understanding what are the exact needs of the users so that they can make progress in their courses. And the other part is from the technical team. The technical survey is usually deals with the question whether there are any difficulties in using the interface. Are there any problems, for example, in loading the page, in understanding how it works? (DGL, Interview 1, 4 January, 2011).

The DGL noticed that most of the technical issues came from students when they were unable to access or download pages due to the browser they used (e.g., Internet Explorer). This was because some students used an old version, which did not allow them to view the entire website. Thus, they needed to update these programmes, including Java, Windows itself and Firefox.

5.2.12.1 Evaluation: The courses developed by the design group pass through various processes for evaluation.

Using this technique, the design group has developed 18 courses but only two courses are operational, while the other courses have not been finished yet:

For our team here, yes, we have finished two courses and almost two additional courses are available because we are working in parallel. Since we have a large number on the production team, we are not working on just one course and when that is finished, moving on to the next. No, we are currently working on five courses at the same time. So within the coming months, you will find five new courses available and a month afterwards another three courses may appear and so on, because we are working in parallel. More than one course is being developed at the same time (DGL Interview 1, 4 January, 2011).

Students' perspectives on evaluation:

The students' indicated that there was a need to open a channel to communicate directly with the E-learning Centre or the Centre's leader to discuss issues related to the LMS that the university is using: 'There was a lack of contact between the people who are developing the system and the students' (Student A, focus group 1, 9 January 2011).

The students were willing to discuss issues with the LMS developer regarding how to make WebCT more effective and how to use it for something other than PowerPoint.

Students want to view more video clips related to their subject area as well as more recorded lessons that they can listen to or view whenever they want (e.g., live discussions).

Student (B) said that some instructors do not use the LMS effectively. For example, the content they provide for the LMS is the same as that used in the classroom and they do not design content suitable for the LMS. Student (C) indicated that some instructors do not use the class forum for discussion. Instead, they use LMS for announcements or collecting assignments. If a student posts a question, he might not be answered by the instructor.

Other students argued that LMS is not suitable for some courses, including physics, chemistry and math, so the students preferred not to use it. In these courses, the exams, assignments and questions have not been well designed for WebCT. Questions must be answered in writing and multiple choice questions do not fit with the content. The computer will grade only multiple choice questions. Thus, the instructors must re-design the quizzes, questions and assignments when there is need

for an evaluation of student performance during their studies. The students complained that:

it's not fair that students do not know how the computer will grade, whether it will round the grade up or down. A computer is good for purposes of practice or for assignment or discussions but it's not good for grading assignments or homework (focus group 1, 29 December, 2010).

Other students indicated that the WebCT needs to be upgraded: 'it is way, way behind' (focus group 1, 29 December, 2010). Student (A) noted that educational institutions in Saudi Arabia want to keep up with the technological revolution around the world. They observe other institutions that are adopting e-learning, and want to provide e-learning systems, including LMS, for their own institutions. However, they have to consider whether these systems fit with the country's identity, needs and culture. Student (A) came up with an idea for synchronising the Calendar in WebCT with Gmail, as well as adding multiple colours, but the university did not want to take that step to move forwards. 'I believe,' he said,

that once the university is satisfied with e-learning or some new technology, they don't want to change it or upgrade it, as they have to see more positive things than negative. They will say okay, if we upgrade the system, it will take time for instructors and students to learn about it (Student A, focus group 1, 29 December, 2010).

Student (A) said that the E-learning Centre upgraded from Blackboard version 4 to version 8 two years ago and this led to significant difficulties, as some instructors have not yet upgraded. This means that students occasionally have to log into different versions.

In this group discussion with the Marketing students, the researcher was keen to discover their backgrounds and whether they had received any training, workshops or an orientation about using e-learning. The university did not provide any of these things and the students believed that the university expected students to learn these

technologies on their own. However, the use of WebCT and Blackboard is not very difficult: 'It's easy to just go and use it' (focus group 1, 9 January 2011).

The researcher explained that if the university did not listen to students, they might think everything was fine and would carry on with whatever they had implemented. However, as students, learners and users, they should advise them of the problem and that changes were required. All students agreed.

In addition, it was found that students were willing to evaluate the IT Centre.

Student (D) said that:

I talked with the Chairman of our Department of Computer Science and pointed out that we are good with computer networks. I asked, why don't you send a team of students to check the IT Centre? We would like to see how things are done in the IT Centre, evaluate from their perspective, and come up with a report and a solution. Let's make it a case study. Why wait for a company to come? We can do this. The instructors, doctors, and students are capable of doing this but there was no serious response. That's all that can be said. There was is no serious response (Student A, focus group 1, 29 December, 2010).

The researcher has met another student who had an idea for influencing the infrastructure of e-learning. The student said 'Yes, I have an idea about recording all the lectures using a camera installed in the classroom and then uploading the recordings to the university website so that any student can watch the lecture' (Student focus group 1, 26/12/2011).

Concerning the question whether the nature of a course has an impact on the practice of e-learning or not, some instructors complained that the content of their courses does not lend itself to the use of e-learning tools, especially if that content is theoretical. This was the last question in the first part for this focus group and the students were asked to respond with their thoughts regarding this issue. They said that when the instructors had the ability and willingness to design e-content in a way that attracts students and involves multiple activities, regardless of whether the

content was theoretical or practical, and once instructors knew what should and what should not be included in their e-content, there would be no barrier to using e-learning tools inside or outside the classroom.

In the second part of this focus group, students were asked to give their perspective regarding whether they needed to change their style when learning using e-learning tools. Some students believe that the use of these technologies has changed the way they learn, helping them to memorise what they find by themselves, especially if they are searching via the Internet. Another group of students said that the way they carry on discussions with their instructors and with other students in the LMS and the way that they read the content material is different from the traditional way. Other students claimed that even if they use these technologies, they do not change their study style because they use the technology only as secondary support.

In this section, the students were also asked to describe what their instructors did to check their understanding in the classroom. The students replied that some instructors would try to answer students' questions to check whether they had understood the lesson or not and some of them would ask students to summarise what they had learned in the classroom or would set an exam and then check the results. However, some instructors planned activities and asked students to get involved in them. For example, teachers would plan a project that related to the subject matter then check student performance in that project, or would have students do experiments to check their understanding if the course included experiments. Carrying on discussions with students through the LMS or other e-learning tools and seeing them using them and participating, instructors judged that their students had understood what they had taught them.

Students were asked whether the nature of the content could inhibit the use of e-learning in the classroom. The students replied that there is some content unsuited to e-learning methods as the nature of this content was limited by the instructor.

To the question whether students need to change their style of learning when making use of e-learning tools, one student gave the expected answer when he stated that 'Sometimes when I see a video demo about something related to a course, I do not understand it fully. So I go back to my textbook or ask my instructor to explain it to me so I can understand' (Student focus group 1, 26/12/2011).

Students also were asked whether their instructors provided activities when they teach using e-learning. They replied that most of them do but not all teachers require that students get up from their chairs to engage in activities related to their subject.

The students added that e-learning played a significant role in their learning once it included a variety of useful activities that made education easier, interesting and more effective.

5.2.13 Checking Teacher Confidence in E-learning.

To understand the level of teacher confidence in e-learning pedagogy, the ECL believed there was a need to:

- Cooperate with students in the mode of delivering the content
- Ask them to provide case studies
- Provide links to technology
- Discuss online and commit to each other (ECL, Interview 1, 5 January 2011).

The ECL was convinced that there was interaction between students and their materials, involving the students in learning and following the trends of learner

system education: ‘There are methodological issues and the purpose really is to develop a culture at X University rather than simply implement a system. The issue here is having e-learning fulfil our needs’ (ECL, Interview 1, 5 January 2011).

However, in some colleges at X University, some academic staff members, including deans, preferred to teach their students face to face ‘The students learn from my physical presence and they will miss the social contact between the faculty and the students when they use e-learning. You have contact with them and you have their contribution too’ (ECL, Interview 1, 5 January 2011).

5.2.14 Conditions Necessary for Instructional Design.

To understand how e-content is developed, the researcher asked the ECL to clarify the conditions needed to tailor e-learning courses to serve Saudi Arabia’s needs, culture and context, and that are suitable for the diversity of educators. He identified four factors that could lead to designing a successful e-learning course that could fit any culture:

- The e-course must be more interactive to attract students.
- It should meet the students’ needs.
- It needs to be more appealing to students.
- The designer or developer of the e-courses must consider the students’ environment, including the availability of ICT tools (ECL, Interview 1, 5 January, 2011).

In Saudi Arabia, for instance, all youths use mobile phones, iPads and iPods, and they have access to the Internet, whereas other regions or countries do not. Thus it was necessary to focus on the needs arising in specific situations. These needs could include the Internet and the availability of laptops and computers:

Even if you have those technologies available, if you are going to require certain tools, students in other parts of the world may have problems using them and you need to be aware of this so it is very important to adapt for varying situations all over the world (ECL, Interview 1, 5 January 2011).

The DGL emphasised that ‘the best way to adapt for e-learning in Saudi Arabia is to start with the youth, and earlier than university level’ (DGL Interview 1, 4 January, 2011). For example, if a student attends a public or private school that does not use e-learning and then goes on to a university that does use it and discovers he needs to study courses and complete exams online, it will be a cultural shock for him.

Therefore, the DGL believes that one of the important factors in designing e-learning courses is the students’ needs, which can be understood by evaluating the courses. At X University, there is an evaluation at the end of each course, including the course itself, the instructors, the tools used and comments from students. The ECL observed that ‘we need to consider how much e-learning really enhances education compared to face-to-face teaching. We are talking about outside experience, we are talking about something in articles and through interactivity, but do they measure the outcomes in their learning system?’ (ECL, Interview 1, 5 January 2011).

Student perspectives:

The researcher found that there was a need to involve students in designing the e-learning environment. The students themselves indicated that they are fully capable of discussing, suggesting, developing and deciding what is suitable for them and what is not. Thus, the university needs to have discussions with the students, instructors, software engineers, technical staff members and e-learning leaders to

discover how it can design a better LMS that meets the students' needs and is well suited to the society in which they live (focus group 1, 29 December, 2010).

However, the students agreed that there was an improvement in the use of e-learning at the university but that progress was slow compared to other universities in the same region. As a result, the students were willing to have discussions with the e-learning leader and staff members to develop the LMS to cope with the fast-changing technology. Student (D) observed that:

if the university gives it some thought, we have IT teachers, we have software engineers, instructors, and doctors and I think we can design the LMS as a student project or senior project for software engineering students to meet our needs. If we are serious about it, why not? I am happy to talk about it, give tips and so on. (Student D, focus group 1, 29 December, 2010).

Some students, however, argued that in some cases the university had already adopted what the students had developed. For example, a group of students worked on a project called Schedule, where students can choose all the possible courses they can take and the programme generates a schedule to check for conflicts. The students contacted the E-learning Centre, which placed an advertisement on the registrar board seeking a student to design the schedule: 'So the university encouraged the students and adopted their idea. We have students with a lot of potential and if we have activities to discuss, we will make progress' (focus group 1, 29 December, 2010).

The E-learning Centre leader believed that evaluation of those instructors who use e-learning is the most important factor, as he explained: 'We designed our own policy here to evaluate Saudi instructors and how much they use ICT in their teaching, so they must use it' (ECL, Interview 2, 21 January, 2012).

He added that evaluations can be conducted through well-designed questionnaires that include the following, as outlined by the E-learning Centre:

- How much do students gain from the e-learning experience?
- Does Blackboard help?
- Does the discussion forum help? How much does it help? (ECL, Interview 1, 5 January 2011).

There was a plan to distribute a questionnaire among the faculty. The ECL indicated that the E-learning Centre had conducted an evaluation based on the statistical information it obtained from Blackboard. The statistics show that students accepted e-learning.

5.2.15 Support from the Ministry of Higher Education for the E-learning Centre.

Among the Ministry of Higher Education's strategies and guidelines for e-learning is sharing knowledge and experiences from practising e-learning among universities so they benefit from each other. In 2009, in order to achieve that goal, the Ministry of Higher Education provided funds for collaborative work between the Ministry and eight universities to implement projects conducting training in specific areas. X University was prepared to conduct the training, and 'we drew on all the expertise we have to provide that training. We also made use of expertise from outside the university to share the training with us. We conducted about 22 workshops' (ECL, Interview 1, 5 January 2011).

In this section, the leader of the National Centre for E-learning and Distance Learning was interviewed in order to understand how it supports universities moving towards e-learning, and to investigate its roles and policies for improving the use of e-learning in universities. The question was, *to what extent does the practice of e-learning in X University in Saudi Arabia match the guidelines provided by the university?* The leader of the centre clarified that no funds were received directly by

the E-learning Centres, as the Ministry of Higher Education provided budgets for all universities. However, the Ministry established the National Centre for E-learning and Distance Learning and, in 2007, aimed to be responsible for supporting universities by providing different activities, including:

- Training for all Saudi university faculty members
- Overseas workshops
- Preparing meetings for all directors of e-learning systems and deans of the E-learning Centre twice a year
- Providing facilities to universities that do not yet have LMS
- Establishing an electronic library with over 100,000 items (NCL, Interview 1, 2011).

5.2.16 The Four Embedded Cases.

In the next four sections, the researcher obtains instructors' perceptions and experiences by conducting semi-structured interviews, focus groups, class observations, and drawing on TPI questionnaires and document analysis. The four embedded cases have been chosen as examples of different experiences in using e-learning with students to produce excellent results. The interviews were designed to explore the environment for good practice in e-learning with a focus on understanding how instructors implemented it.

Each case will describe how e-learning is utilised at X University. Each case will be presented and described, based on Khan's framework that has eight dimensions/themes, each including subthemes, and each section in two parts. The first part will answer the first main research question, already posed to the leader of the National Centre for E-learning and Distance Learning: *To what extent does the practice of e-learning in X University in Saudi Arabia match the guidelines provided*

by the university? And the second part will answer the second main research question: *What influence do teachers' pedagogical beliefs have on the practice of e-learning at the university?*

5.3 Case One: Dr. Ahmed

Part One: Teacher One and His Web-Enhanced Course (Marketing Course and E-learning)

The researcher interviewed Ahmed, the Marketing instructor, at his office for around 2 hours. Ahmed prepared something to eat and drink during the interview time. The researcher made small talk before the start of the interview to help Ahmed feel more confident.

Ahmed indicated that e-learning had been used at X University for several years:

The use of e-learning is a skill found among particular individuals rather than in the university as a whole, even though the E-learning Centre tried to offer a lot of workshops to encourage people to use it. However, there are a lot of great examples of faculty using it (Interview 1, 1 January 2011).

In this interview, the researcher asked Ahmed about the form of e-learning he uses. Like other instructors at X University, Ahmed uses e-learning for supplementary purposes. He uses Web 2 technology with his students and has started using Flickr to share advertising photos and clips with his students. He then realised that some students were unaware of how to use the technology and that this was their first experience using social networking.

5.3.1 Pedagogical Dimension - Using Web 2.

Using Web 2 technologies from Ahmed's pedagogical perspective

Ahmed believes that in his subject area (Global Marketing), he needs something different to use with his students:

I now use Google groups. It's just faster for sending emails to the whole class. As far as WebCT is concerned, I don't use web discussions or similar things in WebCT. However, there has been improvement in WebCT at the university but I think that it still has some issues. So I went in another direction into social networking (Interview 1, 1 January 2011).

In the following description, Ahmed provided examples of e-learning pedagogy, including how it works and how he applied it in his subject area. The university did not have information about learners' knowledge and skills available for audience analysis as they did not proactively carry out any surveys to gather such information. However, Ahmed explained that he analysed his students' learning and knew what they preferred and what interested them. It would be beneficial for students if they had more time for online learning, perhaps by giving them some days off from regular classes. As some schools have given iPads to the students instead of books, it is important to learn about these technologies and use them:

We live in a digital world today and there is a need to know what is going on to prepare our generation for this digital world. We need to learn about these technologies as nobody knows what will happen 5 or 10 years from now (Interview 1, 1 January 2011).

5.3.1.1 How effective was the interaction.

In this research it was found that the interaction between Ahmed and his students was effective, whether inside or outside the classroom. Ahmed clarified that:

...students began to see things in different ways and also participated in class differently, as the use of e-learning tools develops a greater relationship among the students and between students and instructors. Students get in touch, whether it's tweets or messages or whatever. You know, they tell you how they are doing or ask questions or something and I think it's something nice (Interview 1, 1 January 2011).

Ahmed has observed that these technologies have opened new paths for learners—not just for those in class but also for anyone who joins them online:

Knowledge reaches beyond ourselves, so that it's not just sharing knowledge even in the online classroom but with the online world so when I'm sending articles to my students, it's not just the students who are seeing them. Whoever is following me on Twitter sees this article, is learning, and can ask

me or whatever. So it's as if we're moving towards a more shared world, sharing knowledge, and that's the way it should be, I think (Interview 1, 1 January 2011).

In this research, the researcher found that the way Ahmed utilised technological devices with his students and interacted with them was very effective. Ahmed stated that interactions between himself and his students in the Global Marketing course were usually conducted via mobile phone (around 95 percent of communications). He does not want to spend more time keeping track of his students' attendance using his laptop: 'If I had to use a laptop just to log in, it would be a hassle' (Interview 1, 1 January 2011).

The researcher has observed Ahmed's class and found that the students interacted with their teacher by asking and answering questions, and laughing. Ahmed's teaching style was very interesting. For example, he would give them an issue and ask them to think about it and discuss solutions with each other, then he would listen to the students' thoughts. He was teaching them critical thinking. The students were free and felt comfortable in the class (e.g., they could drink coffee).

During the observation of Ahmed's class, it was found that Ahmed showed advertisements from Western cultures and explained what is suitable in a Western country compared with Saudi culture. In addition, students brought their own examples of advertisements from their experiences. It was noted that one student had an iPad and followed the instructor by writing some notes. When Ahmed asked students to share their experiences with advertisements with their colleagues, one student searched the Internet during the lesson and then showed the students and his instructor what he found. Ahmed also asked them to discuss one advertisement they had seen before, which made them laugh or cry or which did not fit with their culture.

Because Ahmed was teaching e-marketing, he tried to include all possible e-learning tools available to him for use with his students.

I think the marketing field is more social than any other field, as we really need to know what and where our market is and what is going on outside the campus in our world. So the idea in social networking is to begin with something that has been growing for the past several years now and has been a major tool for trying to reach your market. The way we look at it is, if the students are in this market to begin with, why should I ask them to go to WebCT? Why would I use their social networks to try to persuade them to join another community? (Interview 1, 1 January 2011).

The researcher found that Ahmed believed in using e-learning and understood how to use suitable tools that interested his students and related to his subject. Despite Ahmed's commitment to using e-learning, he did not draw much on the LMS in operation at A university and said that more work needed to be done in this field.

The use of Facebook, Twitter and Flickr

To understand how Ahmed used Web 2 technologies with his students and how his experiment became well known at the university as an example of excellent practice in e-learning, the researcher asked him to supply information about his experiments with these technologies.

Facebook: Ahmed uses Facebook for class discussion rather than the class forum at WebCT. Ahmed believes that time is important for both students and instructors so in order to save time he uses the fastest way to communicate with his students. The use of Web 2 technologies is faster than the use of the discussion forum in the LMS since with the latter, students need to log on to the university website and the bandwidth was not very good. With his pedagogical aims in mind, Ahmed tries to engage his students with something they are already interested in. Otherwise, if they were forced to use the LMS they might not approach their learning task with confidence. So he uses Facebook, posts items that are related to the subject

materials and asks his students to engage in the discussions, which they did. Ahmed explained that he was trying to encourage his students by utilising means that the students like. He indicated that students were free to post various topics for discussion, including:

- Recent news related to the subject area they are studying
- Videos (e.g., YouTube)
- Advertising or any marketing clips or pictures (Interview 1, 1 January 2011)

Ahmed was encouraged to use Web 2 technologies such as Facebook, as it is fast for his students:

It's a way of reaching a market that has always thought of school as a classroom with four walls with a door and so on. But we tend to think of education as an ongoing process that doesn't end once you go out that door (Interview 1, 1 January 2011).

In support of the subject he was teaching, E-marketing, one of Ahmed's objectives was to involve students with technology, helping them to understand how to sell, buy, advertise and communicate with others through the use of technological tools. Ahmed asked his students to investigate materials by themselves and explained that numerous materials were available, both obvious ones and those less so. These materials gave students a chance to be creative, open their minds, start asking questions they may not have the chance to ask in class, and engage with other students. For example, Ahmed's assignments tried to motivate students to be self-directed learners by allowing them to go into the work field and try to find something they were interested in so they could write about it. He encouraged students to make use of the LMS by asking them to post and upload materials related to their subject areas. Ahmed awards 5% cent of the grade for participation to encourage these

students. ‘They also think it’s cool. They’re dealing with something they’re happy with and they enjoy it’ (Interview 1, 1 January 2011).

5.3.1.2 Reasons to use Web 2 technology from a pedagogical perspective.

Ahmed felt encouraged to use Web 2 technologies including, for example, Facebook because he believes that there is ongoing communication when the course is over. With LMS, by contrast, once the course is finished, everything related to that course ends. With the Facebook group, Ahmed found that his students wanted to learn more, share more, give more and remain in touch, even when the course was over. Ahmed indicated that ‘this kind of learning does not take place in WebCT or in another LMS’ (Interview 1, 1 January 2011).

5.3.1.3 Time consuming.

Another consideration in using Web 2 technologies is time. Ahmed indicated that this could lead to issues for some instructors and students. Ahmed tried to manage his time with his courses carefully when he used these technologies. He accessed Facebook several times a day to respond to his students and post questions. Ahmed realised that the time spent accessing the discussions was too much for students and instructors and that there was a need for a reward for the extra time spent that would give an incentive to instructors and students to use the technology.

5.3.1.4 Increased resources.

These are another reason for using Web 2 technologies. Ahmed said that he always encouraged his students to participate in the Facebook group by asking them to post articles in the discussion area with summaries in certain sections. ‘At the end, the students will have a wealth of resources’ (Interview 1, 1 January 2011).

5.3.1.5 Pedagogical goals/objectives.

After using it for three courses, Ahmed stopped using Facebook and now uses Twitter. Ahmed was asked whether he used other Web 2 technologies, such as blogs, he replied that he did not use them but that he likes to explore technologies his students might be interested in using:

With e-learning, the idea, I think, is that at the end you want to do something you enjoy doing and that you feel is also engaging and of value to students. I think it's good to experiment but there is a limit to how much you can do and if you get involved in too many things you may just kind of lose focus (Interview 1, 1 January 2011).

5.3.1.6 Unexpected points.

As mentioned earlier, there are instructors who use LMS regularly, some to make an announcement, others to post exam grades or collect assignments. Ahmed did not believe in using the LMS for his subject area, as mentioned earlier, despite using it for certain things:

It is like having another classroom in a locked system. The LMS was not appropriate for my subject area. We need to go beyond what WebCT does. When it comes to discussion, I don't think it's the platform to use because to encourage discussion, make it livelier, you need to be in an open space (Interview 1, 1 January 2011).

5.3.1.7 Pedagogical, method and strategies – Twitter.

Ahmed moved from Facebook to Twitter (see Figure 5.6) for various reasons, including:

- Greater privacy
- The need to experiment with new things
- A suggestion from students (Interview 1, 1 January 2011).

Ahmed has used Twitter for two courses. As only 140 characters can be posted at one time, Ahmed does not use it for discussions. Instead, he uses it to post

announcements and share articles using a hash-tag.⁴ However, Ahmed and his students occasionally use Twitter for quick discussions, as students may post brief questions. Ahmed likes Twitter as it provides the option to follow other people in the field, which is not a feature on Facebook. Ahmed explained that with Twitter, students can send YouTube videos, including videos related to their class or outside the class. He argued that there is a need for this possibility since ‘the course structure is sometimes so rigid that the course is the only thing we can talk about’ (Interview 1, 1 January 2011).



Figure 5.6. Marketing teacher’s Twitter webpage, 2010.

5.3.1.8 Pedagogical issues with Twitter.

Ahmed said that the use of these technologies did not always satisfy the students’ needs:

Not all students are aware of Twitter. However, I go back to our field of marketing and these are things that I push the students to try. I told them they may not like everything but at least they have to try and see how it works (Interview 1, 1 January 2011).

It was found that there were students who needed to improve their knowledge and skills in the use of e-learning tools.

⁴ A hash-tag is a way for people to search for tweets that have a common topic.

Ahmed noted that it took a while for students to become familiar with Twitter because if there are no followers, then nothing happens:

There is a need to show students the way into how to use it. This is part of the problem as sometimes, when you become a bit savvy in something, you tend to forget the basics that you would assume students would know. I always try to push students to do things for themselves. I told them, you can find this out by yourself, you can learn Google search and find the guidelines on how to use these things. There was some reaction from students who did not know how to use these technologies, so I believe there is a need to do more there, whether through the E-learning Centre or coming from us as instructors (Interview 1, 1 January 2011).

It was found that the level of Ahmed's knowledge and skills was high as he was trying to encourage his students to improve their communication skills, for example by using their digital devices for that purpose. It was apparent that there was a need for more knowledge and training in skills to be provided to students. As another example, Ahmed would also use hardware devices such as the iPod, iPad and smartphones (e.g. the iPhone), to facilitate communication between himself and his students, noting that these technologies will increase interaction with students. 'We should be integrating smart phones now—iPhones and Blackberries—with the classroom' (Interview 1, 1 January 2011).

5.3.1.9 Pedagogical—Flickr.

Flickr represents another social technology tool that Ahmed has used with his students, encouraging them to active participation by using something they are interested in (see Figure 5.7).

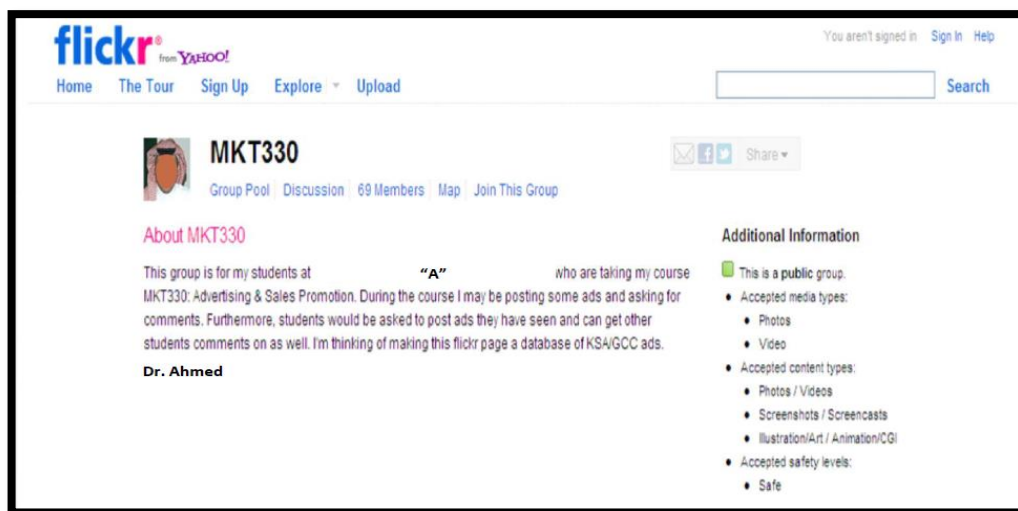


Figure 5.7. Marketing teacher's Flickr webpage, 2010.

5.3.2 Technological Dimension.

5.3.2.1 Infrastructure Planning.

Ahmed observed that there was a need to expose students to social networking. The university should consider instructors' and students' needs and apply multiple technologies with ongoing PD and support. Ahmed connected these points with his subject area of global marketing and explained that most companies now have their own Facebook or Twitter pages. However, some students have issues with Facebook, especially with the advertising that appears.

Ahmed believes that more work is needed to support students regarding technical issues related to e-learning. In addition, technical assistance should be on standby in case there are technical issues in the classroom:

There is a need to focus on providing students with a place to go when they face any issue related to e-learning while they are studying in an e-learning environment. The instructors have limited time to cover the class material and there is not enough time to solve students' technical issues. Thus there is a need to provide workshops for these students to become aware of the technologies they will use for learning (Interview 1, 1 January 2011).

Ahmed noted that more technologies should be installed for students in order for them to engage more with each other, for example, strong Wi-Fi.

When students face any technical issues related to the LMS they are using, including issues related to their course information or to downloading and uploading materials, they refer these matters to the IT centre.

Regarding the use of the LMS and WebCT at X University, Ahmed indicated that the university's instructors were divided into three groups. The first group uses them with their students and tries to benefit from all options, including LMS. The second group only use them to post exam grades, upload PowerPoint slides or send messages. The third group did not use them at all. Ahmed belonged in the second group, as he was interested in using Web 2 technologies more than the use of WebCT.

5.3.3 Interface Design Dimension.

Since he preferred to use Web 2 technologies, Ahmed did not use LMS to support his subject or follow the strategy that the university provided for developing e-learning courses as some instructors did. Based on the Khan framework for evaluation, it was found that Ahmed had not developed e-content to be uploaded to the university website, nor was he involved in the development process of e-content as the university tried to encourage him. Consequently, no evaluation had been carried out on his subject by the designers in the instructional design group at the university and he had not yet passed through that process.

Ahmed was asked to present his perspective on the conditions necessary for instructional design.

Ahmed identified the conditions needed to tailor e-learning courses to serve Saudi Arabia's needs, cultures and context, and that are suitable for the variety of educators:

- Internet speed

- Bandwidth availability to upload and download information and media
 - Using the various technologies available, such as the iPad or smart phone
- (Interview 1, 1 January 2011).

Ahmed was asked about what he did to understand the need of each student.

He explained that:

I encourage them to ask questions and make clear that there are no stupid questions with technology. The students post their questions without any shame or fear that other students will laugh at them. Then the teacher can answer their questions (Interview 1, 1 January 2011).

5.3.3.1 How e-learning is being used (Content).

Observation of Ahmed's Class: Ahmed arranged for the researcher to observe his class in order to investigate the interaction between himself and his students while he used e-learning tools. Ahmed introduced the researcher to the 10 students and explained the aim of the research. The classroom had Internet access and the network was linked to the university's website. There was a projector and desktop computer installed on the instructor's desk, a digital overhead projector and a regular whiteboard.

The researcher noted that Ahmed checked attendance using his iPad, then accessed the Internet using the digital projector and started his lesson by showing his students an advertisement of a Mobile Company welcoming Ramadan in 2010. Ahmed wanted his students to examine how the company advertised the new mobile device using the month of Ramadan, the most important month for Muslim people throughout the world. The aim of using that advertisement as an example was to show the students how marketers can attract people by using something they like. The advertisement was shown in the month of Ramadan and in it words related to the festival were used in a song that attracted people who saw it. He then showed various advertising videos made by McDonald's and asked for the students' thoughts about

suitable and unsuitable elements, encouraging them to discover in each advertisement the message the company wanted to deliver. With these advertisements, Ahmed aimed to illustrate how the message of McDonald's, for example, is delivered in different cultures, because what is appropriate in Western countries is not appropriate in Saudi Arabia or for the Islamic religion.

Ahmed's course taught his students how to discern what is suited to their identities, cultures and beliefs regarding marketing advertisements. He then connected to the Internet and downloaded a YouTube advertisement for the Cheese Company. The advertisement used a Panda to deliver the company's message, making the students laugh. Ahmed explained how some advertisements can make people laugh or cry. He was trying to link this work with the objectives of his course syllabus, which include developing a useful, relevant understanding of marketing, developing a working vocabulary of marketing terms, and developing an appreciation of marketing's role in organisations and society (syllabus, p. 1).

5.3.4 Evaluation Dimension.

Ahmed did not use LMS as his main tool to support his subject as he was using Web 2 technologies. In the evaluation using Khan's framework, it was found that Ahmed had not developed e-content to be uploaded to the university's website. He did not engage in the process for developing e-learning content that was indicated in the university's guidelines. However, Ahmed developed his course based on what he thought was suitable for his subject. It was found that he had completed the development process in general terms but without following university guidelines to the letter, step by step.

For example, each semester he had a plan to deliver his subject using new technology tools with his students. His plan was based on various factors, including

student interests, needs, topics that are better delivered using e-learning tools, activities he set, the projects and assignments for that subject and the objectives he wanted his students to achieve from taking his course.

Another example of the content development process that Ahmed has employed is the design of his materials and web pages that support his subject. For example, he designed his own pages in Facebook, Twitter and Flickr. These pages draw on existing templates but at least he designed and shaped them the way he wanted. Once again, however, no evaluation of what he had accomplished with his subject had been made by university's design group. What Ahmed did with his students using these technologies can be assessed as a great job that yielded excellent results, judging from the information Ahmed provided in the interview and from what the E-learning Centre confirmed as well.

5.3.4.1 Assessment.

In this research it was found that Ahmed used a variety of types of assessment with his students, including group projects, individual projects, assignments, online participation and tests. One example is asking his students to participate in TED talks. Another is his requirement that students find an article or journal related to their subject, read it, then summarise what they had read. The researcher has looked over the exams Ahmed set his students and found that he used a variety of formats, including multiple choice, true/false, having students choose from different photos then describe what was in the photo. He made available a variety of opportunities through those assessments. In his courses, Ahmed also set up several channels to allow students in online discussions to 'like' what he did in Twitter.

Ahmed does not use feedback from his students, however, as 'this is something I struggle with' (Interview 1, 1 January 2011). Ahmed used this with one

Facebook group and tried to follow the number of posts to see who was active and who was not. Some students argued that, while they did not make many posts, what they did post was of good quality. Ahmed decided that all students should provide a report detailing how they participated and contributed to the class.

Ahmed did not use the assessment questions installed in WebCT and Blackboard to evaluate the e-learning environment. However, he observed that there is a lack of workshops and training programmes that discuss e-learning assessments, which is an issue that the E-learning Centre should consider.

For his subjects, Ahmed always encourages his students to use LMS to post their assignments. He requests two copies: a soft copy for reference and a hard copy to make the grading easier.

5.3.5 Resources Support Dimension.

5.3.5.1 Online support - Effects of motivation and encouragement.

Ahmed found that motivation and encouragement play a significant role in instructors' and students' lives. He said that these two factors are important for students to make good progress in learning. Ahmed encouraged his students to use Twitter by sending them an email and asking them to help build an online community between him and his students and other learners around the world. As motivation, he congratulates students on good class performance or assignments. In addition, he might mention an article in class without giving its title. Later, he asks the students to find it, read it, summarise its benefits and tweet about it. The students who find it receive permission to leave the class at any time.

As far as motivation is concerned, Ahmed noticed that not all students are interested and motivated when they gain points for something they do. They are more motivated, however, when they engage with the technology that allows them to

follow up their interests. ‘I think interest is the key. I am trying to assist my students to become self-directed learners and I think we need to be more forward thinking, finding out what could interest students (Interview 1, 1 January 2011).

Ahmed encouraged his students to use multiple technologies rather than just the LMS environment (see Figure 5.8).

I believe that learning will not end when the students graduate. So I am keen to change the idea fixed in their minds that when they finish their studies or their courses, learning will end. I try to offer this kind of encouragement at least to my own students. It’s a way of engaging; we always think of our subject as something for entertainment and fun. Yes, it can be fun and entertaining and educational at the same time (Interview 1, 1 January 2011).



Figure 5.8. Marketing instructor engaging with his students using an iPhone device (instructor’s hand out, 2010).

Ahmed was asked whether he had previously been involved in online communities:

I know there is a lot going on there but I haven’t yet got into it. I’m using Twitter and it keeps me busy. There are plenty of these tools out there but not all the instructors are interested in using all these things. However, I think that if they try something they are interested in, that would be of value (Interview 1, 1 January 2011).

Ahmed encouraged his students to be involved in a group activity so as to interact more with each other so asked them to translate some TED talks (www.ted.com) from English to Arabic. This was part of the course objective. He pointed out that:

We are in a global market and we're also talking about languages. We cannot ignore the fact and they're of value to society, plus you become a TED translator. That gives you credit, you put it on your CV [curriculum vitae], you win, the society wins, all of us win. Engaging in such an environment as this means the students go beyond the limitations of the classroom and engage with other institutions...TED is a very well-known non-profit organization whose aim is to spread ideas. Actually, for several events here we've had TED X- and there was a TED X-Arabia. They are basically talks by various people who are expert in different fields (Interview 1, 1 January 2011).

There is no obligation at X University for instructors to use e-learning.

However, the instructors need to understand it and like it before they can pass it on to the students.

To support students in the use of these tools, Ahmed encouraged them to understand how to use available resources in their subjects. For example, in semester A of 2011, Ahmed realised that some of his Global Marketing students were unaware of podcasts. He asked his students to discover the meaning of the statement that podcasts are "like a treasure island that's waiting for people to go and see what is out there". Even though I would encourage them to do it, still not a lot would' (Interview 1, 1 January 2011).

Ahmed said that this method of setting an assignment encouraged his students to find a podcast related to their subject area, then write a summary and provide a link on Twitter to the podcast they had found. This way, students would learn about the technology.

Ahmed's students were using TenLinks to communicate with their instructor and Notelog. These technologies encourage students to interact more with their instructor and to enjoy the technologies.

5.3.6 Ethical Dimension.

5.3.6.1 Social and cultural diversity—cultural issue.

During the interview with him, Ahmed said that one of his students told him that his family did not want him to use the Internet for cultural reasons:

I think we do of course have our own cultural issues. One is about the use of the Internet. The picture is etched firmly in the thinking of some families who see a threat in letting their sons use these technologies. The teacher gave him an alternative assignment so he could keep up with his colleagues (Interview 1, 1 January 2011).

5.3.6.2 Social and cultural diversity.

Ahmed told that when he engaged with his students on Facebook and set up their group discussion, he was unsure whether he should leave the group open for everyone (public), or whether he should make it a closed group. He decided to leave one group open and close the other. With the open group, Ahmed said ‘When someone out of nowhere came in and posted something on the wall, it was kind of offensive, because he asked how students can use Facebook to study... This is not the place for that’ (Interview 1, 1 January 2011).

Ahmed and his students discussed this and the students were enthusiastic about replying. The person who had joined the group was European, and the students replied to him, saying:

No, this is the way to do it, we are learning here. And in the end, the visitor acknowledged this and said, wow, you know I think I agree with you guys and I think you are doing a great job (Interview 1, 1 January 2011).

Based on the data that have been analysed in this research, it was found that Ahmed acknowledged that in the e-learning environment there is a need to consider cultural diversity. He also pointed out that to improve cross-cultural verbal communication and avoid misunderstanding, effort is necessary to reduce or avoid

technical terminology and phrases, humour, acronyms, and unclear words, term and content.

5.3.6.3 Social and cultural diversity and privacy—gender issue.

Ahmed explained that if he taught women students and wanted to have online groups, he would have two separate groups:

There is a clear line between culture and religion. We tend to integrate those two. Now there is definitely an overlap but there are also some things that we think have more to do with culture than with religion. I think we need to go beyond that with protections. In part of our culture there is an open space and anyone can be there. We are a conservative society, we know that and we have segregation between men and women. We kind of understand that with e-learning (Interview 1, 1 January 2011).

Ahmed said that people needed to adapt and change their mind-set regarding this issue. They have to cope with new technologies but at the same time should not ignore their cultural identity. It's 'what makes us who we are but at the same time we shouldn't leave the technology behind and think that this is just a bad thing to do and we don't want to get involved' (Interview 1, 1 January 2011).

The Internet includes a lot of information, websites, links to movies and games and these can attract students to put aside what their teachers have requested from them in order to scan the Internet for information. It was found that Ahmed would encourage students to search the Internet to gain more information regarding their subjects. At the same time, he also promoted cross-cultural interaction among students and other learners around the world by asking them to participate in TED, for example, using both languages, Arabic and English, and sometimes asking his students to translate portions of a TED talk, either from Arabic to English or the reverse.

Ahmed said that students who have the opportunity to use these technologies should keep in mind the risk that the Internet may take them away from what their

teachers want from them. However, the risk is always there. Students have to decide what they want to do. Ahmed commented that:

When you think of Twitter and Facebook, this is outside school and it's different. They have this unique perspective that is different and in addition they give the students a chance to be out there in the public world. It's scary, risky and has its problems and issues. And certainly it's not a Disney world out there, it has both sides of the story but I think for us to make a mark and do something different, we really need to get out there, engage them, let them mix with the rest of the world even if they aren't excited about doing it (Interview 1, 1 January 2011).

5.3.7 Institutional Dimension.

5.3.7.1 PD - Importance of personal development in e-learning.

Ahmed described the way that workshops are presented to staff members. The trainer explains to the instructors how they generally work. However, there is a need to provide actual examples in workshops to demonstrate the technologies they are using with their applications and show how useful they are. There is also a need for more sharing of experiences in workshops rather than having experts in the field give lectures.

Ahmed was questioned about educators' needs for PD and how these needs were being met. He said that instructors should be provided with PD, including workshops with practical examples from people who have faced issues and solved them. Ahmed believes that sharing these experiences increases knowledge and helps others solve similar issues. Further, workshops on time management are needed and there should be a greater focus on the students' side.

When asked whether there were any difficulties facing instructors trying to implement what they had learned in the PD programmes, Ahmed answered that there were no difficulties for him, as he is web savvy and can quickly work out how something works. However, there are several reasons why instructors may avoid learning about these technologies:

- Instructors must be unwilling to learn new things
- Instructors occasionally think they do not need to try (Interview 1, 1 January 2011).

5.3.7.2 Administrative affairs.

More encouragement for instructors is required to help them use these technologies and reward them for the time they spend discovering them: ‘I like to try out things. Sometimes I’m successful, sometimes I’m not, but unless we try, we won’t learn new things’ (Interview 1, 1 January 2011).

With the e-learning environment, ongoing training is necessary for instructors who are willing and motivated to move beyond e-learning. There is also the need to help them deal with the difficulties they may face while they use these technologies.

5.3.7.3 Workload.

Ahmed stated that encouragement and motivation also apply to instructors and academic staff members, who should be rewarded not only for the extra time they spend on using these technologies but also for time spent responding to students:

I am almost 24/7 with my students, which is fine with me but I know it will take a lot of my time. I cannot ask someone else to try to use this when that person may not be comfortable with it. These are hours taken from their personal time and they have to be encouraged in that (Interview 1, 1 January 2011).

5.3.8 Part Two - Section One.

This part will include two sections. The first section deals with teachers’ beliefs concerning e-learning and the second with the practice of e-learning. These two sections will answer the second research question posed in this study: *What influence do teachers’ pedagogical beliefs have on the practice of e-learning at the university?*

5.3.8.1 Teachers' Views Concerning e-Learning.

In the second year the researcher conducted a semi-structured interview with Ahmed, a teacher of undergraduate students. The meeting was pre-arranged a month before the researcher arrived in the country and the interview was conducted in his office at the university in 2011/2012. He was waiting for the researcher and when he came, he welcomed him and prepared some coffee and something to eat for the interview time. He was very excited to have this meeting and discuss his beliefs regarding e-learning. The course he is teaching this semester is the same as the course he taught last year when the researcher interviewed him (2010) and it was good to see the changes he has made in it over 2 years—what is different, what is similar, what activities he has set for his students, etc. The researcher started to chat with him about his work, his family, and his plans for the year 2012, just to 'break the ice' before the interview began. Once he was comfortable, the interview started with the first questions about his views concerning e-learning.

5.3.8.2 Awareness of the uses of e-learning.

In response to the first question, which concerned his beliefs about e-learning and whether it had a significant role in teaching and learning, it was found that Ahmed was knowledgeable about what is happening with technology around the world, as he made clear:

Yes, I do believe it has a significant role, especially in the current age we live in. We cannot just ignore what is happening with the Internet and web technology and the growth of electronic devices such as the iPad, iPhone, iPod, smart phone technology and mobile technology. We cannot any longer ignore it and just go back to the traditional form of teaching. (Interview 2, 16/01/2012).

The E-learning Centre leader also affirmed that e-learning has value in teaching as around 80% of instructors use Blackboard and around 99% of students. This high use of LMS (Blackboard) was very evident in the e-learning environment.

The Centre leader's clarification about the significant role played by e-learning in teaching meshed with what Ahmed explained earlier. As the Centre leader said:

Most of our students nowadays are technologically oriented and we can say the majority of them use iPads, iPods, and smartphones like the iPhone or Blackberry. They can access educational features, including looking for more references related to their courses. Technology has value, of course. (ECL, Interview 2, 21 January, 2012).

5.3.8.3 Interest in using e-learning.

The interview continued with questions on why he became interested in using e-learning tools. This question was asked in order to give him space to speak confidently and perhaps formulate an in-depth answer regarding his beliefs in using these technologies and why he blended them with his subject matter. He replied that:

I like to spend time on it, whether browsing or whatever. I am curious about technology, so it is interesting for me to do it. I would like to tap into its energy. Why not use it for something people can benefit from? Not just on a personal basis but also to have the students benefit from it. It is important for students. (Interview 2, 16 /01/2012).

He continued with an example:

In our field, marketing, e-marketing started with email and web sites. It's a growing field but now there's social media. We offer courses such as Social Media of Marketing that is like a sub-set of e-marketing. The organisation has been fully developed and there is a lot of future potential with going electronic and mobile as well. (Interview 2, 16 /01/2012).

The interview questions continued with him describing his background, his knowledge of this type of learning, and what he is interested in. Ahmed's integration of these technologies in his teaching was based on his interest in technological devices, including the iPad, iPhone, and iPod, as mentioned in the answer to the first question in Section One of this research. He found himself involved with the development of the technology around him and started to buy these smart devices and learn about them. He began using their features, including the Internet and started communicating with friends using the programmes installed etc. When he

saw that most of his students had these smart devices, he was encouraged and tried to encourage them to use these devices to interact. In discussing this, Ahmed stated 'I became interested in the technology itself. I love it and I'm ready to spend time on it. For example, I have two iPads and all the types of phone I've bought over the years. (Interview 2, 16 /01/2012).

The question Ahmed was asked at this point was to get him to speak in-depth about his views of the use of these technologies, particularly for e-learning. Ahmed said:

In fact, when I did the workshop on e-learning I found that it is not that people don't like to learn but at the end of the WebCT workshop, the system was not a part of you, so that you could do it and take the next step. You have to have those things in you. That does not mean we cannot train, learn and help people to bridge the gap. (Interview 2, 16 /01/2012).

Ahmed continued to talk about the issue of technology and expressed his view that through his experiences using these technologies he noticed a lot of progress. He found there was huge growth in information and information overload and every day new things come up in this field. Ahmed declared that we have to be ready to adapt, to change, and to move on to new versions at all times.

It was found that Ahmed's views concerning e-learning had an effect on his teaching methods, including his syllabus design, materials and his practice of e-learning in the classroom. The researcher found that what Ahmed had done with his students regarding e-learning, about his adoption of e-learning and his willingness to practice what he believed with his students in a way that kept the students interested and how that has reflected in the students' learning.

In his syllabus, Ahmed included various activities for his students. For example, for a term paper, he asked students to write about a topic in Marketing that they are interested in, citing references, research and examples. Ahmed used this

assignment to encourage students to use the Internet for citing various sources. With this term paper, Ahmed encouraged his students to practise using the technology, especially in the Marketing course. When the students search the Internet, reading articles and adding examples to their term paper, they learn how to use the technology and benefit from it. It was found that Ahmed's views concerning e-learning had influenced his teaching.

Ahmed have given examples that provide the answer to the first question concerning e-learning methods, including the use of Facebook, Twitter and Flickr. These supplied ample evidence how these technologies have influenced the teaching methods the instructor adopted to deliver his subject.

Another example of the way Ahmed implemented e-learning with his students this year was the 'Facebook Group.' He set up a group for his course and encouraged students to participate in it by posting things that related to marketing but were different from what they had learned in class. Ahmed used these different technologies based on his belief in the benefits that his students would gain. He also endeavoured to attract his students to something they are interested in when they use it.

It was found that in his syllabus Ahmed noted a chapter that discusses e-marketing. He believes that to do marketing online there is a need to understand what the tools are that could support the e-market. So he used Web technology tools to teach his students how these tools play an important role in this field.

To help with practising e-learning in the classroom and to show students how the discussion worked using these technologies, Ahmed added a discussion guideline sheet used with a previous group who had joined their teacher in a Facebook Group.

Looking through the assignments, it was found that Ahmed would motivate his students to be self-directed learners by telling them to go out into the work-field and find something they were interested in to write about. He also encouraged his students to make use of the LMS by posting and uploading materials related to their subject area. Even though he does not use the LMS system a great deal, he still advises his students to do so to benefit from the technologies that are available for them that make their studies easier.

The results from eliciting Ahmed's views indicate that there was an e-learning effect on his teaching. However, it was found that on the organizational side, there was a need for more research to see how e-learning affected teaching. According to the E-learning Centre's leader, there is a lack of knowledge about the impact e-learning has on instructors, even though they see positive results from attending workshops and participating in it and practicing it. As the leader noted:

What we might be missing here at the Centre and that we have to establish, is a Research Unit. This unit will not just focus on learning activities but on all academic development because e-learning is part of the development of the faculty. The unit will monitor the impact on students and instructors. We have too many development issues, a lot of activities, but we do not have a measurement or research scale to see what the impact is on instructors. (ECL, Interview 2, 21 January, 2012).

5.3.8.4 Self-motivation is needed to use e-learning.

Ahmed believes that for staff to use these technologies, motivation is required. However, he believes that 'it has to be self-motivation that makes you want to do it, and of course there is an intrinsic motivation that can help.' Ahmed continued, 'I use e-learning and some do not use it but at the end we need to see benefits to encourage us to continue'. He believed that the age of staff members 'is not the issue; it is about the benefit or reward.'

When Ahmed had completed his response to this question (concerning the interest in e-learning in his classroom practice), Ahmed was asked about his background and skills in using and dealing with these technologies. He was silent for a moment and then answered by saying that he was knowledgeable about the web and web technology and was interested in learning new things and in knowing more about them. For example, he uses the social networks to communicate with his students, including Twitter and Facebook, as mentioned in the earlier section. He explained that:

Part of the problem you face with technology is that every day there is something new. So for someone who does not like technology, it will be very difficult to move on from one thing to another. He will stick to whatever he knows and just sit (Interview 2, 16 /01/2012).

In this research it was found that Ahmed's curiosity motivated him to discover whatever was new in technology. He declared that these teachers need to be ready for change and follow up new developments in technology in order to keep up. He added that 'next semester I am going to switch from using Twitter and Facebook to something else. I am not going to stay where I am.' Ahmed also explained that there is an important consideration here with the people who will not move and that they have a point because there is no motivation.

Self-motivation will not come to instructors directly; they need something which can encourage them. For example, the Centre leader was notified that when the university recruits instructors, one of the recruitment steps is to look into their ICT background. How much knowledge in computing do they have? How much use do they make of e-learning in their classes? The leader said that:

One of the things that comes to mind is that now Saudi instructors are required by university regulations to use computers in their teaching. The question is, how do they use them? The government promotes their use by asserting that for any Saudi instructor who uses the computer in the classroom, there is some type of incentive...The leader continued that every Saudi instructor now has to fill in a form. In this form, for example, he must

indicate how much he uses the LMS, and whether he uses online applications and similar things. (ECL, Interview 2, 21 January, 2012).

In this way, instructors who are not interested in the use of IT could be forced to utilise it. The leader said that there was a need to have people who are qualified in these matters.

In another question, Ahmed was asked whether the students encourage him to use or add new technology in the classroom and if there were other things that could increase student learning. Without pause, Ahmed responded, 'Yes they encourage me, as all the students use social media. When I use new tools, I don't face a problem as most of them are familiar with these technologies. When I use Flickr, for example, I didn't face any difficulty except in the beginning with some students who were struggling with its features but now they have become familiar with social media.' He continued that he had 'started to open a YouTube channel for his students' work and this was so great.' Ahmed was also asked about what he did to make them engage with this. He replied that 'I gave them a grade based on use and 'like' and the channel received more than 60,000 views in 5 days. This were many points of contact with the E-marketing field. The activity was good and students were excited and surely the experience had an impact on them.' Ahmed talked about something else for a few minutes, then returned to continue his answer to this question by adding, 'for one project, I asked the students to choose a chapter or part of their course and deliver it in the style of the YouTube channel.'

In the next question the researcher tried to get more detail concerning Ahmed's views concerning e-learning and to see if his background and experiences had an effect on his practice in the classroom. Was there any barrier he or any other instructor faces to delivering courses online in full or at least part of their courses? In answer to this question, Ahmed paused for a bit then responded 'When you want to

deliver any chapter solely online, you need to get approval from the university. However, nobody will stop you doing it unless there is a problem or some students start to complain' (Interview 2, 16 /01/2012).

The question was pursued and asked Ahmed whether he was interested in delivering his course or part of his course online. Further Ahmed was asked him whether the nature of his course influenced his adaptation of e-learning or not. Ahmed thought for a while then answered that he struggled with delivering content online as he believes that this is not just a matter of posting materials to the LMS. He thinks it is more than that as the discussion related to the course subject and the articles that made up the syllabus were sometimes particularly important. He had not given up the idea of delivering a chapter or part of his course online—on Twitter, for example—but he does use programmes like Twitter to refer to an article or share a link for videos as well.

5.3.8.5 Reasons to slow down the use of e-learning.

Ahmed explained that not all the students were familiar with using e-learning tools including, for example, Twitter. He continued, explaining to me why this is happening. He said that this semester he had faced a lot of dilemmas that led him to reduce his utilisation of e-learning with his students. 'The timetable was messed up, I have to teach the same course to another group, I have shifted sections and also the classes are too big.' He described his efforts:

I didn't do a good job of making students aware of Twitter and how it works. For instance, I assigned them the task of signing up to Twitter for the first time and they didn't do a good job because I didn't provide them with proper guidelines and then they were busy with something else, so it was not really successful. So today I am thinking of different ways to do that. (Interview 2, 16/01/2012).

When the researcher wanted to proceed to the next question, Ahmed stopped him and said he would like to add something. 'I also think that it is a major

assumption to think that all students know how to go about this. What we need here is to train them, to let them know how to do this work' (Interview 2, 16/01/2012). Ahmed explained that the problem sometimes with e-learning is that when the instructor becomes knowledgeable about technology and the web, he thinks that all the students know what he is doing and are of an age when they can work things out, but not everyone can do this.

Ahmed believes that there is an important aspect here which should be considered with these students. 'I would dedicate one or even two days to a workshop on how to use some of these technological tools that we need' (Interview 2, 16/01/2012). Ahmed sought to confirm the point by giving as an example what he did with his students last semester. In an introduction lasting 15-20 minutes, he gave the necessary guidelines, including video clips on how to use these technologies. However, no one watched it and Ahmed said that at the end, he had to deliver in person anyway what he had planned to communicate to the students. You still have to gather them in one place and tell them that they are not engaging with the lesson and try to explain to them again how it works, what the benefit is of doing this (Interview 2, 16/01/2012).

From the organisation's perspective, another reason that could hinder the utilisation of e-learning was the lack of staff who could train instructors in its use.

The leader of the E-learning Centre added his voice to Ahmed's and said that:

There is a difficulty in finding qualified people easily who can do the training for all the instructors and academic staff. There is also a funding issue because the qualified person or people will go for whoever can pay more and sometimes we cannot pay what they demand. What we did was to train our instructors and they trained others. And there is always a need for more staff. (ECL, Interview 2, 21 January, 2012).

The Centre leader said that the lack of qualified people who were familiar with it was the reason they could not use the Model. The university therefore decided

to continue using Blackboard as they have long experience with it and also they receive support from the company. Another important factor, he explained, was that Blackboard is integrated with the banner and in the Moodle they cannot do that without expert assistance. So they cannot change to another LMS as they need more staff and time to train all the instructors and students in the new system.

The Centre leader also believed that one of the reasons for the slowdown in the utilisation of e-learning at X University was that the training and utilisation of e-learning was not required. As a result, there were some instructors who did not attend the training programme in e-learning or who did not utilise e-learning in their teaching.

5.3.8.6 The role of socio-cultural factors.

Ahmed continued talking about the reasons for the slowdown in the utilisation of e-learning. The researcher interrupted him and asked whether he was referring to the culture they live in. Ahmed replied ‘yes’ and then explained that the style in which these students were taught may have an impact on their performance. As he pointed out, ‘the approach that we have traditionally been trained to use depended on the instructor a lot (it was one-sided), and this meant that they were unfamiliar with the new things in what we are doing.’ As an example, he said that he worked with students a lot online and employed other means of communication, including unified email as a Google group. He used it with his students, sending emails to them, asking them to fill in an Excel worksheet using Google docs. However, he found that not everyone checked their email. Sometimes they did not do so for three days and that seemed to him very unusual. He also indicated that not all students were interested in using these technologies. Thus there is a need to tell them what the benefits of using them are.

The leader of the E-learning Centre saw the impact of Saudi culture on using e-learning from a different angle. The leader believed that Saudi culture is changing now and they have developed too many online courses which they are now using as supplementary. He believed that one day they might use them for an online degree. As the culture is changing now, there is some pressure for having women at the university. This is another initiative that the university is now thinking about. The Centre leader said 'Our culture now is more modernized, more educated. Look at our generation right now, they are fast using the Internet, even faster than they are in developed countries.' (ECL, Interview 2, 21 January, 2012).

He continued, adding an example of how the cultural change could affect the utilisation of e-learning. There was a mathematics course, for instance, which was taught the students through the use of LMS WebCT and the instructors would provide activities and examples for students through the LMS. At that time there was a new instructor who had just become a lecturer and he knew nothing about e-learning or how to use those technologies. This instructor was excellent in his field and the students who used the LMS in their other courses expected him to use it and asked him to upload the materials to the WebCT or send emails. In effect, they forced him to use the technology. So it is a matter of culture and the culture has changed. To illustrate, the Centre leader gave another example of cultural change:

I will tell you something. If you had talked about e-learning in 2003, they would not have understood what you were talking about. Now, every university in the Kingdom shows initiative in e-learning and all of them have established an E-learning Centre. So the culture has changed, even throughout the entire world. And the Internet has shaped the whole education system. (ECL, Interview 2, 21 January, 2012).

In the last question in the first part of this interview, Ahmed was asked about his pedagogical views (the way of teaching) and whether that influenced his adoption of e-learning or not. The responses provided by Ahmed were based on his beliefs

about the content he is teaching, and on the classroom experiences he has had. These beliefs will change over time with more practice in the classroom. Ahmed's views of e-learning have influenced his practice in the classroom as he found himself interested in having discussions with students about the use of technology. He likes to encourage his students to go beyond the text by searching for foreign articles, listening to the examples students discover and, as he said, 'that makes me feel encouraged.' Ahmed focuses on the importance of the discussion aspect between him and his students, saying that 'discussion is an important part of knowledge.' He indicated that these discussions took place both inside and outside the classroom using e-learning technologies.

Teachers' attitudes and their unwillingness to use e-learning tools are considered the reason for the slowdown in the utilisation of e-learning. The leader of the E-learning Centre indicated that:

we have developed courses and made them available online through the LMS so that Blackboard and these courses will be available for the students. And the students want to use them but sometimes you will find instructors who do not want to implement them as they don't believe in them. So we would like to see instructors who make use of these things. (ECL, Interview 2, 21 January, 2012).

5.3.8.7 New theory of e-learning.

Ahmed was asked whether or not there is a need to adopt new theory when he teaches using e-learning. He does not have an easy answer to the question and indicates that he is willing to do more with his students as they use e-learning. For example, he would like to deliver some chapters or sections of the content fully online by asking his students not to attend class one day.

He tries to provide opportunities for his students to learn and try new things that they are interested in. Ahmed believes that the use of e-learning is based on the

experiences and background of the instructor which differ from one instructor to another. This research does not aim to find out what is right or wrong but to explore how instructors' beliefs shape their practice. Ahmed continued by emphasising the importance of giving more opportunity for students to learn by offering at least one lesson every month fully online and for instructors to deliver some chapters fully online as blended learning. There is also a need to allow more time for both students and instructors to implement this kind of learning. Not all stakeholders accept it because, as Ahmed said, 'in the past, in our culture, some have the idea that allowing students to study online represents lower quality and this attitude may still affect our adoption of e-learning.'

5.3.9 Section Two: Practice.

In this part of the interview Ahmed was asked to describe the practices he applied with his students inside and outside the classroom using e-learning technologies in order to maximise student learning. Even with more questions, he tries to do all he can with students to implement e-learning technologies. There is clear evidence throughout this interview and in my observation of his classes that Ahmed wants to encourage his students to learn in a variety of ways to increase and direct their experience with these technologies. In his response to this question, Ahmed replied that he used different tools, starting with Twitter and Facebook, and he aimed to keep in touch with students and share with them anything related to the subject they were studying, including articles, and discussing things whenever possible. He uses these web technologies as supplementary tools.

The researcher followed up by asking Ahmed whether he was developing online courses. He replied that he felt confident that what he provides his students is good enough as he does not have much time to spend on developing e-courses, even

though the E-learning Centre had asked him to develop them. Again Ahmed explained the importance of the discussion aspect, the interaction between him and his students and remarked, 'I do not want the traditional approach to totally disappear and also do not want us to spend too much time on utilising Web 2 technologies. So I think blended learning will be ideal but it will take some time to prepare staff and materials.'

Ahmed explained that there are a lot of things one can use e-learning technology for with students. For instance, giving students an assignment that they will love encourages them to tackle it. As one of his students commented, 'these assignments you gave us can't be copied and I am interested in them.' Ahmed realises that we live in the age of technology, with a wide variety of entertainment, and education too is changing, the people themselves are changing and there is a need to cope with that by putting in more effort because e-learning will not be a choice any more.

In the first part of this interview, Ahmed described his interest in using e-learning technologies and his background in them. To this question about how e-learning has altered his teaching practice in his role as a lecturer and in his interactions with students, he gave a similar response to the one he gave in the first part of the interview. This time, he described in detail how his belief in these different technologies has affected his practice in the classroom. 'I learned a lot from these different tools as I used them more and they have helped me learn more and teach better.'

As an example, he spoke of his participation in two 'TED talks' in two different cities in Saudi Arabia in the education field. He explained that it was a wonderful experience when you do something interesting and you want other people

to know about it and about you as well, as there are people who did great things but nobody knew about them unless they got involved in public speaking or shared their ideas with others. ‘The feedback I got through emails regarding the TED talks from both my students and colleagues has encouraged me to continue with what I am doing, and also provoked me to think about how I operate in the classroom, and what I should and shouldn’t do.’

It was found that what Ahmed said about the readiness of teachers to use e-learning—their attitudes, knowledge and experience as instructors—conforms to what the leader of the E-learning Centre said in regard to these matters. As the leader noted, only people who are concerned about education and teaching and about their students are able to make that change by themselves. The Centre leader also spoke of some instructors who use only one method in their teaching. As an example, he mentioned that there were instructors who use PowerPoint but do not want to go beyond that to take the time and trouble to learn to use other tools. This is especially true of engineers and scientists, who put their efforts into producing scientific or research papers in order to win promotion.

He continued by saying that these instructors do not want to put effort into developing something interactive with e-learning or engaging in the workshops if this is not going to help them gain promotion.

Ahmed was asked to describe how he knows when learning is occurring in his classroom. He replied that this is not always easy. However, he checks learning using a Twitter comprehension report, where he asks his students to provide him with a paragraph about what they have learned from Twitter, whether from the content shared through the ‘Hash Tag’ or through their explorations into other areas. The aim is not to absorb content or chapters, but rather to learn by exploration and

discovery and gain skills in the process. He continued that when students come to him and ask him to repeat the same type of assignment to meet another requirement, that tells him that the students enjoyed doing the assignment and learned from it. However, he admitted that exam performance does not always reflect well. He said that there were various reasons for that, including the level of each student as some of them are highly active in e-learning and others are not. It also depends on how the instructor implements e-learning activities with his students and how good the discussion led by the instructor is. He added that:

I am not focusing on the content. I am focusing on the outside stuff like sharing articles and other things. The content in the class is in the text book but I want them to go beyond this. At the end, you want the students to learn how to learn and how they can study for themselves. (Interview 2, 16 January, 2012).

5.3.9.1 Class Observation.

In order to triangulate the data, on 25 December, 2011 at 8:30 a.m. Ahmed's class has observed to examine the relationship between the teacher's beliefs concerning e-learning and his practice in the classroom. It began with a brief introduction by Ahmed as he reminded students that the researcher had been at X University last year and was now following up the data collection for my research. The researcher has asked students if they had any problem with taking their photos and recording some video clips while the researcher observed their class and the students were happy to allow that.

The Marketing course (MKT 301) was the same one that Ahmed taught last year. The class was full with 25 students and Ahmed began his lesson by checking the students' attendance using his iPad. He then presented slides on the projector. It was noticed that Ahmed was using western advertisements with his students, asking them to compare them with Saudi equivalents or the Arab world in general. While

Ahmed was teaching his lesson, it was noticed that some students were not engaged with the other students. Ahmed also noticed this and went to them to encourage them to participate, walking around between the students to gain their attention. As an example, Ahmed showed the class a coupon and asked the students to give their perspectives on it. In his lesson, he provided different examples from daily life and matters that interested them to get his students to engage with him and understand the lesson.

The researcher found the way Ahmed practised e-learning in his class amazing and interesting and noted the close relationship between what he did with his students inside the class and his beliefs about using e-learning. It was noticed that in his presentation he had included various well designed slides and noticed that students were using their iPad devices to find examples on YouTube related to their topic in order to share it with the other students and their instructor.

Ahmed would also draw on personal experience by telling a story that had happened to him when he was in the USA, to get the content across to his students. At 9:20 a.m., Ahmed surprised me when he asked his students to stand up for 2 minutes and asked them if anyone needed a coffee, otherwise they could sit down again. The point was simply to let them refresh their minds.

Various activities were included in this class. For example, Ahmed asked his students to do an assignment by going to the market and taking 100 images there and then uploading them to Flickr, just to help them see the potential of the technology. He also asked his students to do a sales project, selling anything that they did not want. He asked them first to make an advertisement for the item and then ask someone to video them while selling their goods to others, and then upload the results to Flickr or YouTube. Ahmed's aim was to let his students understand

promotion in marketing. At the end of this lesson, Ahmed opened a discussion and asked his students to give examples, stories and other things that students liked and found interesting.

Overall, the researcher found that Ahmed drew on his experience, knowledge and beliefs in his class and that was reflected in excellent practice in e-learning. The interaction with students was high and students were actively involved in providing examples using e-learning tools, including their iPads as well. Ahmed's performance in his class was linked to the learning goals or objectives.

5.3.10 TPI questionnaire.

The researcher conducted the Teaching Perspectives Inventory (TPI), a questionnaire available at www.TeachingPerspectives.com, with the four instructors who made up the target group of this research, to measure their views on the five different approaches to what it means 'to teach.' This section describes the results of the data that was gathered and an analysis of Ahmed's responses to the three main TPI items, including beliefs, intentions, and actions toward e-learning.

The questionnaire (see Appendix 9) was used only with those four instructors who participated in this research in relation to four different subjects. The results presented in this section give a brief description of their practice of e-learning in the classroom.

It was found that Ahmed's primary teaching responsibilities were with students at the undergraduate level. He has been teaching for around 4 years but his adoption of e-learning began earlier.

The results of the TPI questionnaire conducted with Ahmed showed that there was little variation in scoring among his five perspectives that included transmission, apprenticeship, development, nurturing, and social reform, as they had the same high

scores with a maximum of 45. For internal consistency, including belief, intention and action, Ahmed's scores were also high.

5.3.10.1 Transmission.

Ahmed strongly believes that learning is enhanced by having predetermined objectives. He does not think that learning depends on what one already knows. He believes that teaching is a moral act as much as an intellectual activity. As a result, Ahmed believes strongly in his subject area, about the content of marketing he teaches, and he understands what his students want.

5.3.10.2 Apprenticeship.

Ahmed believes that effective teaching is a process of socialising students into new behavioural norms and ways of working. As the results showed, he usually expects his students to know how to apply the subject matter in real-life settings and also how to develop new ways of reasoning about the subject. It was found Ahmed's actions in class with his students are based on this belief. An example is the project mentioned earlier where he asked his students to sell something of their own and make an advertisement for things for other people to see them. This kind of project was an example of Ahmed's belief that students should experience a real-life setting, communicate with others and discuss with people, asking and answering questions etc. Activities like these put students in the socialising mode. Ahmed wants his students to understand the realities of working in the real world.

5.3.10.3 Developmental.

Ahmed believes that effective teaching must be planned and conducted from the learner's point of view. It was found Ahmed contributed to his students, especially when he used new technology or asked them to share their knowledge with others as he did with the TED Talk or used Facebook or Twitter. The primary aim was to

support and help these students develop increasingly complex and sophisticated cognitive structures for comprehending the content. In this questionnaire It was found that the key to changing those structures lies in a combination of two skills, including effective questioning that challenged students to move from relatively simple to more complex forms of thinking. This is what Ahmed was doing with his students as he wanted them to see how complex and interrelated things really are. And the second skill is ‘bridging knowledge’ which provides examples that are meaningful to the learner.

5.3.10.4 Nurturing.

Ahmed strongly believes that effective teaching presumes that long-term, hard, persistent effort to achieve comes from the heart, not the head. When students believe in something and are interested in it, their performance can improve and this is what Ahmed achieved with his students. He motivated them and encouraged them and even attracted them by using and applying different examples from real life and also asked them to bring their examples to share with other students. Ahmed was keen to practice e-learning with his students in the ways that appealed to them. He usually helped his students set challenging but achievable goals and supported their efforts and achievements.

5.3.10.5 Social reform.

It was found that Ahmed usually covered the required content accurately and in the allotted time and as already pointed out, he linked the subject matter with real settings of practice or application.

5.4 Case Two: Dr. Saud - Part One: Teacher Two and His Web-Enhanced Course—Computer Science and E-learning

5.4.1 Pedagogical Dimension.

The semi-structured interview with Saud, a computer science teacher, was conducted in his office at X University on 27 December, 2010. To understand how teachers have adopted e-learning and whether the practice suits their students' needs, Saud was asked to illustrate his experience as an early adopter of e-learning. He remarked that 'at X University full face-to-face lecturing remains the norm and e-learning is used for supporting material. The X University started first with WebCT and now includes Blackboard' (Interview 1, 27 December, 2010).

5.4.1.1 How effective the interaction was.

Shifting from the traditional mode of teaching to the modern, Saud uses several types of ICT tools with his students to communicate with them and deliver his subject. He uses WebCT (LMS), Centra (a software web conferencing system) and Google Docs as a Wiki. Through WebCT, Saud makes announcements and distributes supplementary resources and the students always submit their assignments through WebCT. Saud uses it to announce homework, post exam results and mark significant days in the calendar. He asks students to use email when they have specific questions they do not want their colleagues to see:

For purposes of interaction, this works really well. For example, the students ask their questions by posting them on the discussion forum and I respond to them. I usually check email several times a day. In addition, the students' colleagues benefit by the same questions and sometimes they respond also. So it has all improved interaction between students and students (Saud, Interview 1, 27 December, 2010).

The interaction has also greatly enhanced communication between the students and their instructors. Saud was aware of the benefits he would gain from the interaction and the improvement for the students when they interact with each other:

I always ask my students to take part and participate. I told my students that WebCT is like a virtual office. You can find me anytime you want me. All you have to do if you have a question is to ask. Post it on the discussion forum and I will respond (Interview 1, 27 December, 2010).

When asked how many times he checks the class forum, Saud replied, 'I check usually several times a day. In addition, students' colleagues can benefit from the same questions and sometimes they respond too (Interview 1, 27 December, 2010).

In order to triangulate the data resources and obtain in-depth information, Saud's class was observed to investigate the interaction between him and his students. In this course,⁵ the students were required to learn about the following:

Introduction to computer organization, octal and hexadecimal number systems, ASCII codes, assembly language programming, instruction formats and types, memory and I/O instructions, arithmetical instructions, addressing modes, stack operations, and interrupts; ALU design, RTL, microprogramming, and hardwired control design; practice of assembly language programming. Prerequisites for this course include COE 202 and ICS 102 (teacher's webpage, 2010).

The researcher attended a full one-hour class, which comprised 15 students. Saud introduced the researcher to his students and the researcher received permission from Saud and his students to take photos while he taught the class. Saud logged into his account in WebCT to download the presentation, as the network was provided in each classroom. He gave his lesson using animation in the presentation and wrote notes and explanations on the whiteboard to clarify some of the slides he had used. It was observed that only two students took notes and four brought books or notebooks. The teacher did not provide hand-outs or text books before or after the lesson. The software and materials used in the class were PowerPoint slides, two whiteboards and a projector.

⁵ The course Saud was teaching was COE 205 Computer Organization and Assembly Language.

5.4.2 Technological dimension.

5.4.2.1 *Issues with fully online lesson.*

Saud tried several times to implement e-learning with his students, for example, using Centra Live in the makeup class.

Instead of having students come to the evening class from different cities, I met with them through the network and it worked fine. I also tried it another time, recording a question as part of my course plan for self-directed learning. With one unit, I asked students to study the question, write their reflections and then discuss it online. And the third time I used searching concepts that I felt were difficult in their subject to understand, so I explained the unit, recorded it and asked the students to download it (Interview 1, 27 December, 2010).

However, Saud indicated that the students encountered some difficulties when they tried to download materials or contact their teacher. For example, the available bandwidth did not allow them to download movies. Saud used it for one semester and then stopped. ‘Actually, I tried to raise this issue with the E-learning Centre but, due to the lack of staff, the issue was not resolved even though I found it a very useful tool’ (Interview 1, 27 December, 2010).

Saud was asked about the Internet, as well as the additional technologies that would be needed to deliver the learning objectives (CDs, DVDs, podcasts, teleconferences, web and video conferences, whiteboard). Saud explained that the E-learning Centre would have to adopt synchronous communication tools, including Centra, which would be more useful and have better bandwidth. In addition, ‘maybe using a smartphone Clickers app to get student feedback will be helpful and also Smart Boards can be a great help.’ (Interview 1, 27 December, 2010).

5.4.3 Interface design dimension.

For developing and designing e-courses (instructional design), a company worked for X University to develop the e-learning material and the faculty supplies its information and collaborates with the company to ensure the proper development of the e-content.

Saud was asked if special steps should be taken when designing e-courses to fit all cultures. He indicated that he does not need to do anything special because he treats the students equally. This is particularly the case for science and engineering courses, because the nature of these subjects is more practical than theoretical and the students are treated as equals (Interview 1, 27 December, 2010).

5.4.4 Evaluation Dimension.

5.4.4.1 Assessment.

Saud believes that assessment is an important process that can assist students in their learning. He attempted to link this with his course objectives:

Students are asked to write unit reflections summarising what they have learned in each unit and pointing out difficult or unclear concepts about which they can ask questions. I am very keen to have such feedback from my students to enhance teaching and learning in my subject area. As a result, I have developed the assessment into four parts (Interview 1, 27 December, 2010).

Table 5.10.

Types of Assessment that Saud Used with His Students

Assessment	
Unit reflection	5 point question
After each unit, to check if they have any misconceptions students are asked to write a reflection about what they learned from this unit.	The teacher uses this method to increase interaction and employs WebCT to make students work outside class.
After they post this reflection,	Each student can get the 5 points by

students are questioned about some concepts that the teacher covered to ensure they understand.	writing and reporting, even if the answer is wrong. In this case, they will be asked to rewrite and report again.
Assignment	Exams
The assignment is posted to WebCT and there are submission requirements. The grades give the teacher the ability to comment on student assignments and the students can comment on their assignments.	Before each exam, the teacher posts the previous exam to WebCT, with solutions, and asks the students to study them and ask questions. If something is not clear, the teacher or colleagues can clarify.

Saud aimed to implement the assessment with his students as follows:

I want to motivate them but I want them to interact also and this really works well. The students learn from each other by sharing answers together or working as groups to solve questions. For each question that they have been asked, they answer, they get half a point in either category for reflections or half a point for questions in class, so they accumulate 5%. Students can get up to 7% if they are active and get the assignment in on time. So the 2% becomes a bonus (Interview 1, 27 December, 2010).

Saud requires that his students complete assignments for each unit he teaches.

In addition, he posts solutions to previous exams in WebCT to allow students to learn from their mistakes. If something is not clear, they can ask their teacher or colleagues to clarify.

Saud indicated that there was time for questions and answers after each part of the lesson so that he could ensure that students understood what he was talking about. However, only two or three students gave answers when he asked questions. Ten minutes before the end of the lesson, Saud asked the students to summarise what they had learned. In addition, he tried to link their summary to the objectives of his lesson. At the end, he repeated what he had talked about during the lesson.

5.4.5 Resource support dimension.

5.4.5.1 How e-courses are supported.

Saud was asked about how he solved technical issues and whether he solves them by himself or requests assistance from his colleagues or the E-learning Centre.

Usually technical problems mean there is a problem with the system for me. In this case, we send an email request to the person responsible through WebCT master and they take care of it. We have two types of service group, one from the E-learning Centre and the other from the information technology centre. But all depends on the type of problems that need solving (Interview 1, 27 December, 2010).

5.4.6 Online community.

The researcher asked Saud whether he was involved in an online community and how he involved his students and colleagues:

On the students' side, there is an interaction space on WebCT, which I believe provides a good online community for students. And on the instructors' side, X University has established an online community to encourage instructors, whether they are from the same field or in other fields, to communicate with each other, participate in certain matters, share experiences, etc. This community usually meets at the beginning of each year (Interview 1, 27 December, 2010).

Saud described a workshop that X University had established, called Sharing Experience Workshops, and asked instructors who attended any courses, workshops or seminars to record and apply what they had learned. People then shared their presentations and experiences. However, Saud only participated in a minor way and did not continue with the online community because 'only a few instructors were active in the interactions of the online community and the university system was still mainly face-to-face. There is already an online community at WebCT and communication is carried out through its channels' (Interview 1, 27 December, 2010).

5.4.7 Ethical dimension.

5.4.7.1 Culture and language issues with instructional design.

Regarding the conditions needed to design e-courses to suit a variety of students, Saud did not have any language or cultural difficulties teaching students, whether national or international. Besides, all students had an English language background, as they have to pass the orientation year which is conducted in English, except for the Islamic subjects. However, there were students from around the country with different cultures and accents, all of whom were prepared in the first year of their study to cope with university roles and strategies. However, Saud indicated that ‘Sometimes the undergraduate students make spelling mistakes in English. This is a good opportunity for them to learn. At the graduate level, there are international students from different cultures but we don’t face any problem with that’ (Interview 1, 27 December, 2010).

5.4.8 Institutional dimension.

5.4.8.1 Faculty and staff support.

Saud has tried several LMS’s, including Moodle, as the university prepared an e-learning workshop and offered to conduct a two-week online course:

The instructors who were involved in that course saw how they functioned as students in such an environment, where they learned how the instructor manages the course. Actually, this was where I learned about reflection from the teacher and that was really nice. (Saud, Interview 1, 27 December, 2010).

Saud explained that Moodle was easy to use:

I didn’t have to read anything and could just jump into Moodle and use it, so it’s the same as any other LMS. Once you use one, it will help you use many other LMS’s. So, the LMS must be used by all as it is necessary and there is no longer any other option. Some, for example, use their web pages but it’s not the same. (Interview 1, 27 December, 2010).

Instructors do not need to put much effort into the LMS, as everything is already set up, including what is needed for interactions between teachers and

students, and a facility allows students to update their information and upload their photos.

I ask them to update their information and upload their pictures at the beginning of the class so I can become familiar with them and have contact information if I need to get in touch with them for any reason. It works well (Interview 1, 27 December, 2010).

With regards to allowing his students to use the Internet to explore and benefit from other online resources related to the subject area, Saud said that ‘I try to take advantage of any useful resource that I can find, especially illustrating with uploaded animations, and I add the link for the students.’ (Interview 1, 27 December, 2010).

5.4.8.2 Institutional—PD.

Saud participates in most workshops and seminars and helps to give workshops, which include sharing experiences with other academic staff members regarding e-learning. The E-learning Centre at X University provides these workshops each semester and around 88% now use WebCT. Saud attended two seminars, first, to learn WebCT, and secondly, to ensure he was familiar with it. Workshops, including some on blended learning, are always provided by the E-learning Centre to encourage the faculty to use e-learning by rewarding them for improvement. ‘I won the first Instructional Technology Award last year, 2009. The E-learning Centre also motivates the academic staff by providing a package for developing or designing online courses (Interview 1, 27 December, 2010).

5.4.8.3 Institutional—workload, class size and compensation.

This is a sensitive issue because of the high number of students in the classroom (usually around 20 students). In the previous semester, Saud taught a programming course with around 32 students, which was difficult. When you have this number of students, it’s really hard to communicate and interact with them and respond to their

questions. So we always recommend the class should be 20 students to have more chances to communicate with them (Interview 1, 27 December, 2010).

5.4.8.4 Institutional, student services—students' backgrounds in e-learning.

Ten students agreed to participate in this study. The researcher welcomed them and thanked them for allowing him to hear their perspectives about e-learning. First, he asked them about their backgrounds regarding e-learning, such as whether they had attended any training programmes, workshops or orientation from the E-learning Centre.

To get an idea of the benefits that the students obtain from e-learning, students were asked what they did and did not like about it. Their answers showed that:

- With WebCT, it is easy to communicate with instructors.
- It is easy to communicate with students.
- It is useful for asking questions and getting responses and it saves students' time because they do not have to go to the teachers' offices (focus group 1, 29 December, 2010).

5.4.8.5 Institutional, administrative affairs, marketing admissions—advertisement of e-learning, issues within the university.

Social networks play an important role in the marketing world and most companies and educational institutions use them to advertise. There is a lack of attention, however, given to the importance of these factors in increasing e-learning capabilities within the university and outside the region. The university needs to demonstrate this technology to others through common Web 2 channels, including Facebook, Twitter and Flickr. Student (A) noticed that:

5.4.8.7 Institutional, student services—library support.

The system used in X University's library needs more work to be suitable for student needs, as they often require a soft copy or a copy through the Internet. More attention should be given to reports, magazines and journal articles. The students want to take advantage of their iPads, iPhones and other modern devices to access the library and download items because they occasionally do not have time to go to the library to do these things manually (focus group 1, 29 December, 2010).

5.4.9 Part Two: Section One: (Teachers' Views).

The semi-structured interview with Saud, the computer science teacher, was conducted in his office at the university. He was informed earlier about this interview so was ready for the meeting. In the first section of the interview, which was about teachers' views, he was asked to elaborate why he became interested and involved in e-learning in his classroom practice. Saud answered the first question by stressing the importance of e-learning (blended learning) as he believed that there are aspects of it that make it easier for students to make the information their own when they listen to a lecture or when they read the materials online by themselves. However, sometimes there is a need to spend more time with students in the classroom as some courses need more time face-to-face. Saud is convinced that e-learning can be a great tool in addition to face-to-face contact and he illustrated the importance of striking a balance.

If you go to the face-to-face class and cover all the material, this is not the most effective way. On the other hand, if you make the material fully available online to the students, the whole burden is on them. Of course there is discussion and the best way is to strike a balance. Let them take advantage of things they can learn on their own and then spend more time on the things that need more time face-to-face. (Interview 2, 4 January, 2012).

Saud spoke further about how he started using e-learning, explaining that when the university began using e-learning at that time, it was only experimental and

was not done properly. The university started to use blended learning, which included some classes fully online and some face-to-face courses. The implementation of blended learning was carried out with students who were taking a 200 level course as it was the first course in their major area. Saud recounted that all the materials for these courses were developed and uploaded to the university website in the LMS and the students could refer to them whenever they needed to. The implementation of blended learning in these courses was performed only once, then was stopped, because when e-learning was first used at the university, teachers had no experience how to teach online. They had no experience in how to activate discussions with students regarding the materials that they uploaded to the LMS.

Later on, the university developed online content and materials for most of the courses taught at the university and uploaded them to the LMS. However, what was uploaded was used as supporting material. Nevertheless, Saud indicated that teachers become involved with e-learning by using the discussion aspect with students. They also have access to the materials and applied animations to it. Saud spoke of his experience and the background that could be gained with training. He told that he had attended various workshops on e-learning and had learned how to interact with students and what activities he could use with them to attract them to his course.

The interviewer followed up by asking if there were any essential e-learning skills that he believed a lecturer needed. Following up on his previous answer, Saud said he believed that IT skills are needed and teachers should be trained, particularly in how to use the LMS effectively. However, he maintained that even this was not enough as he believed that it is more important to take advantage of technological knowhow in learning. Saud paused for a bit, and then said:

For example, we attended one fully online course for two weeks as a workshop at some university overseas. This was very useful as we found ourselves in the students' shoes and saw the benefits, how the instructor was able to interact with students and answer the questions that she/he asked them and how she/he focused on the key points when she/he answered a question. So the faculty need to learn how to manage their time, how to respond. These skills are very important. Otherwise, if instructors do not know how to do it correctly, they might encounter problems and then they retreat into their own style. (Interview 2, 4 January, 2012).

Saud has described two important points first, evaluation for instructors and secondly, workshops that were provided to instructors at X University.

And for the second point, about the workshops that were provided by the E-learning Centre at the university to the instructors, these were not compulsory, as instructors have the choice not to use e-learning in their daily teaching. And although using e-learning was the policy of the university, it did not allow the E-learning Centre to require departments or instructors to use e-learning. However, the E-learning Centre did announce it and all the instructors were aware of it, as they have a systematic way every year of providing workshops every semester on Blackboard and Centra and they also ask instructors to provide their experiences and participate with their colleagues to show how they implemented e-learning in their teaching. The leader continued to explain that right now they are doing training in web technology, blended learning and mobile learning.

Saud mentioned an important factor from his viewpoint which was 'carrying out evaluations for instructors.' The university provided ongoing workshops for all instructors but these workshops were not compulsory.

You can't ask the instructor to do interactive learning and critical thinking without it being reflected in his evaluation. I have one instructor who said that he attended this workshop, applied the technique that explained in the workshop but the outcomes was not that good as some students don't understand and they need their instructor to explain it to them. (Interview 2, 4 January, 2012).

With regards to the previous question about experience and background, it was found that Saud did not believe these had a major effect on the use of e-learning. He believed that what might affect the use of e-learning was the motivation of the instructor and his willingness to use it.

5.4.9.1 Motivation to use e-learning.

Saud was asked if he thought students could motivate the instructor to use e-learning and provide good suggestions for their class. Saud agreed that students can play an important role as e-learning does not centre on the instructor.

For example, I asked the students to help their colleagues and I rewarded them for this so e-learning is not instructor centred, and it also helps in managing your time. I remember using a wiki as there was a difficult topic in the course so I said to them, let's create a wiki and all participate. Of course involving students to use technologies will help them in their learning. (Interview 2, 4 January, 2012).

5.4.9.2 The role of socio-culture.

Saud does not believe that Saudi culture affects or even shapes any issues when e-learning is used as most people now use the Internet and these new technologies.

For this question, the researcher tried to understand if the nature of the content could influence the adoption of e-learning. Saud believed that if the content was well designed and, for example, drew on animation that would help facilitate understanding the content easily. Saud recounted his experience.

For example, once I developed animation for the course I found it extremely helpful as you can explain the concept and the students know how to proceed. Definitely, if you have your content well done online, this will be a huge benefit. To me e-learning is the interaction between me and my students. (Interview 2, 4 January, 2012).

5.4.9.3 New theory of e-learning.

Saud believes that with e-learning there is a need for a new theory as everyone uses what he uses, and attending the workshop and the benefit gained from it will improve the use of e-learning and developing one's own style and content.

5.4.10 Section Two: (Practice).

In this section of the interview with Saud, the researcher tried to find out the relationship between his views concerning e-learning and his practice of it in the classroom. In the first question Saud was asked whether he has developed online courses before or taught using e-learning tools. Saud indicated that he had developed an online course to be uploaded through the LMS. All the materials for that course were available online and students could refer to it at any time. However, this course was not taught fully online as it was used as support for face-to-face teaching.

The question was restated to allow Saud to formulate a more in-depth response. He said that with online materials that can be taught with the use of online tools including Centra, students gain greater advantages. He expanded on this in the example he provided.

I used Centra where the application of this technology allowed you to have a virtual class with students. Whenever I have a makeup class, usually at night, instead of asking students to come from the various different cities where they live, I used Centra. I recorded myself, then uploaded it to Centra, using it as a supplementary tool. I tried to appeal to my students by using animation, developed to explain some aspect of the classroom content and I found it beneficial for students and increased the interaction with them. This is how we do it. (Interview 2, 4 January, 2012).

The E-learning Centre leader's perspective coincides with Saud's views of the benefits and advantages of teaching some courses fully online. The Centre leader was confident that the online courses they had developed could serve and benefit the students who study part-time at X University.

We have here in our graduate school a high percentage of part-timers who come from Al-Jobail city. They are having a hard time and e-learning is meant to make things easy and accessible for people. If you have at least 10 part-time students, I think it might help a lot. They will use their online course more so we are adopting this idea from last year. We also have many students from various places, including the Aramco company, AlJobail as well as other places and if these courses developed online were delivered fully online, it would help them a lot. (ECL, Interview 2, 21 January, 2012).

However, Saud continued to talk about the dilemmas that could slow down the use of these e-learning tools as he explained what issues, such as the low quality of bandwidth, hindered students from downloading videos, for example.

Saud was also asked about his role as a lecturer, particularly if e-learning had changed his practice. In his response he stated that in the classroom his use of e-learning tools allowed him to focus more on the interaction aspect and increase the students' motivation. Saud gave one example about how he used these technologies:

I took one topic from the course and told them, 'these are the materials you need for this topic.' I didn't teach it in class but asked the students to study it on their own and we would then discuss it through the e-learning tools (class forum). I found this worked better than when I taught them in the class face-to-face. I have done this for several years now. I am a believer in this approach. (Interview 2, 4 January, 2012).

5.4.10.1 Organization and change.

Saud believed that with the blended learning approach there are a lot of benefits. However, the practice of e-learning, he believed, needed more support from the university itself. It was necessary for the administrative level to believe in the benefits of e-learning, particularly blended learning. Saud is convinced that it is essential for pedagogic belief in the value of blended learning to be spread among the university faculty and academic staff and enough expertise acquired to implement it university wide. He continued that there is a need to provide training for administrative levels about e-learning.

Saud explained that the practice of e-learning with Arabic subjects, including Islamic subjects for example, is different as the nature of these courses depends on discussion. With these subjects, if you want to learn you have to discuss.

When I was a student you went to class and came out of class without having gained anything and you didn't care. At the end of the course you had to memorise the book to get a good mark (A+) in the exam—that is it, I didn't learn anything. This is not the way. But here with e-learning it will make

sense, it will be effective, and will be more beneficial to do this. Same thing if you look at the orientation year; the first year for students at the university, you have a large number of students every year—around 2000 students—and you have to teach them English skills. If you do this using blended learning, it will be more effective. You can search for resources and you have to start by showing students the benefits and how it is effective. Then you can spread this approach university wide. (Interview 2, 4 January, 2012).

Saud was asked whether he knew if student learning was occurring in the classroom. Saud replied that in various ways, including their interaction and performance in the quizzes, he knew they were learning.

I recall a funny example about one student. I asked about seven different questions requiring students to follow a variety of instructions and so on and all the students began answering them. There was one student who did the assignment quickly and I was wondering how he managed it so I asked him. He explained that one of the graduate students had helped him and I told him that was fine if he had learned from that help. Then, when I marked the exam, he got the lowest grade. So, I realised that he was cheating as I knew his real level. (Interview 2, 4 January, 2012).

5.4.10.2 Class Observation.

When observing Saud's class, the researcher wanted to learn the relationship between views on e-learning and his practice in the classroom, whether his beliefs affected his practice or not. The classroom was equipped with a digital projector, screen, white board and disk computer for the instructor and his 10 students. The visit started with Saud introducing me to the students, then Saud began his review lesson illustrated with PowerPoint slides.

He illustrated his lesson by going through each slide and explaining it, encouraging interaction between him and his students by asking questions after each slide. There was not much of it, however, and it was saw that the lesson Saud had given his students was heavy on numbers and codes. It was observed that some students showed little interest as they were busy with something else. Saud was limited by the nature of his material. He could not add, for example, an animation or

YouTube or even pictures. As a result, the style of delivering his content was traditional.

There were no activities included in this lesson, as it was the end of the term. At the end of the class, the instructor asked the students to go online for more information and explanation about the lesson that he provided, as the instructors had prepared materials and uploaded it to the LMS.

5.4.11 TPI Questionnaire.

With a view to triangulating the data gathered from Saud, the researcher used the standard questionnaire (TPI) to measure the instructor's perspectives on belief, intention and action in e-learning.

5.4.11.1 Transmission - What do you believe about teaching (beliefs)?

It was found that Saud's philosophy of teaching was based on this view (transmission). Saud's belief score was high (B: 14). From this perspective, Saud strongly agreed that effective teaching required a substantial commitment to the content or subject matter. From the results of this questionnaire, Saud was very confident that learning is enhanced when the teacher has predetermined objectives. He also believed firmly that instructors should be virtuoso performers and expert in their subject matter. He was not interested in thinking about societal change but wanted to focus on the individual learner.

5.4.11.2 What do you try to accomplish in your instruction (intentions)?

In his teaching, Saud does not focus on preparing students for examinations. However, he wants his students to get high scores on their examinations. His intent is to demonstrate how to perform or work in real-life situations. The results of this questionnaire showed that Saud wanted his students to see how complex and interrelated things are in the real world.

5.4.11.3 What do you do when teaching (actions)?

Saud was committed to covering the required content accurately and in the allotted time, as he believed that good instructors make efficient use of class time. In his classroom he usually links subject matter with real-life settings of practice or application. And he typically encourages his students in their performance and contributions inside the classroom. Saud would try to deal with misunderstandings, answer questions, correct errors, provide reviews summarising what had been presented, directing students to appropriate resources. He believes that an instructor good at transmission is a memorable presenter of his content.

Overall, the results indicated that Saud's beliefs did influence his practice in the classroom as the score was nearly the same (B: 15, A: 14). This means there was high internal consistency as the results corroborate each other. At the same time, his score for intention fell well short of these two scores by 3-4 points (I: 11). This means that inconsistencies may exist that need to be considered.

5.5 Case Three: Dr. Morad - Part One: Teacher Three and His Web-Enhanced Course—Mechanical Engineering and E-learning

5.5.1 Pedagogical dimension.

Morad, the engineering instructor, was interviewed for one and a half hours 2 weeks before the exams started. The interview opened by asking him about the ways in which instructors at X University used e-learning. He said that the use of e-learning depends on available material and the involvement of the students. The e-learning domain places students in the centre of the process rather than the teachers. ‘Accordingly, much of the effort is made by the students, so it depends on how the instructor prepares his students. If he does not do this, the students must do the e-learning on their own.’ (Interview 1, 4 January, 2011).

Students need to be convinced of what their instructor is aiming for in e-learning, otherwise they will complain they have to make more effort than others. Students must be engaged, feel they are part of the process, and be motivated to work on e-learning:

If your colleagues do it one way and you are doing it a little differently, then you have to convince the students about what are you doing and to what end. That is, students must be convinced of the value of the system, they should be involved and motivated to make use of it, otherwise they just wonder why they have to go to all this trouble in this special subject compared to other students (Interview 1, 4 January, 2011).

5.5.1.1 Pedagogical.

Morad aims to ‘see how great the discrepancy is between what goals are achieved and what students have in mind before they come into class’ (Interview 1, 4 January, 2011).

As Morad was interviewed two weeks before the final exam of the semester, he held a discussion to talk about what had not been covered or understood in the course:

My course is on thermal desalination which is converting sea water to sweet water, but what we have is basically formal active coverage. Thermal is not the only method. There are other methods, e.g., reverse ozone which is a mechanically driven approach. I am covering that in class but I asked the students to get some information about it and compare this method to the thermal. So that is something I don't have to spend time on because it's beyond the scope of the course but they can educate themselves and can get other information. At least they will be aware that this is not the only way of doing the job. There are other ways and they learn the pros and cons and can compare to what we do. (Interview 1, 4 January, 2011).

Any course, whether conducted online or face to face, needs to consider many factors, including the students' needs and expectations of the course: 'All of this information was taken into account by the engineering teacher, as he designed a reflection segment after each module and before and after the course' (Interview 1, 4 January, 2011).

The use of LMS (Blackboard 8) was successful, and neither he nor his students had any issues with it. However, he was aware of other students who had difficulties with the system, such as 'a student who could not log in to a certain area or could not navigate through the system.' (Interview 1, 4 January, 2011).

5.5.1.2 New initiative—simulation by the mechanical engineering instructor.

Morad was chosen to participate in this research, as he is considered one of earliest adopters of e-learning and can give excellent examples of using e-learning with his students. Implementing the use of technologies is not only a matter of how to use them but also of how to motivate students to take part. Morad explained that in order to overcome clashes between classes wanting to use the science lab at the same time, he created a virtual lab for his students:

I cannot afford to have a class going to the lab every time, especially if the timing of the class and the lab, or the class distribution and lab distribution, are such that the same students would have to be in both places at the same time (Interview 1, 4 January, 2011).

Morad aimed to create this virtual lab to link theories with experiments. The processes that he used to do this included designing a programme to run the experiment virtually, photographing the equipment in the lab and placing control tools on the programme screen.

Thus the students can control the speed of the experiment, enter the theory and conduct a virtual experiment. With this lab simulation, the students can view and report the results. Morad encouraged his students to create their own virtual experiments, so they created a set of them. Some did exist in the lab and some did not. Morad explained that ‘the cost of bringing the equipment here is too high to be justified but we can use virtual equipment.’ (Interview 1, 4 January, 2011). Through this activity, students have created extensive virtual experiments.

5.5.1.3 How effective the interaction was.

Understanding how to teach using e-learning is important, as the students need to be responsible for their own education and learn how to search for information by themselves. They also need to understand the principles of teaching practices, for example having good communication between students and teachers and the need to determine whether this is better promoted in the classroom through interaction or outside the classroom through a class forum.

Morad encourages students to work together in groups. ‘It can be group work on homework or a project so that they have to sit together and discuss’ (Interview 1, 4 January, 2011). He encourages students to learn the value of time from each other by setting deadlines for specific tasks. Morad explained the different methods of learning:

Some students just rely on reading more, some of them like listening, some try to learn by doing, but with this course they can learn in ways that satisfy all of these needs. Some of the materials are very good to listen to but that is not all; they can see parts that are animated or they can go and calculate something or run something. In this course they have a variety of ways of learning (Interview 1, 4 January, 2011).

The effects of e-learning on the interactions between students and instructors have increased significantly, both inside and outside the classroom. For example:

I can meet with them not exactly face-to-face but we have communication that can occur at any time, I mean 24/7. So whenever they have a question, they can just post it and then they can get the answer from me or from their colleagues. (Interview 1, 4 January, 2011).

5.5.2 Technological dimension.

5.5.2.1 Infrastructure plan.

Morad was asked whether additional technologies were needed to deliver learning objectives. He indicated that all of the elements were in the LMS, including email, the discussion board and the chat room, and the students were encouraged to develop material and make it available for others. Thus, it was open for any sources of information that are needed:

The LMS makes it possible to search for whatever sources are available, whether from the Internet, in material that accompanies the book or whatever we get in terms of CDs or materials some companies have. Some professional companies develop equipment relevant to what we are doing and they just need to advertise this equipment. Whatever the information needed, just search for it (Interview 1, 4 January, 2011).

Providing orientation for students on how to use the LMS will increase awareness of e-learning. At the beginning of the course, some instructors show their students the features they will use in the LMS.

5.5.3 Instructional design.

5.5.3.1 Changes to the strategy of developing courses.

In this question, Morad was asked to explain the process of developing e-learning courses. Before the E-learning Centre contracted with the educational company, there was a team that developed these courses. The team was established by the E-learning Centre to develop online courses to be available on the university website for students to browse and listen to. This team comprised two groups: professors who were responsible for creating the subject matter (subject matter experts), and lecturers, who were faculty members responsible for developing the subject matter and adapting it to the software. Some members of the developers' group were interested in the technology and its applications, so they joined this team. Unlike the people who work for specialist companies, however, they were not professionals. The E-learning Centre later realised that this team was not made up of professionals, so they changed the strategy and contracted a company to do the job. Instructors who want to develop a course prepare the materials and send them to the professional team in instructional design who then sit with the teacher to ensure that they are moving in the right direction.

The Ministry of Higher Education ran a funded online project, which included art online, so the university was involved with that project. Through the E-learning Centre, it organised a group of instructors (including Morad) and staff members to visit different universities overseas to receive training. When they returned, they attempted to implement what they learned. The Ministry of Higher Education wanted to see what other countries were doing in regard to e-learning and do similar work in Saudi Arabia. From his perspective, however, Morad thought that 'there was a need to work with more professional people in e-learning, learning how

to deliver some sessions fully online as we still must use the face-to-face method of delivering our subjects.’ (Interview 1, 4 January, 2011).

5.5.3.2 Culture and language issues with instructional design.

Instructional designers need to consider many aspects, including culture, language, the teaching method, how students learned previously and teaching by example. Thus, it is important for the instructor to have different ways of presenting or delivering his subject material, such as videos or animations.

Regarding culture and language, some students were shocked when they saw the size of their textbooks, as they are thick and written in English. It is easier for students to read something they are familiar with. Even though the university teaches in English, some students still have difficulties reading textbooks in English:

All the materials present a language barrier and sometimes reading a book is a problem for them. This means we need to find other ways for them to grasp the material and become familiar with it so that when they read the book, they are reading something they are already familiar with (Interview 1, 4 January, 2011).

5.5.3.3 Conditions needed for instructional design

In this study, the researcher was keen to discover what conditions are necessary for designing e-learning courses that suit X University’s stakeholders needs, including culture and concepts, and that are suitable for the diversity of students. Many students come from different cities, each of which has its own culture and the majority of them are second language speakers. Thus, subject materials that use the English language could slow the performance of some students. An example is the IAS, Islamic and Arabic Study course:

They developed their material in the learning management system that we have here. The good thing about it as a source is that it is written in Arabic which is the students’ mother tongue. So with these courses, the students do not have any problems related to language (Interview 1, 4 January, 2011).

5.5.3.4 Understanding students' needs.

Morad was asked about how he understood the needs of each student. Morad replied that:

Meeting this demand comes through discussion and feedback. The feedback will tell the instructor where he is and where the students are. Especially with e-learning, these students need extra care. Motivation plays an important role here as I always motivate my students by asking them to do extra work and I reward them for the effort they make. (Interview 1, 4 January, 2011).

5.5.4 Evaluation dimension.

5.5.4.1 Assessment.

Morad uses different activities with his students, including quizzes, when they sit for exams, as well as creating projects related to the subject area. Other activities include open discussions that have solutions not found in the textbook. Thus, students need to find the solution on the Internet or elsewhere. This method encourages students to draw on more resources for their subject area and these resources are then added to the LMS to be viewed by other students. Morad commented that:

At the end of each module of the course, there was a reflection segment where the students were required to illustrate what they had learned from this module, what they found interested them, what they thought should be in this course and what was missing (Interview 1, 4 January, 2011).

Morad uses different methods to collect assignments from his students, including receiving them in class or electronically through the LMS. The mode depends on the type of assignment he gives to his students, as they are occasionally required to solve their engineering problem (assignment) using pen and paper.

Morad gives his students different types of assignments to ensure he is covering all of the students' needs. These include setting assignments that need to be completed as a team or individually, or they might have to write a programme. This aims to increase collaborative learning, which encourages students to learn from each

other through discussion: ‘To make sure that everyone has got something, some of the homework is done individually.’ (Interview 1, 4 January, 2011).

Morad provides feedback to his students about their progress using homework grades, quizzes and exams. Once he finishes grading, he posts the results immediately to the students through the LMS. The students can view their grades and learn what they need to do to improve. The students may receive extra work informally, such as searching for new materials or creating a discussion board, for which they receive encouragement. ‘Participation means being active in class and outside as well by adding some material or discussion to the learning management system.’ (Interview 1, 4 January, 2011).

5.5.5 Resources support dimension.

5.5.5.1 Online community.

To understand how involved Morad is in the online community, Morad was asked about his perspective regarding online communities run by the university. Morad explained that there was an online community and he was part of it. The online community collaborated with people in other universities, including Tabuk University and Taif University. The main duty of the community was to spread awareness of the importance and effects of e-learning on the education process among other academic staff members at X University.

5.5.5.2 Resources support—How e-learning is supported.

Morad was asked how the technical support staff members support e-courses with students and instructors. He answered that:

There are no additional requirements for supporting students when they utilise technological tools as most of these students come with a technological background and are familiar with how to use these technologies. For example, the discussion forum was like chat rooms they used and the LMS email is similar to the email systems existing everywhere (Interview 1, 4 January, 2011).

The university uses a base mark to calculate how many minutes the technical staff members need to solve a problem. This mark was compared between the engineering department and other institutions and it was found that it could take 20–30 minutes in some places. The shortage of technical staff members could slow down the ability to solve small issues. ‘We need more personnel in the ITC central who can provide help to the students.’ (Interview 1, 4 January, 2011).

5.5.6 Ethical dimension.

5.5.6.1 Issues related to implementing online lessons.

Maintaining quality at X University is one of its requirements and the university administration team leaders work to achieve this. As a result, sessions delivered fully online must be based on the regulations provided by the university, which the instructor applies to an online course once he has obtained approval from the Standing Committee for Academic Development (see Figure 5.1).

Morad planned to try blended learning in the next semester. ‘I need to try blended learning next semester by selecting a module or two where I am not going to meet the students face-to-face or at least maybe I can see them once a week for discussion.’ (Interview 1, 4 January, 2011). However, Morad’s plan to deliver some sections fully online could not be implemented immediately, as it needed to meet the university’s regulations. Action has been taken by instructors to change this policy and adjustments have been proposed to the university, which has asked them to elaborate.

Currently, we are trying to change university policy to get approval for the fully online delivery of courses, or at least some sections of those courses. The proposal was made by some instructors, with support from the E-learning Centre, to conduct a sort of pilot experiment with instructors who are able to deliver some sections of their subjects fully online. In that proposal we suggested as an alternative that the university employ instructors who have experience in delivering courses fully online. However, in our university, sometimes you can find instructors who have the experience, know what is

needed, and what the requirements are for delivering courses fully online. However, X University policy does not allow for individual instructors to teach courses in the manner of their choice and the idea of online teaching still does not meet the needs of every faculty in every university. So that's something at the beginning we need to be careful about. At least we need to set guidelines and make sure that e-learning will be maintained with high quality compared to the conventional system which is the kind of thing that we have now (Interview 1, 4 January, 2011).

People who prefer the traditional way of teaching may not recognise the effort involved with e-learning, which includes time spent responding to students' questions. For example, when Morad taught his course in the traditional manner, he met with students for one hour, three times per week, and he kept office hours. However, the situation is different with e-learning, as the students want immediate answers when they post questions, otherwise they may lose motivation. Thus, the instructor spends more time logging in to check if any questions need to be answered or comments considered. There is a need to follow up with these things when using e-learning; however, some instructors do not do this.

5.5.7 Institutional dimension.

5.5.7.1 Administrative.

The university has adopted a blended learning strategy. However, if instructors want to deliver purely online sessions, that will be their own responsibility.

To deliver courses, or at least course sections, fully online, it is entirely your responsibility to get the necessary material as this formal type of learning (synchronized) has not yet been approved at the university. The regulations have hampered the utilisation of e-learning and have impeded instructors who are willing to take the next step in implementing courses fully online (Interview 1, 4 January, 2011).

For example, Morad delivered some of his course sessions fully online. He met with his students three times per week and asked them to make more effort, including participating in student–instructor discussions. In addition, he conducted lessons via radio conference when he was unable to attend class in person. Morad

also used another technique to deliver his content: he chose some modules from his subject and asked his students to study these module by themselves. Whenever they met in class, he led a discussion to ensure that they understood the material.

By using these varied technologies, he aimed to motivate his students to use them. He believed that it was their responsibility to learn. Most of Morad's students were motivated and excited, and engaged with him to share and gain knowledge from each other. However, other students were not interested in using these technologies. Morad indicated that some students said: 'If I'm being spoon fed, why should I choose a harder way if I have to make a lot more effort?' (Interview 1, 4 January, 2011).

Morad believes that utilising the technology should be a requirement for both instructors and students.

5.5.7.2 Importance of personal development in e-learning.

Morad noted a need to focus on the bandwidth issue and on access to the Internet from outside the campus. In addition, more computers should be available for students, with 24-hour access to the Internet and more facilities for students to buy laptops. There should be a hotline for students, so that whenever a technical problem arises, it will be resolved quickly.

PD at X University is provided to two groups of staff members:

- The junior faculty, which comprises visitors, those who have just joined the university, and people who have just finished their Ph.D's and have joined the university;
- Others who are the 'old timers' (Interview 1, 4 January, 2011).

PD for the first group is compulsory, as they have to participate in the Faculty Development Programme, which requires e-learning to complete. PD is optional for

the second group; however, they are strongly encouraged by the E-learning Centre to complete it.

5.5.7.3 Institutional—Encouraging and motivating academic staff members.

Morad was asked if there are any rewards and incentives for academic staff members for general improvement. Since 2005, through the E-learning Centre the university has encouraged and motivated academic staff members by providing awards for:

- Developing suitable courses to be taught fully online or through blended learning
- Utilising technology in teaching (Instruction Technology Award)
- Teaching
- Best research project (Interview 1, 4 January, 2011).

There is no compensation for extra time devoted to developing e-learning courses or from using e-learning. However, some departments provide compensation if instructors want to develop or improve certain things in the lab.

5.5.8 Part Two - Section One: (Teachers' Beliefs).

This interview was conducted with Morad, the mechanical engineering teacher, one of those who adopted e-learning earlier. The interview was conducted in 2012 during the second round of data collection in Saudi Arabia and the aim was to explore how teachers' teaching beliefs influence the ways they adopt e-learning tools in their classroom practices.

The first question Morad was asked was about his views concerning e-learning was whether it has a significant role in teaching. He replied that e-learning has an important role in education as what students cannot understand in the

traditional way they can understand with e-learning through different sources that are available in the e-learning environment, including links related to the subject content or for reference. Morad continued that students today want ongoing modernisation as the technologies are changing daily.

Morad was asked about his interest in e-learning and which e-learning tools he used. He replied that he became interested in e-learning as it facilitated many things, including recording the important points from the lesson through the LMS. Students can refer to it anytime and it also saved their time. In addition he believes e-learning can be a great way of attracting students to the lesson and increasing their interaction with the instructor whether online or offline.

There are essential skills that instructors need with e-learning. Morad noted these two factors.

First, the instructor needs to believe in the importance of e-learning and he has to have experience in how to use e-learning technologies. Second point: the infrastructure includes the e-learning technical support which has to be on call, so that when the instructor asks for help, he can get it. They need to solve any technical issues within ten minutes. (Interview 2, 4 January, 2012).

The leader of the E-learning Centre shares the same belief that there is a relationship between the IT people, the infrastructure and the funding.

There is link between the need for education and the infrastructure that you must have for it. It is difficult to find qualified people who can take the training programmes. It is a problem, for funding also, that the qualified person or people will look for whoever can pay him/them more. So sometimes we are not able to pay what they demand. Our strategy is to train our instructors, then they can train others, and always there is a need for more staff. (ECL, Interview 2, 21 January, 2012).

The convictions of the E-learning Centre leader coincided with Morad's views that there was a need for more staff to cover all the needs of the facilities. In addition, he explained that full awareness of the importance of e-learning should be spread among all the academic staff, instructors, administrators and design makers,

students and parents. There is a widespread belief among instructors that using PowerPoint slides in their classes means that they are using e-learning, while these programmes are actually considered a support for e-learning.

Morad believes it is necessary to take a step beyond changing the university strategy in order to cope with the ongoing development of e-learning and also to cope with what is happening in this field in the Saudi context.

5.5.8.1 Motivation to use e-learning.

To learn the role of students in the e-learning environment at the university, Morad was asked to illustrate whether the students could provide suggestions about e-learning for their classroom. Morad believes that students today are different than those in the past as they live in a technological age. He continued that his students are involved with him in the class forum in the LMS. When some students ask questions, other students might answer the question. So sometimes Morad found that he does not need to answer himself and he believes that this is one of the benefits of using e-learning.

5.5.8.2 The role of socio-culture.

To the question whether Saudi culture influences the adoption of e-learning, Morad seems not to believe that there is any effect from Saudi culture on the use of e-learning.

According to some instructors, the nature of some subjects could slow down the use of e-learning. In order to ascertain Morad's views on this, he was asked whether the content he teaches influences his adoption of e-learning. Morad replied that the content he teaches was developed to be delivered as an online course and the course was uploaded to the LMS. The LMS applications have given Morad wide

flexibility in adopting various modes of classroom technologies, including assisted or even blended learning.

5.5.9 Section Two: (Practice).

In the second part of the interview, the researcher tried to find out how the instructor practises e-learning. More details will be provided in this section about Morad's practice with e-learning. As mentioned earlier, Morad was one of the first group who took their training about e-learning overseas. Based on the E-learning Centre report, he gives an excellent example of using e-learning tools with students, the same example mentioned earlier in the first round of the data collection: the virtual lab to perform experiments electronically.

In the first question of the second part of this interview, Morad was asked to clarify which courses he had developed and taught using e-learning tools. Morad replied that he had developed several courses to be used in the e-learning domain, including courses in heat transfer, fluid mechanics and thermal desalination. These courses were developed to be fully taught online. However, university policy was to use the developed online courses as support for face-to-face classes. He used a variety of e-learning tools, including Centra, and believed that these tools helped him a lot.

5.5.9.1 New Theory.

The following question in this interview was to understand whether the instructor needed to change his way of teaching when he uses e-learning. Morad replied:

Yes, I had to change my teaching style. The delivery modes I used were basically technology assisting face-to-face lecture. I used this mode, for example, with the heat transfer course and I used blended learning with the thermal desalination course, choosing one or two modules to be taught fully online. (Interview 2, 4 January, 2012).

The leader of the E-learning Centre agreed that there is a need to change the style of teaching when using e-learning as he believed that instructors who were using one method in their teaching, using PowerPoint for example, do not want to burden themselves by using other tools. The Centre leader believed that the willingness of instructors was the motivator to using e-learning. 'Only people who are concerned about their education and teaching and about their students are able to do that by themselves.' (ECL, Interview 2, 21 January, 2012).

The researcher followed up by asking Morad about how e-learning has changed his teaching practice in his role as lecturer and in his interaction with his students. Morad responded without hesitation by telling that his role becomes that of facilitator. 'The teacher's role changes to a facilitator role that directs students to get the information and verifies its depth through rich discussion and case studies.' (Interview 2, 4 January, 2012).

He continued that the interaction between him as instructor and his students had improved as when using e-learning it extended beyond classroom borders both in space and time (Interview 2, 4 January, 2012).

Morad believed that the subject material he was teaching in his mechanical engineering course was the same across nations as the basics of science are the same and the ethics also. So Saudi culture did not influence the use of e-learning. He found that using e-learning with students is helpful for students who are shy and also for those who are fast or slow in learning, as they can return to the course materials in the LMS and learn from these materials in their own time.

5.5.9.2 Class Observation.

On December 26, 2011, Morad's class was observed for 45 minutes, the full amount of time allotted for the class period, to discover how the teacher behaved in

the classroom using e-learning and to observe the relationship between his beliefs concerning e-learning and his practice. Before the lesson started, Morad explained that he would divide his lesson into two sections. First, he would explain the content of the materials and second, he would divide the students into groups with three in each group to solve problems. The class was full (25 students) and was equipped with a computer for the instructor, projector, screen and whiteboard. Morad began his class by explaining the lesson without any introduction. The style he used was one-sided, i.e., the instructor lectured and the students listened.

He sometimes asked his students questions and some students answered. Morad delivered his presentation using PowerPoint slides and sometimes the white board to explain the lesson in more detail, especially when some students interrupted him to ask him to explain some point that was not clear to them. When he finished explaining the content, he asked them to get into groups of three. It was found that the students solved the problems their instructors gave them using their electronic devices, including smart phones.

While the students solved the problems, Morad would visit each group to double check if they were on the right track and discuss with them how they were going about solving the problem, then he wrote the solution to the problems on the board. It was found in these groups some who were discussing and pointing to the board and to the slides to check the question that was provided by their instructor.

One student was discussing the question with his group and found a mistake in the fractions question that Morad had set and asked his instructor to correct it. The student had been looking at the material in the book before he found the mistake. It was found that the learning was student-centred because interaction with their

instructor and among themselves, discussion, checking of the content of the materials and practising of e-learning tools were all present.

At the end of the lesson, the instructor began to discuss with students the answers to the problems set. He again asked questions and the students would answer. It was found Morad was keen to check whether the students had understood the lesson as he asked them 'Is it clear?'

5.5.10 TPI questionnaire.

The researcher conducted the Teaching Perspectives Inventory (TPI), a standard questionnaire, only with the target group, the four instructors, to measure their perspective on the five different views of what it means 'to teach'. This section describes the result of the data gathered and analysed for Morad's responses to the three main TPI items, including beliefs, intentions, and actions.

The questionnaire (See Appendix 9) was used only with the four instructors of four different subjects who participated in this research. The results presented in this section give a brief description of the practice of e-learning in the classroom.

Morad's primary educational responsibility was with students who were at the undergraduate level. Morad had been teaching for around 20 years.

5.5.10.1 Transmission.

Considering the transmission aspect, it was found that Morad's philosophy was based on a strong belief (B: 14) that successful teaching requires a substantial commitment to the content and that when instructors have fixed objectives, learning is enhanced. After checking Morad's syllabus provided to the students, it was found this stated clearly as he clarified the general objectives of the content of his subject. He gave more detailed explanation in the assignments, projects, exams, and the discussion forum.

He believes that the instructor's knowledge and mastery of the subject matter lead to good teaching. The main point with e-learning is not the use of the technology but how the technology is used to facilitate and deliver the content in a way students find attractive and understandable.

The researcher found that Morad was aware that for an instructor to make learning effective, he must have the capability of involving students in a variety of activities that cater to all the students' needs, and the ability to practise these e-learning activities in a good, attractive way as explained above. In his responses, Morad strongly agreed that with e-learning, students' confidence can be increased with the communication tools available to them. The ability to ask questions that could not be asked in the classroom or in face-to-face encounters will increase. Morad was keen to build that into his students.

E-learning is a way to create a community of educators and a means of effecting social change as with the discussion forum, for example, where students act with others whether inside or outside class. The results showed that Morad strongly agrees that there is a need to reward both instructors and students in using e-learning. Moreover, it was found that there was high internal consistency in Morad's beliefs, intentions and actions as all corroborate each other (B: 14, I: 11, A: 12).

5.5.10.2 Apprenticeship.

The results from a consideration of the second perspective showed that Morad scored highly in intention (I: 12), what he aimed to accomplish in his teaching. Morad believed that having a good education is based on a process of socialising students into new behavioural norms and ways of working. Morad's skills have influenced the way he practices e-learning activities, whether inside or outside the classroom. He explained that he would try to challenge his students to recognise the

value of these activities and would usually have students engage in activities that built up their self-confidence. Morad would offer his students less direction and more responsibility to become independent workers rather than dependent learners.

5.5.10.3 Developmental.

The result in this area showed that Morad was keen to do the development part with his students. He usually got them involved with issues and projects and asked them to solve problems. His goal was to help his students to develop increasingly complex and sophisticated cognitive structures. He usually expected his students to understand the realities of working in the real world. It was found that the relationship between his beliefs and what he tried to accomplish in his teaching was very strong and coincided with the actions he took as well (B: 12, I: 12, A: 12).

5.5.10.4 Nurturing.

In this research it was found that what Morad did with his students, engaging them in practice activities, encouraged and motivated them, as Morad usually linked the subject matter with real-life settings of practice or application. He usually modelled the skills and methods of good practice.

The results from an analysis of this perspective indicated that there was a 3-point difference in the scores (B:14, I:11, A:10) between belief, intentions and action, which means inconsistencies may exist that need to be considered.

5.5.10.5 Social reform.

Considering this perspective, Morad believed that to be a good instructor, there is a need to awaken students to values and ideologies that are embedded in texts and common practices within their disciplines. As a result, Morad involved his students in different activities including, for example, class discussion as this focuses less on how knowledge has been created, and more on who creates it and for what purposes.

5.6 Case Four: Dr. Dawood.

Part One: Teacher Four and His Web-Enhanced Course—Arabic Language and E-learning

In this case, the researcher tried to understand how e-learning is developing in X University by obtaining information from participants to answer the two main research questions. First: To what extent does the practice of e-learning in X University in Saudi Arabia match the guidelines provided by the university? Secondly: What influence do teachers' pedagogic beliefs have on the practice of e-learning at the university?

This case included two parts. The first part will answer the first question and the second part will answer the second research question.

5.6.1 Pedagogical dimension.

Dawood teaches an elective course and was chosen to participate in this research as he is considered a recent adopter of e-learning and has developed some courses. Consequently, the researcher was keen to see the differences between the early and recent adopters of e-learning and to illustrate different examples of utilising e-learning at X University in different subject areas and with different languages. This will provide a picture of how e-learning is developing and how the chosen cases have influenced e-learning among students.

The semi-structured interview with Dawood, the Arabic language instructor, was conducted in his office at X University on 10 January, 2012. Dawood first discussed general things, including his work experiences with X University and the subject that he teaches.

Dawood did not want his voice recorded, as he preferred to send written answers. However, he did not mind the researcher taking notes while he answered

questions. Dawood was asked to explain the way in which he adopted e-learning. He was interested in using what was available to him, including LMS and PowerPoint slides, when he needed to deliver his content. It was found that Dawood did not have much use for e-learning because he usually taught face-to-face, which is X University strategy. Thus, there is little interest from other instructors in using e-learning. However, Dawood uses LMS as a supplementary tool to receive assignments and send announcements.

In this research it was found that in this semester 2012, Dawood teaches an elective course for undergraduate students and the basic language in this course is Arabic. To find out how he deals with these technologies, Dawood was asked how he distributes supplementary resources to students. He replied that he is guided by the curricula and, if any materials are required, he uploads them to LMS or advises students about them during class time.

It was interesting to hear from Dawood about his experience with the e-learning support he received from the university. So he was asked to describe his current situation regarding e-learning and the support he receives from the E-learning Centre. Dawood explained that staff limitations occasionally slow the speed of improving the use of e-learning. He and his colleagues receive limited support from the E-learning Centre, which he blames on the lack of staff members that can provide support in the Arabic language. In addition, Arabic instructors are not involved in online communities. Dawood gave several reasons for this, including:

- Lack of extensive PD for instructors in the Arabic language and, if there is support, it is only for a short time
- Lack of more rewards and motivation for using e-learning

- Unwillingness to implement what the instructors learn in the workshops, as there are no incentives from the deans' faculties/schools for this type of learning. Thus, there is no use for it in their daily teaching, especially in Arabic subjects (Interview 1, 10 January, 2012).

5.6.1.1 How effective the interaction was.

To explain the effects of e-learning on interactions between students and educators, Dawood indicated that there is no doubt that students are interested when they use e-learning tools, as it holds their attention, especially if the slides use different colours and are well designed. Dawood uses WebCT, email and face-to-face communication during office hours. He often uses WebCT to make announcements to his students regarding their performance in class or the results of their exams and assignments.

Dawood was asked whether he used any assessment activities to check his students' progress in the course they were studying. He replied that particularly during the early weeks of the semester and after the first exam and when the results appeared, he would be guided by those results to support and help the students who needed it. He then knew their level and was able to apply different activities to cover all students' needs, including providing them with extra exercises and previous exams.

5.6.2 Interface design dimension.

5.6.2.1 Processes used in instructional design.

There are two processes used to develop instructional design: through the instructors themselves, when they design or develop their website, and through the e-content design project, which is supported by X University.

Dawood has indicated that the instructor works step by step with the design group to develop his course to be uploaded online. This project takes around one year (see Section 5.2.8.5 for more details on this). A team is organised by the faculty and its duty is to prepare the content materials based on different sections of the lessons in the course. The design group then develops the first section and uploads it to the WebCT. The team responsible for preparing the content examines it and, if any changes are necessary, they contact the design group. This process continues until they reach the final draft.

In Dawood's case, it was found that he was involved in developing e-content for one of the courses he is teaching but not for the current course, and also he was working cooperatively with one of his colleagues to develop e-content. Dawood indicated that to develop e-content there were guidelines provided by the university to be followed as mentioned in section 5.2.8.4.

With the subject Dawood is teaching this semester, 2012, it was found that he was teaching his subject face-to-face. He used LMS only for announcements or receiving assignments or sending students their grades. The researcher looked at his webpage and found that he uploaded some materials related to the subject he is teaching this semester as PDF files. Thus, the utilisation of e-learning was limited to those files and to the use of PowerPoint presentations inside the classroom. That was not usual, as he indicated he used it whenever the need arose.

In addition, it was found that on Dawood's webpage there was a link to the instructor's homepage and links to the university website and various websites within the university.

5.6.2.2 Content design.

In addition it was found that students were not allowed to be involved in designing and developing the course materials. As mentioned earlier, Dawood was using LMS as a support tool only for sending announcements, receiving assignments or sending exams results since no e-content had been developed for this subject to be uploaded online. So discussion through LMS was not used and it was also found that there was a need for more activities to be included in that subject.

The researcher observed that student attention was not focused on their instructor while he was delivering his lecture, as the teaching method was traditional face-to-face, using a whiteboard, and was one-sided, instructor to students. Despite the PowerPoint presentation he used, it was found it did not attract the students and only a few answered their instructor's questions (class observation 1, 2012).

5.6.3 Part Two - Section One: (Teacher's Beliefs).

In order to inquire into Dawood's beliefs and classroom practices using e-learning, a semi-structured interview with Dawood, the Arabic language instructor, was conducted in his office at the university on 10 January, 2012. Dawood was excited to have this interview to speak of his experience with e-learning. His was different from that of the other instructors who had had training programmes in e-learning overseas.

As mentioned earlier, Dawood had adopted e-learning recently and the researcher wanted to understand how his views might have affected his e-learning practice. Dawood's subject was the Arabic language and this course was delivered to undergraduate students. He taught the subject as an elective course and its basic content is the Arabic language. The interview started by asking Dawood general

questions and when he felt comfortable, the interview began with the first question about the teacher's beliefs.

In response to the first question about how an instructor of Arabic language became interested and involved in e-learning in his classroom, Dawood paused for a while then said:

I was interested in using e-learning tools as they facilitate the method of delivering information to the students and make it exciting. E-learning tools attract the students' attention when the instructor presents his subject matter. With these tools I can communicate with my students through the LMS. (Interview 2, 10 January, 2012).

It was found that Dawood's previous experience with e-learning was limited to the use of the overhead projector. Then he used the projector that connected to the computer which was available at the university. The interview was followed up by asking Dawood what are the essential skills he believes a lecturer needs for e-learning, Dawood asserted that instructors need to have the basic skills of using a computer including knowing how to use Microsoft Office.

Dawood believed that with e-learning there is a need for the following:

- Preparation of the infrastructure of e-learning;
- On-going follow up for the infrastructure;
- More support staff to solve any issues which could arise while instructors are using e-learning;
- Concern from the administrative level for all departments involved in e-learning;
- Providing ongoing training on the use of e-learning tools (Interview 2, 10 January, 2012).

5.6.3.1 Motivation to use e-learning.

It was found that Dawood did not believe that the students can provide any suggestions in the classroom regarding the use of e-learning. Consequently, student experiences with e-learning tools did not influence the way he delivers his subject.

5.6.3.2 The role of socio-culture.

Moreover, Dawood believes that Saudi culture does not have any relationship with the use of e-learning or even any effect on it.

5.6.3.3 New theory of e-learning.

Dawood is convinced that with the subject he teaches, the use of the traditional style of delivery of the information using the green/blackboard is more suitable and interactive than if he were to use e-learning tools. 'Maybe there is a slight influence but I always prefer to use the blackboard directly for everything.' (Interview 2, 10 January, 2012).

He continued by saying that the subject he teaches did not have much influence on his adoption of e-learning as the nature of the subject is more theoretical. If the content were to include animation or pictures, it could have some influence on the adoption of e-learning. It was found that Dawood's background, experiences and beliefs in regard to e-learning do not help him much or greatly influence the method he uses in delivering his course materials.

5.6.4 Section Two: (Practice).

In this section the researcher wants to understand whether his views about e-learning have any relationship with his classroom practice. In response to the first question in this section, Dawood told that he had developed three subjects to be taught online. However, Dawood explained that the university still had not made the decision whether to teach these developed courses fully online or by blended

learning. Instructors still use the LMS as a tool for announcements or as a channel for receiving or sending assignments.

It was found that Dawood's style when he taught his course using e-learning tools did not change. Even though he still uses the board to write his lesson points and the full information about his lesson, he would also use some technological tools, namely PowerPoint. He did not think there was much difference whether he used the board or the technological tools to present his content as he regarded both of these tools as means for presenting material.

In answer to the question whether the use of e-learning has changed his teaching practice as a lecturer or his interaction with students, Dawood replied that 'As a lecturer, nothing has changed. However, interaction with students has increased as these technological tools, including the LMS, have attracted students' attention' (Interview 2, 10 January, 2012).

5.6.4.1 Class Observation.

In the class observation carried out for Dawood's class on December 27, 2011, it was noticed that Dawood was using PowerPoint slides to deliver his lesson. The classroom was full (22 students) and the way Dawood used his PowerPoint slides was similar to his method when using the board (Class observation 1, 27 December, 2011). It was found that Dawood's views concerning e-learning and his judgment that his use of e-learning tools will not change his methods, affected his practice of e-learning in the classroom.

In conclusion, more activities should be implemented to cover all the students' needs as it was observed that only a few students participated with the instructor and answered his questions, while the rest of the students sat quietly.

5.6.5 TPI Questionnaire.

The questionnaire that was conducted with Dawood, the Arabic language instructor, showed that his philosophy of teaching was based on the transmission perspective.

5.6.5.1 Transmission - What do you believe about instructing (beliefs)?

Dawood's score on belief, intention and action was high (B: 15, I: 14, A: 15), which means that there was high internal consistency as they corroborate each other.

Regarding the transmission aspect, Dawood strongly agreed that effective teaching required a substantial commitment to the content or subject matter. In the results to this questionnaire, Dawood expressed his full agreement that learning is enhanced when it has predetermined objectives and that the instructor should be an expert performer in his subject matter.

He was not interested in a focus on societal change and thought it more important to concentrate on the individual learner.

5.6.5.2 What do you try to accomplish in your instruction (intentions)?

Dawood rarely focuses on preparing students for the examinations. But on the other hand, he wants his students to get high scores on their examinations, as he usually intends to demonstrate how to perform or work in real-life situations. Dawood wants to build up his students' self-confidence and self-esteem as learners.

5.6.5.3 What do you do when instructing (actions)?

Dawood was keen to cover the required content accurately and in the allotted time, and the learner's responsibilities are to learn that content in its authorized or legitimate forms.

It was found that Dawood would ask lots of question while he was delivering his content. He usually tried to clarify misunderstandings, answer questions, correct errors, and provide reviews summarising what had been presented.

5.7 Summary of Findings

This section details the research findings that had been conducted in Saudi Arabia. The following three sets of findings not only outline the characteristics of X University's e-learning environment that has been established to enhance teaching and learning but also point to areas in need of further research.

5.7.1 Findings on the organization's side.

1. The findings in this research showed that the university matured with respect to e-learning. Through its description of various e-learning initiatives at X University, this case study showed that the university is aware that the adoption of innovations, especially e-learning, occurs in stages. The E-learning Centre's leaders managed this development, keeping in mind the stages of organisational maturity and planning for implementation of e-learning (see Section 5.2.8). In 2002, the university adopted e-learning, which aligned with its mission. At that time, however, the aim was to use e-learning tools to enhance face-to-face teaching and learning. Later, in 2003, the university decided to establish an E-learning Centre to be responsible for the implementation of e-learning. The centre adopted Blackboard as a learning management system (LMS). At that time, most academic staff member did not use an LMS very often because they were not aware of it and no guidelines on how to use it were established.

The E-learning Centre later submitted a proposal to the administrator level to approve sending the first group overseas to receive training and learn how other

countries adopted e-learning and developed e-learning content. In 2007, the university sent the second group to Australia to obtain a new perspective on e-learning. With the contributions of those groups, the E-learning Centre began to provide training programmes for other academic staff and also to encourage instructors to develop their e-courses to be uploaded to the university's website. Since it adopted e-learning and established the E-learning Centre, the university has developed e-courses that are available on the university's website for student use. However, those courses were prepared not by professionals but by those groups who had gained their training overseas and with. Some instructors continued the project because they were interested in developing course materials for the university website based on their limited experience. The lack of professional people with the skills to develop e-content to be utilised on the university's website was a reason for encouraging the E-learning Centre to adopt the strategy of re-developing the old courses and contracting a professional educational agency to carry out the task, (see Section 5.5.3.1). The E-learning Centre also realised the importance of sharing knowledge with other institutions. Overall, it was found that although the university has made progress, more improvement is still needed.

2. It was found that the processes used by the university in developing and designing e-courses were reasonably systematic. As mentioned previously in point one, the E-learning Centre adopted a strategy to develop courses to be ready for fully online delivery once the Centre had gained approval from the administrator level. Through the contribution of that agency (see Section 5.2.8.5), the Centre used a standard of instructional design (see Section 3.4.3) that included consideration of the language, culture and religion (see Section 5.2.8.7). It was found that audience analysis of both instructors and students was inadequate when designing e-courses

and slowed down the implementation of e-learning at the university. Moreover, the failure to equip the university's campuses with the infrastructure required for implementing e-learning also slowed down the utilisation of e-learning. However, despite the fact that the E-learning Centre had taken into consideration the stages of organisational maturity and planning for the implementation of e-learning, they faced issues that hindered the utilisation of e-learning, including professional development (see Section 5.2.9), cultural issue (see Section 5.2.9.2) and the online community (see Section 5.2.11).

3. *The university has guidelines for providing professional development.* It was found that the instructors, the support staff and their leaders who were working at the E-learning Centre were engaged in professional development to improve the e-learning environment. For example, the E-learning Centre endeavoured to provide instructors with workshops and training programmes in the instructional design area to improve instructors' skills and knowledge for developing and implementing their e-courses. However, the E-learning Centre faced difficulties related to the lack of training in the use of ICT tools. The findings showed that there was always a need for more training programmes, especially when new equipment had been recently bought and they were using web technology to build a social network. So there was a need to have workshops on these things and that required the university to spend more money (see Section 5.2.9). Actual examples were needed in workshops to demonstrate the technologies they were using with their applications and to show how useful they are. There is also a need for more sharing of experiences in workshops rather than having experts in the field give lectures. The findings also showed that there was a need to improve instructors' IT skills by providing training

programmes, particularly in how to use the LMS effectively (see Sections 5.4.9, 5.3.8 & 5.2.8).

4. Partnership with other institutions, including Open Courses File, increased access to e-learning resources. The findings of this case study showed that the E-learning Centre has a strategy to strengthen their relationship with other educational institutions, whether in Saudi Arabia or overseas. Thus, the university has shared open courses with other universities, making all courses and course materials available to everyone. These courses are not exactly online courses but are similar to them. The university has had open courses for members since 2009 and since it is a member, can share additional courses which others can see. With its adoption of this innovation to share open courses with other universities, the university engaged in facilitating teaching and learning. The E-learning Centre at X University is keen to increase online resources for students (see Section 5.2.8.2). However, those courses were not very attractive from the students' perspective. For example, one student explained that:

We use Blackboard, that's it. We use it just for publicity but there is no mention of what is in the programme, what the positive and negative things are. I was shocked to learn about MIT University and a university in India and other universities of course. They have a Web 2 channel, including YouTube, Twitter, Facebook etc. They have videos on YouTube just as a contribution to the e-learning system worldwide and for developing countries to access these videos and learn about them. We need to upgrade ourselves. We need to learn together to acknowledge technology. We cannot stay where we are for 10 years, then wake up and notice that we are way, way, behind (Student A, focus group 1, 29 December, 2010).

5. When adequate support is in place, e-learning provides a good source of practice and motivation for both instructors and students. It was found that the X University has realised that instructors who got their training overseas are vary in their experience and background with e-learning. Thus the E-learning Centre at X University has involved those instructors who have the knowledge and experience to

train their colleagues to improve their skills, as the university believed that there is a need to have adequate human resources to support the e-learning initiative at the university. However, those human resources required the university to build an infrastructure for the e-learning environment. Through the investigation, it was found instructors and students were agreed to be provided with adequate support as they believed it will affect future e-learning development. E-learning could be supported by different factors including online community, online resources, technical support staff, and awareness of the e-learning pedagogy. For example, it was found that Ahmed encouraged his students to use Twitter by sending them an email and asking them to help build an online community between him and his students and other learners around the world, by doing this students were encouraged and motivated as their instructors was using with them something they are interested with and that caused to increase the utilisation of e-learning (see Section 5.3.6). In term of online resources, it was found that students were required to have digital materials that including journals, articles and books available in the library and also a guideline on how to use those available resources (see Section 5.4.8.7). For example, Ahmed with his students has encouraged them to search the Internet find an article or journal related to their subject, read it, then summarise what they had read. It was found also the Ministry of higher education have establishing an electronic library with over 100,000 items but there is no guideline on how to link to those online resources providing by the university for all instructors and students.

On the other hand, however, it was found that the university needs to focus on the following:

1. X University's guidelines were not consistent with the E-learning Centre's guidelines. For example, it was found that there was an unwillingness to allow

instructors to deliver courses or some sections fully online as a general strategy at the university. Even though the E-learning Centre was engaged in an ongoing process to develop online courses to be delivered fully online, the administrator level did not give its approval as the policy of the university specifies mainly face-to-face teaching. For example, Morad indicated that action had been taken by instructors to change this strategy and adjustments have been proposed to the university administrator level, which has asked them to elaborate (See Section 5.2.8.1 & 5.5.6).

2. It was found that the university needs to focus on preparing university campuses, including classrooms, with the necessary multiple technology infrastructure for e-learning which may require more funding so as to include iPads, iPods, electronic whiteboards, cameras, etc., with guidelines on how to use those technologies in their daily teaching and all this requires special training as mentioned in point 3 in the previous section (see Section 5.2.9).
3. The shortage of e-learning staff resulted in a failure to spread the awareness of the benefits of implementing e-learning among the university's academic staff members. It was found that there is a need to employ more technical staff at the E-learning Centre and also at each school to cover all the university (see Section 5.5.5.2).
4. There was a lack of participation in the online community at X University. Through the investigation in this case study, it was found that instructors were not willing to become actively involved in the online community to share knowledge with others, whether they were instructors in the same field or students or even experts (see Section 5.2.11).

5.7.2 Findings on the students' side.

- 1. *The successful development of subject materials includes video clips, animation and photos, and YouTube.*** Through the investigation carried out in this case study, it was found that students were interested when a variety of attractive materials were employed. For example, it was found that the impact of the technologies students live with today has encouraged them to learn everything about them, as most students own the more modern technological devices, including iPads, iPods and smartphones. Thus when their instructors use these technologies in their teaching, students become interested as they are familiar with their uses (see Section 5.3). For example, through my investigation it was found that Ahmed's course taught his students how to discern what is suited to their identities, cultures and beliefs regarding marketing advertisements. He then connected to the Internet and downloaded a YouTube advertisement for the Cheese Company (see Section 5.3.3.1). He was trying to link this work with the objectives of his course syllabus, which include developing a useful, relevant understanding of marketing, developing a working vocabulary of marketing terms, and developing an appreciation of marketing's role in organisations and society (syllabus, p. 1).
- 2. *Expert students are able to evaluate the e-learning environment at X University.*** This case study found that expert students who are studying in the faculty of computer science in the IT subject area were able to evaluate and redesign the Learning Management System (LMS). They have requested the E-learning Centre and the administrator level to involve them with instructors, technical support staff, software engineers, instruction designers and e-learning

leaders to evaluate the learning management system at the university (see Section 5.2.14).

3. ***E-learning is more helpful when it is integrated with face-to-face learning (blended learning).*** It was found that at X University, students had varied backgrounds in their utilisation of e-learning tools. Most of the students observed and interviewed during this case study investigation appeared to be best served by blended learning; that refers to courses or programmes that mix face-to-face and distance experiences (see Section 5.4.8.6), and ongoing support from their instructors and the technical staff. It was found that students still need face-to-face teaching; 'Face-to-face is good, and e-learning is interesting too. It's a tool that supports our learning but we cannot depend on it 100%' (focus group 1, 29 December, 2010). For example, Ahmed indicated that it would be beneficial for students if they had more time for online learning, perhaps by giving them some days off from regular classes (see Section 5.3.1).

However, it was found that there is a need to focus on the following:

4. ***Redesigning the interface, as well as the quizzes, questions, and assignments so that they are suited to the LMS.*** It was found that the materials uploaded to the Learning Management System by instructors were in need of redesign as most of the materials were in the form of Word files, PowerPoint slides or Excel files, lacking the most basic elements for attracting people. Students prefer to see more video clips, animations, sounds, pictures etc. The findings showed that there was a shortage of guidelines provided to instructors on how to evaluate those materials and whether they were attractive or not (see Section 5.2.12.1).
5. ***Giving attention to the students' needs, hearing their voices, providing training programmes and technical support.*** The research findings showed that there was

a need for students to open a channel to communicate directly with the E-learning Centre or the Centre's leader to discuss issues related to the LMS that the university is using. For example, one student said that 'there is a lack of contact between the people who are developing the system and the students' (Student A, focus group 1, 9 January, 2011). The students were willing to discuss issues with the LMS developer regarding how to make LMS more effective and how to use it for something other than PowerPoint. The findings also showed that there was a lack of workshops and training programmes provide for students on how to utilise the LMS at the university. For example, the LMS group leader said that the E-learning Centre did not offer any e-learning workshops or orientation to support students, as they expected that all students would be familiar with the technologies (see Section 5.2.8.1 & 5.2.12.1).

6. *Increase the interaction between students and their instructors who use e-learning whether inside or outside the classroom.* This case study showed that using e-learning tools increases interaction between instructor and students, and save time. For example, in Ahmed's case it was found that usually the interaction been through the use of cell phone, most of around % 95 of the engagement between him and his students was through this device. Ahmed encouraged his students to use multiple technologies rather than just the LMS environment (see Figure 5.8). Ahmed believes that learning will not end when the students graduate. So he was keen to change the idea fixed in their minds that when they finish their studies or their courses, learning will end. He tries to offer this kind of encouragement at least to his students (see Section 5.3.5). However, the students indicated that most of their instructors are not active in discussions in the LMS as they use it just for announcements or receiving assignments. The students did not

have significant interaction with their instructors who use e-learning: 'With some instructors, there was no interaction during the class, as we just listened to the instructor's lesson. However, there were some instructors who made use of the capabilities of e-learning with us.' (Focus group 1, 9 January, 2011). Other students indicated that some instructors do not reply to students' emails or questions.

5.7.3 Findings on the instructors' side (the four cases).

1. ***Instructors can use e-learning tools that students are interested in to increase the use of e-learning.*** The findings of this case study showed some examples of good practice in e-learning whether inside or outside the classroom. For example, the first three cases yielded a number of different examples on how to practice e-learning with students, including using Web 2 technologies, Centra, and simulation labs. Case four was less interested in utilising e-learning tools with students because for Arabic instructors there is a lack of training programmes that could improve their skills and willingness to utilise e-learning (see Sections 5.3 & 5.4 & 5.5).
2. ***Instructors who adopted e-learning early and got their training overseas are well able to apply what they have learned through professional development in e-learning and pedagogy.*** It was evident from this case study that some instructors are able to support students who use e-learning by engaging them in different activities, including, for example, in TED, Facebook etc. (see Sections 4.4.5 & 5.3.10.3).
3. ***Instructors can change their ways to be consistent when teaching using e-learning.*** This case study has showed that three out of four of

instructors who participated in this case study were able to adopt new styles of teaching when using e-learning including storytelling, work in groups and project work to attract their students to the new way of learning (see Section 3.6.7).

4. ***The teacher's beliefs about e-learning, based on different factors, play an important role and include experience, knowledge, support, willingness and self-motivation.*** Those qualities varied between instructors and played an important role in influencing the practice of e-learning inside and outside the classroom. The more e-learning experience, knowledge and willingness the instructor had, the greater was the influence of e-learning on classroom practices. If one of those qualities was absent, the results were different. For example, if an instructor has experience and knowledge in the use of e-learning tools but lacks the motivation to use the technology, his performance will be less than what might be expected from him. Ahmed, who has all of the requisite qualities, gave evidence of good practice in his utilisation of e-learning with his students (see Section 5.3.8.1).

However, it was found that there is a need to focus on the following:

5. ***Providing Arabic instructors with specific training programmes related to e-learning in the Arabic language.*** The shortage of staff who can provide training programmes for Arabic instructors to improve their skills on the use of e-learning could slow down its implementation (see Section 5.6).
6. ***The workload on the instructors and the class size could hinder the utilisation of e-learning.*** It was found that instructors were committed to

finishing their courses on time, attending office hours, correcting exams and assignments, etc. Those duties could impede the utilisation of e-learning (see Section 5.4.8.3).

7. *More workshops are needed, with practical examples on how to use the technology to take advantage of it in teaching and learning* (see Section 5.3.7.1).

5.7.4 Conclusion.

The conclusions drawn from these findings indicate that there is a need to change the strategies of the university to cope with the revolution in technology by making it possible for instructors to deliver courses or some sections of their courses using blended learning. Moreover, at the administrator level there must be a new mind-set (change in thinking) to improve their skills, knowledge and beliefs concerning e-learning. In other words, administrator level staff should be involved in online courses as students to understand the benefit of e-learning and to view it from a different perspective than the one they have before attending those courses. That would increase their knowledge and would help them to adopt new strategies that include e-learning. The researcher found that instructors' beliefs about e-learning had affected and influence their practice of e-learning for some and very little for others, All depended on their convictions in the matter.

Chapter 6

6.0 Discussion, implications and conclusions

This chapter discusses the findings, implications, limitations, recommendations and conclusions from the case study researching the development of e-learning at a higher education institution in Saudi Arabia. The chapter has five sections: Section 6.1 discusses the key research findings; Section 6.2 examines the implications of the research, particularly for practice; Section 6.3 examines the limitations of the research; Section 6.4 presents suggestions for further research and Section 6.5 draws conclusions concerning the significance of the research.

6.1 Key research findings

The findings of this research inform our understanding of how e-learning is developing at X University in Saudi Arabia and the importance of building a strategy adapted to the e-learning environment and the context of the institution when conducting e-learning. The study of Suhail and Mugisa (2004), conducted in Africa, indicated that, even though the implementation of e-learning may contribute to the development of education in developing countries, such as those in Africa, the strategies and techniques used to introduce it vary considerably from those used in developed countries because of differences in cultural and economic conditions. As a result, there is a need to address the socioeconomic and infrastructural constraints associated with the development of e-learning in these countries.

As Harvey (2003) argues:

Organizations exploring strategies for effective learning and performance have to consider a variety of issues to ensure effective delivery of learning...many aspects of the socio-economic and technological environment such as connectivity (low bandwidth) and accessibility, inadequate telecommunication infrastructure, and lack of reliable power supply are taken for granted that need to be addressed during technological

transformation in the context of developing countries. (cited in Suhail and Mugisa, 2004, p. 311)

The findings reported in this thesis are based on the work at X University and suggest that the implementation of e-learning in Saudi Arabia at X University faces the same issues as those highlighted by Harvey (2003, cited in Suhail and Mugisa, 2004). For instance, all Saudi nationals adhere to the religion of Islam and all government systems in Saudi Arabia are influenced by Islamic laws and principles (Saudi National e-Government Portal, 2014). In other countries, including some other Arab countries, this may not be the case; nationals may follow different religions and the influence of religion on the state may be minor.

One example here illustrates the way the education system in Saudi Arabia differs from that in many other countries. Female and male students receive their schooling separately and a certain degree of separation extends into university life, particularly in state-funded universities (Saudi National e-Government Portal, 2014). Consequently, the courses taken and the way learning occurs can sometimes differ for male and female students. When new initiatives, including e-learning, are adopted, strategies will need to take into account such differences, as a strategy developed in one country may not be appropriate for another. Hence, research into e-learning across different contexts is needed to highlight potential differences and offer appropriate recommendations.

The study by Tucker and Gentry (2009) conducted in the United States stressed that developing a successful e-learning strategy starts with planning and understanding institutional objectives for establishing an e-learning education platform. The institution must then make decisions about the use of technology prior to implementing an e-learning strategy, as new technologies transform how and

when students learn. There are many questions that the institution needs to ask, including questions about what type of hardware is required, how much it costs, what software is required and what bandwidth is needed. The institution must also consider how it will support the new technologies.

The development stage requires focusing on the performance of the learning platform and cost considerations. The findings in this research study are consistent with the literature reviewed in regards to technological issues. When X University adopted an e-learning strategy, it focused on a number of areas; however, it ignored the infrastructure of the e-learning environment, which is an important factor. This was most likely one of the causes for the slow implementation of e-learning at X University. The findings show that even though X University adopted strategies for implementing e-learning in some areas, including developing e-content (the instructional design) and professional development (PD) based on experience, knowledge, abilities, professional people and budget considerations (Khan, 2005), those strategies were limited in their implementation. Saudi instructors at X University indicated that, despite the existing strategies adopted by X University, there was no strategy for instructors or students on how to use the e-learning facility or the learning management system (LMS), nor was there a strategy on the use of LMS options, such as the class forum. In addition, strategies were lacking on how to develop e-learning infrastructure on all campuses and how to raise funds to support the implementation of e-learning at X University.

Moreover, the current study findings suggest that existing strategies should be improved for the effective use of e-learning. X University should redevelop its approach and focus on building a good e-learning environment that comprises many aspects related to the socioeconomic and technological environment. This includes

connectivity and accessibility, which will be limited by the present inadequate telecommunications infrastructure but which need to be considered for technological transformation in developing countries. As some institutions spend a large amount of money on establishing an e-learning environment, they may ignore factors such as bandwidth, which could create problems in the future (Suhail and Mugisa, 2007). The research findings show that a lack of bandwidth could mean that instructors are unwilling to upload materials—including video clips, pictures and lectures recorded by the instructors—which would consequently be unavailable for students to download. This was Morad's experience when he recorded himself teaching a section of his subject. The students were not able to download it, as the bandwidth was insufficient.

6.1.1 Findings regarding the organisation

The current research findings are consistent with the position taken by Rosenberg (2001), who maintained that institutions should spend time examining their learning needs and considering and understanding their capabilities. They must also consider the effect of e-learning when deciding whether to move towards developing e-learning strategies at their institutions. At first, X University focused only on how to implement e-learning as a way of enhancing teaching and learning. Its plan was not based on a demand from all students and instructors; instead, it was the work of a small group that adopted the idea. At that time, no investigation had been conducted among all instructors and students to discover their learning needs nor had anyone considered or understood the university's capabilities for carrying out such a project.

Concurring with the report of the e-Learning Advisory Group (2002), X University showed an awareness of the importance of implementing e-learning as an

extremely useful educational medium and as a means to cope with the revolution in technology around the world that is facilitating new ways of learning (Bellas, et al., 2010; Moor, 1994; Roblyer, 2008; Wolf, 1994). The university's first step was to establish a team to lead the e-learning initiative. This team received training on how to use e-learning and formulate a strategy to prepare people who would later implement the initiative at the university. However, research findings show that the university faced difficulties when it first sought to implement its e-learning strategy. When it adopted Blackboard as an LMS, the research shows that most academic staff were not aware of it and no guidelines were issued on how to use it. There was also a lack of guidelines on how to build effective infrastructure, how to use e-learning, and how to attract instructors and students to make use of e-learning.

In their implementation of the model described in their study, Suhail and Mugisa (2007) began with face-to-face teaching and the supplemental use of technology in the classroom. They followed this with the blended learning mode and then made the transition to fully online distance learning and mobile learning. The model used by Suhail and Mugisa (2007) was based on Khan's (2001) framework (see Figure 3.2).

The findings of the present research study are similar to those in the literature review, with some differences related to the Saudi context. The change effected at X University was a gradual transformation, shifting from conventional face-to-face learning to e-learning to conduct a smooth transformation without compromising the quality of education provided by face-to-face classroom interaction.

In their case study, de Freitas and Oliver (2005) argued that there is a relationship between e-learning policy, and the implementation of e-learning. They added that e-learning strategy is increasingly used as part of an organisation's change

management strategy. The findings of the present research show that this relationship at X University was weak, as will be discussed in detail later in this chapter. One reason for this weakness was the shortage of technical staff and the lengthy amount of time that the university was spending on the process of redesigning the old online materials that had been in place since the university adopted the e-learning initiative in 2002. An additional factor that was slowing the use of e-learning at X University was the lack of change in the university's general strategy towards e-learning (e.g., authorising instructors to deliver some lectures fully online, as the policy of the university emphasised mainly face-to-face teaching).

In Saudi Arabian culture, it is hard to change views that have been fixed in the minds of administrators for years if they are not willing to alter their way of thinking. Rosenberg (2001) claimed that changes in society, business and technology would reduce the effect of traditional learning and training methods. Thus, to keep moving forwards, society needs to transform its perceptions of learning. Rosenberg (2001) argued that 'from e-learning 'TALK' to e-learning 'ACTION' requires a strategy—a detailed plan to get your e-learning up and running and to make it durable over the long term' (p. 291). He also indicated that this strategy requires sufficient knowledge about what the institute plans to accomplish and a readiness to articulate the plan in a way that suits all stakeholders.

Khan (2005) noted that 'success in an e-learning system involves a systematic process of planning, designing, evaluation and implementation of an e-learning environment where learning is actively fostered and supported' (p. 142). This general conclusion is consistent with the current research findings, as the university acknowledged that, if it were to provide e-content in a way that attracts students, it must be based on systematic processes (Smith and Ragan, 2005). However, the

findings show that the university lacked some systematic processes, including knowing the learners, identifying teaching and learning strategies, identifying and selecting technologies and making a summative evaluation, as will be discussed later in this chapter.

Consequently, X University signed a contract with a professional educational agency to assist in these matters. One of this agency's duties was to develop e-content using a standard instructional design (Eberle and Childress, 2007) that included consideration of language, culture and religion. However, the study found that the guidelines of X University were not consistent with the e-Learning Centre's guidelines.

There was a gap between X University's general strategies for the quality of teaching and the e-Learning Centre's practices. Administrators were concerned that, if they provided courses fully online, the quality of teaching—a central requirement at the university—might suffer as a result. Conversely, the e-Learning Centre acknowledged that there was a demand to increase awareness of the benefits of using e-learning at the administrator level, as well as among instructors. The centre indicated that some instructors believed that if they were to use e-learning, they would have fewer class hours and might lose their jobs.

In his study conducted in New Zealand, Rosenberg (2007) pointed out that there is a large gap between their e-learning practices and their resources. The institutions that participated in the study were working on issues related to pedagogy, technology, infrastructure, policy, legal matters and funding, while the greater need was to focus on how to involve the people who will lead the e-learning initiative. In his study, Rosenberg (2007) grouped these issues (e.g., pedagogy and technology) together and put them to one side. His aim was not to ignore them but to give priority

to the greater need. It appears that, even in countries where work on these issues is more advanced than in New Zealand, the largest barrier to the adoption of e-learning is the people who will drive the changes, that is, the academic staff.

He argued that the challenge was attempting to involve people in leading the change from traditional ways of learning to e-learning. He pointed out that this change will not happen if the academic staff do not accept the value of these developments and do not acquire the skills and support to use them. This is because academic staff drive new initiatives through their interactions with learners and are the key to the sustainable integration of new methods into general teaching practice. Rosenberg (2001) focused on the teachers' role because they remain an essential major element in formal learning. Thus, there is a need to start from the basis of the motivations and values of individuals and establish supportive institutional and national policies that encourage academic staff in the desired direction.

Similarly, Conrad (2004) argued that many issues relating to the adoption of e-learning, including culture, government policy and remuneration of e-learning teachers, would also affect teachers' performance. In Saudi Arabia, although the situation is slightly different to what was found in western countries regarding the adoption of e-learning, the research findings at X University on this point are similar to what was noted by Rosenberg (2007). The issues of culture, government policy and teacher remuneration noted earlier were faced by X University in Saudi Arabia.

Implementation ignored the instructors and the question of how to get them involved in leading the initiative in e-learning. The findings showed that training programmes were lacking, there was no analysis of the needs of the audience, whether instructors or students (a subject to be discussed later in this chapter), and e-learning infrastructure was absent.

This situation left the e-Learning Centre caught between the administration and the instructors. It was not clear how the Centre could persuade the administration to change the strategies of the university to support e-learning or how it could provide the support required by both instructors and students if the administration was not willing to go further regarding the use of e-learning. The findings show that, at X University, more work with instructors was necessary to involve them in leading the process of change, including change in university strategies to support instructors in using the e-learning facility. The change to e-learning cannot be successful if the instructors are not recognised as a significant part of the transformation and if the considerations noted by Rosenberg (2001) above are not considered.

On this point, the literature is consistent with the current findings. Wild, Griggs and Downing (2002) affirmed that, despite the change in the nature of learning environments, e-learning would not replace campuses; rather, e-learning would create a new way of learning for students. E-learning will open new pathways and more opportunities for tertiary students to learn in more flexible ways.

The research findings confirmed this observation and indicated that the e-learning facility used at X University has not replaced on-campus classes; instead, it has opened up new possibilities for student learning. Students appeared to be best served by blended learning, which refers to courses or programmes that combine face-to-face and distance learning (Cavanaugh, 2009; Singh, 2003) (see Sections 3.1.2 & 3.1.3, pp. 37-38) with ongoing support from instructors and technical staff. The research findings show that Saudi students at X University still want face-to-face teaching, with one participant stating, 'face-to-face is good and e-learning is interesting too. It's a tool that supports our learning but we cannot depend on it 100%' (Focus group 1, 29 December 2010). This statement was clear evidence that

the learning methods to which those Saudi students at X University were accustomed and the traditional nature of the Saudi Arabian system of education mentioned earlier affected the way students thought about e-learning. In addition, the lack of e-learning infrastructure at X University resulted in student unwillingness to move forwards to fully online methods.

Thus, to improve the use and acceptance of e-learning, the people involved with it need to be considered. For example, there may be a need for intergenerational conversations to take place in new and creative settings (see Section 5.2.14, pp. 190-195) (Cantoni, 2011). It was found that this idea of intergenerational conversations could readily be implemented in a Western culture without difficulty, by sitting down with stakeholders, discussing issues and trying to find solutions that suited everyone involved. This sort of approach would most likely support and improve the use of e-learning. However, in Saudi culture, such an idea is hard to implement because, in the Saudi education system, students have to accept what is prepared for them for their study, even if they have the ability to improve the use of e-learning themselves. The study's findings provide clear evidence that there is a demand from students to be involved in such conversations to support and improve the use of e-learning at X University (see Section 5.2.14, pp. 191-193); however, the university has ignored that demand.

This point coheres closely with the research findings. Every year, at the beginning of Semester 1, X University holds a meeting, which is arranged by the e-Learning Centre as a conversation for everyone involved in e-learning at the university. This conversation includes instructors and e-Learning Centre staff, including staff members who work at the Centre to develop e-courses. They discuss issues related to e-learning, share experiences and knowledge and present examples.

Such conversation is relevant to the e-learning environment, especially in developing countries such as Saudi Arabia, where the introduction of the idea of e-learning came from Western countries and is the product of the evolution of technology experienced throughout the world. However, such meetings do not include students or administrator-level staff who, therefore, are not given the opportunity to raise and discuss issues related to e-learning. Indeed, these yearly meetings are not compulsory for all instructors to attend.

For the implementation of new ways of teaching and learning to be successful in Arab societies, continuous follow-up and evaluation are needed. The process of change from traditional methods used by the lecturers and professors for many years to the modern method of using e-learning needs constant work by all parties, including the e-Learning Centre. Conversations resulting from follow-up and evaluation reveal the strengths and weaknesses of the e-learning system, as participants discuss the problems and experiences of users and review conclusions reached by others, whether at a local or global level. There is no doubt that yearly meetings help the e-Learning Centre at X University to avoid mistakes, bring about policy change and provide opportunities for promoting the best use of e-learning at the university. However, the question of who is included in such conversations needs to be reconsidered in the case of X University.

A positive finding from the current research was that X University has the flexibility to implement this idea of intergenerational conversations to involve students and administrator-level staff so that they can incorporate the opinions and views of both students and instructors about their experiences with e-learning and how they could improve its use at the university. The findings also show that IT students could be involved (as suggested in Section 5.2.12.1, p. 184) in improving

the use of e-learning at the university because they have the ability to evaluate, suggest, develop and solve issues.

Khan's (2005) framework was developed to be applied to e-learning of any scope. He maintained that a diversity of aspects, which he grouped into eight dimensions, including institutional, pedagogical, technological, interface design, evaluation, management, resource support and ethical considerations (see Figure 3.1), may help create a meaningful learning environment. In addition, many of these aspects are interrelated systemically and are interdependent. They must be studied in a systematic way to help designers create a meaningful learning environment. These components reflect Khan's philosophy, his understanding of what e-learning means. His framework might assist X University to reshape their general strategy so that it accords better with the strategy espoused by the university's E-learning Centre.

However, the researcher found that the political perspective is a fundamental component that ideally should be taken into account in designing an e-learning framework. The importance of this will increase significantly, especially in countries governed by a monarchy, such as Saudi Arabia. The political perspective should be included in Khan's framework to give the political people the opportunity to participate in the development of education. A further reason to include the political perspective in Khan's framework is that the higher education budget in Saudi Arabia is officially allocated by the Prime Minister, the King of Saudi Arabia.

Moreover, Khan's framework includes the evaluation component as a major aspect. This assists designers and teachers to evaluate the effectiveness of a designed framework. However, understanding the ability of the learner as a major participant in e-learning is a very important matter. Consequently, the pre-evaluation of learners will help teachers to identify many issues that can affect the performance of learners,

such as computer skills, the attitudes of the learner towards both online and traditional classroom learning methods, and the ability of learners to attend traditional classes.

Thus in order to ensure that this framework will contribute to developing teaching and learning in higher education in Saudi Arabia, the researcher suggests that including pre-evaluation in Khan's framework is essential to evaluate learners who have varying views and come from various areas of the country.

For the purpose of this research, the researcher has developed a model of e-learning which includes eight factors that can be used to help all stakeholders, including instructors, administrative staff, and students at X University, to deliver their material and courses via e-learning (see Figure 6.1). The model may be useful for other universities if they take into account the research recommendations.

In this model, ideally, the university should develop a strategic plan for the e-learning environment. This plan should address the following areas.

First, it is essential to know the audience (students and instructors), an aim that can be achieved by designing an instrument for both students and instructors to investigate/pre-evaluate their experiences, knowledge, needs, culture and willingness/abilities in utilising e-learning tools.

Second, the capabilities of the university must be established, to ascertain whether it is able to provide funds for the e-learning initiative, technical support, ongoing training for all stakeholders, and the infrastructure necessary for e-learning. This includes the latest technology – high bandwidth available inside and outside campuses, open electronic courses and materials, and electronic access to the library.

Third, with regard to preparation, the university has to consider many factors, including establishing an e-learning department or centre which will lead the

initiative and set up a professional e-learning development programme for all stakeholders, , linked with a rewards programme to encourage and motivate them to participate. Ideally, this programme should be compulsory for all.

The X University needs to establish an online community and encourage all stakeholders to participate in it, with open links to other learners, whether local or international, using various technological means, including Web2 technology. Furthermore, in their strategic plan the university must have clear policies for both students and instructors on how to utilise e-learning, whether blended learning or fully online. In these policies, the university should provide students with a graduate programme that allows them to take some of their credits fully online.

Fourth, instructors must choose a suitable pedagogy in support of the e-learning environment and must have a clear policy on how to design e-learning materials. The pedagogical approach promotes an understanding of the processes by which students learn and act together with technology, leading to effective learning and teaching. Furthermore, instructors have to consider such factors as the method of teaching, the means or technologies they use to deliver their content, the objectives to be achieved, the quality and nature of the interaction between students and their teachers, and the assessment of students and student feedback.

The researcher proposes a model to be integrated with the implementation of the study that he believes will aid instructors to prepare for the delivery of the e-learning initiative. It covers these basic steps: know learners' needs, choose a suitable pedagogy, design course materials, and then evaluate their implementation.



Figure 6.1. Delivery of e-learning – necessary steps (Almaghlouth, 2014).

Through the investigation conducted in this case study, it was found that students were interested when engaged in various activities that involved e-learning tools. The findings coincide with those of Ally (2011), who maintained that the designers of e-learning materials should include a variety of activities to suit each of the different ways of learning so that students might select an approach that accommodates their specific learning needs. These findings are consistent with the literature. Eberle and Childress (2007) observed that the Know, Want, Learn, How technique, developed by Donna Ogle, helps in getting to know the learners because identifying the clientele is an important first step in designing e-learning.

Client identification can help instructors in adapting materials for differences in culture, language, ability and technology to suit all student needs. This technique can be used effectively as a graphic organiser with e-learning students to determine their academic needs and support their self-directed learning. Using this technique, learners list a number of points, including what is known about the subject, what one wants to know, what one learns during the course and how one can learn more. This can help students choose the path they want to follow, which makes the class more

significant. It can also assist the instructor in developing and adopting course materials.

It is clear that this line of reasoning flowed from the desire to change from the traditional way of teaching to the new way of e-learning, which is dependent on the use of e-learning tools to enhance teaching and learning. The findings also show that students made a number of useful suggestions regarding ways in which they can evaluate the e-learning environment. Khan (2005) considered the student, or learner, to be of key importance to the educational system, just as the institution's practices and the content prepared by the instructors are of importance for all students.

Training and professional development conclusions

The findings presented in this thesis illustrate how instructors, students and e-learning staff were engaged in the e-learning environment and point to potential inadequacies in this engagement. For example, despite the training programmes that X University provided, mainly through the e-Learning Centre and aimed at instructors, it was found that this training was inadequate for improving the knowledge and experience of all instructors and students. This was because previous training programmes failed to ensure that instructors understood the benefits of using the new tools available in the e-learning environment and how to use and activate them. Moreover, the previous training programmes and workshops were limited in scope, of short duration and generally did not include specific examples. In addition, the findings highlight the lack of training and workshops aimed at informing students how to use e-learning via the LMS. The X University believed that students already had the necessary skills, whereas the findings indicate that there were students who did not know how to use the technology.

A specific example of the lack of appropriate training was identified in the case of the Arabic language instructor, due to the translation problem and the shortage of staff who can provide training programmes in Arabic language. Although training was provided, there was evidence of an inability to implement what had been learnt in the training programmes, as these were in English. There was also a lack of specific training programmes and workshops with practical examples of how to use the technology in the Arabic language.

There were serious inadequacies in the e-Learning Centre's initiatives in providing guidelines for designing and developing e-courses, as well as in the training programmes provided to all instructors on how to design their materials. Through the study of e-courses uploaded to the LMS and of subject materials created by the instructors who participated in this research, it was found that these materials were in need of redesign, as most were simply in the form of basic Microsoft Word, PowerPoint or Excel files.

Based on the research findings, the problem here was not with those programmes but with the people who used them. Teachers who adopt e-learning may not effect significant change in their classroom teaching because they may not be aware of the ways that e-learning could change or improve their teaching methods. Teaching is an art and every teacher is unique in the way they present their content. Teachers should be artists with a profound knowledge of attracting and retaining students' attention. Students today are more technologically aware, as they are born in the digital era. The research found that the students did not object to the use of familiar Microsoft Office programmes but preferred to see video clips and multimedia which stimulates, triggering emotions and attracting attention and interest. Such rich online materials are an essential part of the e-learning paradigm.

The current study findings suggest that the X University needs to provide guidelines for students on how to use the e-learning facility, must pay attention to student needs and provide training programmes for them. For interaction between students and instructors in the e-learning environment, technological tools need to be used, including the iPad and iPod. The findings show that many Saudi students now use iPads, iPods and smartphones, like the iPhone or Blackberry (see Section 5.3.8.3, p. 217), which they can use to access educational features, including searching for additional references related to their courses. Educators cannot ignore the development of the Internet and web technology or the development of electronic devices, such as the laptop, iPad, iPhone, iPod, smart phone technology and mobile technology, nor can we simply return to the traditional form of teaching. The way students access information for themselves must be considered.

Furthermore, for preparing classes other helpful technological tools include cameras and voice recorders. These can be used to record lectures and upload them to the LMS for student reference so students can refer to them at any time, as required. However, integrating e-learning content in the classroom may be objectionable in Saudi Arabia, especially in teaching women. Educational institutes do not permit mixed gender classes for cultural, religious, and traditional reasons. In some areas in Arabic countries, women may become e-learning instructors. Similarly, Saudi Arabia is adopting acceptable means of delivery of e-learning courses.

Following on the interviews and the feedback obtained from them, however, one e-learning leader expressed the view that change should be expected in the delivery of e-learning for women. He expressed the belief that Saudi culture is changing and already a large number of online courses have been developed and are

being used as supplementary content. He was confident that very soon they might be used for offering online programmes at X University. Pressure towards cultural change is building to include women at the university. (ECL, Interview 2, 21 January, 2012).

E-learning technology can be used to overcome part of this problem. For example, a male instructor can deliver lectures online to female students one way. They can ask him questions using microphones and he can answer them without the use of video. This can be applied for female instructors and male students as well. This ensures that important religious customs are maintained in the learning environment. Currently, these tools are not sufficiently accessible to instructors and students at X University.

With the revolution of the technologies, instructors may also use new style of learning which is 'The Second Life' to create a natural 'setting' for online sessions, presentations, workshops, training programmes, etc. Such this idea of a 'Second Life'; the virtual classroom as a teaching/learning tool may help instructors of both sexes to deliver their sessions without the difficulties that might arise in a context where female and male students must study separately. As in the virtual world, the instructor can simulate his or her teaching persona as if it were real and then use that persona as a model to deliver a lecture without physically sitting together with the students. The above example may suggest what is achievable and may help to guide universities not to turn their backs on new ideas simply for religious reasons.

As argued in previous paragraphs, X University must focus on the needs of students to increase their knowledge and skills in using e-learning at the university, whether by providing them with tools with which they are familiar or by providing training programmes aimed at supporting the use of unfamiliar tools. Findings from

the current case study indicate that students who were studying on their own have learnt how to work independently. When they participated in online discussions through class forums, searched the Internet to find information related to their subjects or engaged online with other learners through social media, such as Flickr, Twitter, Facebook and TED talks, students reported that they perceived their learning to have improved and that they were able to learn new things independently of the instructor. When they spent time searching the Internet or discovering new technologies, they would try new things. Sometimes they were successful, sometimes they were not; however, in simply trying, these endeavours increased their knowledge and ability to make use of e-learning tools.

These findings are consistent with the literature. Mansvelt, Suddaby, O'Hara and Gilbert (2009) agreed that informal PD (self-training) depends on knowledge gained via the Internet, the library and the online community, where learners are helped by other staff members, including other learners, instructors, and experts, to overcome challenges that those learners cannot manage alone. What was found in Ahmed's case was evidence that Saudi instructors are able to implement this idea with their students, encouraging and motivating them to be self-trained. When students search the Internet, reading articles and adding examples to their term papers, they learn how to use the technology, practise it and benefit from it. By implementing this idea, Ahmed would motivate his students to be self-directed learners with guidance from him which might lead to better learning. However, from the start, both instructors and students must be interested in doing this. Mansvelt et al. (2009) illustrated the point: 'You get a group of people together who are interested and you can have a discussion and that's really fantastic, and that builds a sense of community' (p. 239).

However, in the traditional Saudi education system, where instructors teach and students listen, which means one-sided delivery of the subject, it is not easy for an instructor to move from a well-established form of pedagogy to allow learning to become more independent. As a result, there is a need to consider learners as the centre of learning, understanding their needs, providing them with more options, allowing them to interact with their peers, ensuring they have suitable support from their instructors, and providing them with a guide on how to become independent students, all this leading to a higher standard of learning.

At the same time, when students use the technologies, they need to keep in their mind the risk that the Internet may take them away from what their instructors want from them. However, the risk is always there. Students have to decide what they want to do.

Marshall (2009) suggested that when there is a programme for teaching or training staff in the use of e-learning, it should have design and development support and the staff need to build ongoing relationships with the developers. Within the Saudi context, the research findings of X University show that when there was a programme or workshop on the use of e-learning, the trainers—usually experts from overseas—would present their lectures and return home. Thus no connection was established with them or links left open to discuss matters with them in future, as needed. There should at least be design and development support for instructors to share their experiences in workshops rather than simply having experts in the field present lectures. Accordingly, there is a need for e-learning facilities at X University to include an open online community with the trainers/experts. Implementing such an idea would at least provide the opportunity for instructors to follow up as needed with the trainers or those responsible for e-learning development.

6.1.2 Key research findings—instructors (four cases)

This research found that instructors could use e-learning tools of interest to students to increase e-learning practices. The conclusion drawn from this is consistent with the findings of the literature review, which point out that the learning environment in educational institutions around the world is changing. This change has been effected by the revolution in technology, including the Internet, which has opened new paths of learning (Rosenberg, 2001). E-learning can be an extremely useful educational medium (Report of the e-Learning Advisory Group, 2002), and its importance is growing as the development of ICT tools facilitates new ways of learning (Bellás, et al., 2010; Moor, 1994; Roblyer, 2008; Wolf, 1994).

Three of the four instructors who participated in this case study showed a high level of awareness in using multiple technological tools with their students to increase the use of e-learning and thus enhance teaching and learning. This is consistent with the findings in the literature. The use of these different e-learning tools is in response to student demand. For example, in Ahmed's case, it was found that he used various e-learning tools in response to student demand and based on his own and the students' interest. The fourth instructor, Dr. Dawood, showed less awareness in using e-learning tools with his students, potentially because of the instructor's low level of experience and knowledge in applying e-learning tools to his daily teaching, which resulted in less practice in the use of these tools.

Moreover, the literature indicated that when adequate support is in place, e-learning provides a good source of practice and motivation for both instructors and students. Cantoni (2011) found that educators are searching for the best strategies to support their students' growth to become more educated and skilled in the field in which they teach. The current research findings are consistent with Cantoni's

statement. Evidence for this can be seen in the case of Ahmed who, as the findings show, was not interested in using the LMS as a main channel for delivering his subject materials to students. He found that web technologies, such as Flickr, Facebook and Twitter, were the best tools to support him and his students. The investigation found that he would use one web technology tool every semester. Sometimes he would provide a training programme and guidelines for students who did not know how to use the web technology. The findings show that the way Ahmed used the technology encouraged students to do likewise, as they were using something in which they were interested. His approach provided the students with the means to practise e-learning (see Section 5.3.5, pp. 209–211).

Another example that is consistent with the literature review (Steel, 2009) can be seen in Morad's view that adequate support means that the instructor's knowledge and mastery of the subject matter lead to good teaching. He believes that for students to receive adequate support in their use of e-learning tools and technologies, they must be provided with a variety of activities that cover all of their needs.

Students today are involved with a revolution in technology. In Saudi Arabia, most students own different types of technological devices including laptops, iPads, and smartphones, and can knowledgeably access various types of web technology, including Twitter, Facebook, Flickr and YouTube (Saudi National e-Government Portal, 2014). When studying in the e-learning environment, students expect their instructors to provide them with more activities that can meet all of their needs.

Students at X University like to engage in new activities. Some prefer to work in groups. It can be group work on homework or a project so that they have to sit together and discuss. Other students rely more on reading and some try to learn by doing. One example of this can be seen in Ahmed's case when he asked his students

to go to any market, take 100 photos, then upload them to Flickr, just to see the potential of the technology.

Some students are interested and enjoy it when their instructors apply some new idea with them. Morad's case, for instance, gives excellent examples of how he used e-learning tools to provide adequate support for himself and his students, leading to better learning. Morad explained that to overcome clashes between classes waiting to use the science laboratory and frustrated because equipment was unavailable, he created a virtual laboratory for his students as an activity. He pointed out that the cost of the equipment was too high to justify, so they used virtual equipment. Through this activity, students created extensive virtual experiments. What was found in Morad's case was consistent with the literature review. Webb (2008) noted that the aims of simulations were to explore difficult phenomena, minimise the risk of dangers that could arise during experiments and examine things that are too small, large, fast or slow for direct observation. In addition, virtual experiments can simulate equipment that is unavailable (see Section 5.5.1.2).

Instructors can understand student needs through discussion and feedback. The feedback will tell the instructors where he is and where the students are. The research found that at the end of each course module, Morad built in a reflection segment where students were required to illustrate what they had learned from the module, what they thought should be in the course and what was missing. Thus, by implementing such feedback, instructors can cover all student needs.

The research findings show that the most important factor in e-learning is not using the technology but rather using the technology to facilitate and deliver the content in a way that students find attractive and understandable. Morad believed that for instructors to make learning effective, they must have the capability or the

‘magic’ to involve students in a variety of activities that cater to all student needs and provide the opportunity to practise these e-learning activities in a helpful, attractive way (see Section 5.5.9.1, pp. 272–273).

Overall, it was found that instructors who received their training overseas and adopted e-learning earlier than others at X University were better able to provide students with sufficient support based on their knowledge, experience and willingness. They did not depend simply on the technologies available to them but tried to discover the best strategies to attract students to the field in which they were studying (see Section 5.3.1).

The findings also show that the four instructors investigated in this research agreed that more work is needed to improve the practice of e-learning at X University by providing more training, making more e-learning tools available for both instructors and students, and creating policies that facilitate the use of e-learning. For example, Dawood’s case provided evidence that much work was needed to improve awareness of e-learning and its use, which should be developed through appropriate training programmes.

However, the current study also identified potential barriers to successful training. One issue found at X University was specific to Arabic instructors or instructors who teach their subjects in Arabic. The difficulty was that they are not provided with training programmes or workshops specifically in the Arabic language. All workshops and training programmes are in the English language and even Blackboard, recently introduced, is in English. This means that the instructor has to find ways to use English-language training in an Arabic language class. This could create potential problems for the instructor because of resource limitations

(there may be no resources in Arabic), the time necessary for translating English originals, and the unavailability of technology.

These difficulties illustrate the burden of the workload identified by all instructors at X University. Instructors are committed to finishing their courses on time, attending office hours and correcting exams and assignments. Their work responsibilities do not afford them much free time to gain additional training and their duties may impede the use of e-learning (see Section 5.4.8.3).

Another reason for the difficulty in providing such specific training programmes, either in English or Arabic, is the high cost. Even though training programmes were provided from time to time for instructors at X University, these were not enough to cover all instructors and all areas that related to e-learning. The consequences were reflected in the Arabic-language instructors' reluctance to use e-learning inside or outside the classroom. In their practice, it was evident that they did not understand the benefits of e-learning and of delivering their subjects using e-learning tools. Progress will not come about without increasing awareness and providing more training, together with the support and availability of e-learning tools.

The large difference between the three instructors who received their training overseas and the Arabic instructor who did not was evident in the former's interest in using e-learning tools. For instance, Ahmed and Saud wanted more time to be made available for instructors to use e-learning tools. They wanted to rearrange the size of classes and create policies that would allow instructors to deliver some lectures fully online. In addition, Ahmed advocated the use of social media and smart devices to interact with students, as he was unwilling to use the LMS for his subject area, finding that social media provided better channels than the LMS. Meanwhile, Morad

was involved personally in submitting a proposal to the administration to establish a new policy authorising instructors to deliver some of their lectures fully online. In Dawood's case, the situation was different, as he saw no advantage in using e-learning tools.

Anderson (2004) noted that a characteristic of excellent e-learning instructors is that they enjoy dealing both with students and with the technology. They have sufficient knowledge of their subject, convey enthusiasm both for the subject and for their task as learning motivators, are equipped with a pedagogical understanding of the learning process and have a set of learning activities at their disposal with which to orchestrate, motivate and assess effective learning. The findings of this current research are consistent with what was found in the literature review and present and illustrate examples of Saudi instructors at X University who were able to engage with their students while using e-learning tools.

To be clear, what was affirmed in the preceding paragraph does not imply that those who cannot utilise e-learning tools dislike students or do not enjoy dealing with students. The point is rather that in the e-learning environment especially, active instructors who are able to use and introduce different e-learning tools with their students will take the initiative to do so. Instructors like Ahmed, Morad and Saud will not go to the trouble of using such tools with their students if they are not interested in those tools and do not enjoy using them. The findings are also consistent with Anderson (2004). For example, it was found that Ahmed was more engaged with the content himself when he interacted with his students using e-learning devices. Usually, his interaction with students took place via mobile phone, which accounted for around 95% of their interaction. Ahmed encouraged his students to use multiple technologies rather than just the LMS environment (see Figure 5.8).

Garrison and Anderson (2003) and Khan (2005) indicated that integrating pedagogy with technology is essential. They investigated the capabilities of a variety of technologies to examine how their characteristics could be used for different types of learning for specific content types.

In addition, awareness of the type of learning environment that needs to be established is required (Rosenberg, 2001), together with a clear demonstration of its usefulness in all cultures and communities. Consequently, e-learning that depends on the use of ICT tools must be thoroughly explained to people moving from a traditional learning model to an e-learning model. Educators at the tertiary level need to be well supported and well prepared to use e-learning, otherwise it is likely that the effective use of these technologies will not be achieved.

Knowing e-learning pedagogy and the art of teaching—that is, the strategies, methods and style of instruction—is considered an important reason (noted by Hase and Ellis, 2002, cited in Wang and Reeves, 2007) for making the shift from traditional classrooms to the e-learning environment. The literature emphasises that there is a need to understand the processes used by students to learn and act together with technology, leading to the creation of e-learning.

The findings of this case study provide clear evidence that three instructors were able to help their students engage with e-learning by involving them in various activities, as their strategies always allowed for a variety of means for taking advantage of e-learning.

The findings also indicate that instructors acknowledged the importance of assessment. Three of the four instructors who participated in this research were able to apply different types of assessment with their students including quizzes, creating projects, leading open discussions to solve issues related to the subject area, and

setting assignments that had to be completed as a team or individually. The aim is to increase student learning and provide a variety of opportunities for them to learn. The findings indicate that different types of assessment motivated and encouraged students to learn through using e-learning tools. This is consistent with the literature (Ally, 2011).

Gearhart (2012) found that being an e-learning instructor is not simply a matter of content or technology; rather, it relates to what is done with the content and technology. Instructors need to understand how to deliver content using e-learning tools, understanding what factors are needed to attract students to what is being presented inside the classroom. It is about the pedagogy and e-learning, the art of teaching, which is the strategies, methods and styles of instruction. The adoption of new technologies has added one more consideration to course design.

Rosenberg (2007) found that factors such as motivation and encouragement could play an important role in change. Gautreau (2011) indicated that motivation should be fostered by available resources and a system of rewards and incentives; however, most educational institutions ignore these factors.

The current research found that e-learning pedagogy played a significant role when using e-learning. This finding is consistent with the literature (Steel, 2009). For example, Ahmed's case showed that he was skilful in the use of technological tools and encouraged his students to engage with them. His case showed that factors such as motivation and encouragement play a significant role in instructors' and students' lives. He said that these two factors were important for students to make good progress in learning. Ahmed encouraged his students to use Twitter by sending them an email and asking them to help build an online community that included him and his students and other learners around the world. As motivation, he would

congratulate students on good class performance or assignments. In addition, he might mention an article in class without giving its title. Later, he would ask the students to search it, read it, understand it and then tweet a summary of what the student understood from that article to share his knowledge with other students. The students who completed this assignment received permission to leave the class at any time (see Section 5.3.5, pp. 209–211).

6.1.3 Teachers' beliefs concerning e-learning

It is important to explore how teachers' beliefs about teaching affect the way they adopt e-learning tools in their classroom practices. The research found that to increase teachers' commitment at X University to using e-learning, they should implement this approach practically in the classroom. The research findings demonstrated that developing e-learning in the classroom related not only to issues with the technology but also and more specifically to finding ways to actively involve teachers in the use and practice of e-learning.

The research findings show that factors such as experience, knowledge, support, willingness and motivation play an important role in influencing the practice of e-learning inside and outside the classroom at X University. This is consistent with the literature review. For example, Rosenberg (2007) found that, in most educational institutions, if instructors were not willing to move towards the new way of learning, change would not occur. As a result, motivation and encouragement factors need to be applied to attract learners to this type of learning. Pressley et al. (2003, p. 160) noted that teachers begin their teaching careers with prior knowledge, beliefs, attitudes and experiences about teaching their specific subjects. They extend and modify these ideas as they progress in their teaching career. However, their initial knowledge and perceptions will influence their teaching roles. Studies of

teachers' knowledge, beliefs and ways of thinking indicate that 'teachers actively think as they teach and what they know and believe about teaching very much affects the classroom decisions they make' (Pressley et al., 2003, p. 160).

In addition, Pajares (2008) noted that when teachers seek to implement new methods without sufficient experience or practice, they might revert to traditional teaching methods, which is what happened with the Arabic instructors (see Section 5.6). Some studies have suggested that altering teachers' beliefs about technology is required to change how they use technology in the classroom (Campbell, 2003; Park and Ertmer, 2007). The conclusion drawn from this is consistent with what was found in the current study, which was that the necessary experience and practice must include a full awareness of the benefit of using e-learning tools inside and outside the classroom. Valuable experience and competence result from providing ongoing training in both Arabic and English, especially in Saudi Arabia. X University uses English as a basic language and Arabic as an additional language for some subjects and this approach is applied in other universities in Saudi Arabia.

In addition, instructors must have experience, knowledge, support, willingness and motivation. The findings show that the more e-learning experience, knowledge and willingness instructors had, the greater the influence of e-learning on their classroom practice. If one of these qualities was absent, the results were different.

This was clearly so in the case of Saud. The findings indicate that he was experienced in using the technological tools, as he is a computer science instructor. His knowledge of the benefits of using the technology determined his e-learning practice. Centra (a web conferencing system software programme), selected him to deliver a lecture fully online. However, the lack of support (low bandwidth) affected

his motivation and willingness to carry out the task. Thus, the factors mentioned earlier play a significant role in the use of e-learning inside and outside the classroom. By contrast, in Ahmed's case, the low bandwidth was not an issue because he was not attempting to imitate Saud's practice with his students, delivering some lessons fully online for Centra and uploading them to the LMS. Rather, he used social media and his smartphone to interact with his students, a manageable task with the bandwidth available at X University.

In Ahmed's case, the findings showed that the experience he received from using a variety of technological tools, including the iPhone, iPad, iPod, Twitter, Flickr and Facebook, increased his knowledge regarding the benefits of using them. The findings also show that Ahmed's willingness to own these devices and learn about them created self-motivation and affected the way he practised e-learning with his students inside and outside the classroom, so that he provided excellent examples (see Section 5.3).

6.2 Implications of the research for practice

The findings of this research lead to the following implications for the use of e-learning as a pedagogical strategy, as well as in the design of the e-learning environment:

1. Pedagogical and assessment practices support the use of e-learning.

Institutions such as X University need to devote extensive work to developing a strategy to enhance teaching and learning experiences in the e-learning environment that aligns with student needs and the available capabilities of the university. This strategy should enable students to be flexible learners in most of their subject areas and should include setting authentic, relevant tasks

that suit activities; planning activities that direct attention towards accomplishing particular goals; using Web-based technological tools; and adopting activities to mediate action. The relationship between student learning, feedback and assessment should be clearly stated in university strategy and course designs.

Despite the high cost of providing campuses and classrooms with enough equipment to improve the use of e-learning, this step would provide both instructors and students with the opportunity to engage better with the e-learning environment at X University. Therefore, an ideal suggestion is to provide or at least encourage the use of modern technological devices, including iPads, iPods and smartphones because most students own such devices. This research indicates that when instructors use this technology in their teaching, students become interested and encouraged because they are familiar with the technology used. Clear evidence of this was found in Ahmed's case (see Section 5.2.9, p. 171).

Through the investigation of the e-learning environment at X University, it was found that each school or faculty should ideally have an e-learning classroom (virtual classroom) controlled by the e-Learning Centre. Although initially expensive to implement, it could be seen to save money for the university and save time for the instructors. For example, rather than furnishing all classrooms with high-cost tools and equipment, it would be better to equip only one room in each faculty, which would be monitored and coordinated by e-learning staff and serve all instructors who would like to deliver lectures fully online.

However, with only one e-learning classroom in each faculty/school, it may not be possible for all instructors to make use of the room and this may result in clashes between instructors wanting to use the classroom at the same time. Moreover, not all instructors may be able to use it if they have a tight timetable or other academic commitments.

To solve these difficulties, ideally the e-Learning Centre would control all the e-learning classrooms and draw up an electronic list for all instructors wanting to use the rooms. For example, if one department's e-learning classroom is busy, instructors with the electronic list could find another e-learning classroom in a different faculty/school.

This would save time for the instructors because there would be no need, for example, to spend time setting up and preparing equipment to make videos and record or upload lectures to the LMS, as everything would already be permanently installed as part of the room's system. The task would not take much time, regardless of whether instructors or technical staff performed the actual recording or uploading.

This idea would support instructors as they could use this room in two ways. First, instructors who wanted to deliver their courses or course lectures online could do so in two ways: synchronous (where the instructor and students interact online at the same time) or asynchronous (where the instructor records himself as he presents his lecture alone and uploads it to the LMS, enabling students to see it at any time).

Second, the research findings suggest that the e-learning environment at X University, each classroom should have a limited number of students because this would help instructors to interact, schedule more activities and

keep students under control when using e-learning. Accordingly, a dedicated smaller room for e-learning would force the university to consider such administrative issues as class size, reducing the number of students in each classroom (Khan, 2005). This would not meet the government's goal of cutting costs by maintaining large groups of students in one class but may be a good way to convince the X University to provide a fully online programme for those students who cannot attend university for job reasons, for example.

Additionally, following on from the first point, instructors could meet with their students in the e-learning room, or record their lectures and upload them to the LMS so they are available for students to return to whenever they need them. This could be helpful for students who are unable to attend their class for any reason, and to serve as an online resource. This system would also be good for the instructor, giving him the opportunity to review his lecture and check if there was something missing or if he needed to improve his style of teaching.

This idea of a dedicated e-learning room would encourage instructors and students at X University to increase their use of the e-learning facilities. At the same time, the e-Learning Centre would ideally encourage all university instructors to use these rooms at least once a month.

Instructors could also increase delivery of their lectures in the e-learning room once their use of the room was linked with a reward system, which allows instructors who take advantage of the e-learning classroom to receive extra salary. This new reward programme would involve awarding points so that when instructors reached the required number of points, they would receive a salary bonus. In addition, if there were compensation for

extra time devoted to using e-learning or developing online materials or a competition between instructors in each school to observe and promote the use of e-learning, it is more likely that instructors would be motivated to take advantage of e-learning tools. This technique of offering rewards would work with instructors in X University. If there is nothing to encourage them, they will not make the effort to use e-learning.

This strategy must be controlled by a group responsible for the ongoing follow-up of its implementation by all stakeholders to ensure it is carried out as intended. Based on the research findings of the current case study, in Saudi culture, especially in the education system, some instructors are not concerned if they fail to accomplish assigned tasks unless pressure is put on them or unless they are interested and have the motivation and willingness to carry them out.

2. Saudi students' perceptions at X University influence the use of e-learning. Student contributions to the learning process are essential for developing better teaching and learning strategies. The research findings highlight some good examples relating to this point. The findings also show that Saudi students' perceptions influence the use of e-learning and can serve as an incentive to develop better teaching and learning strategies at X University. For example, students claimed that the university had not installed Web 2.0 channels, as other universities around the world had done. On noting this, the university developed its website to include Web 2.0 channels. It was also found that expert students studying in the faculty of computer science in the IT department would be able to evaluate and redesign the LMS if they were given the opportunity to become involved with the e-Learning Centre.

In another example involving Ahmed, it was found that his students sometimes suggested that he use e-learning tools with which they were familiar. As a result, he spent time learning how e-learning tools worked and how he could modify them to suit what he wanted to deliver. Student experiences in the use of e-learning tools and understanding the purpose of these tools can often influence learners' capabilities in undertaking technological activities.

3. Providing adequate support and operational management for e-learning at X University leads to better learning. Factors include open links between course materials and activities and library resources and reshaping existing materials to provide accurate information to students about resolving issues with their studies. The findings show that X University failed to equip its campuses with the infrastructure required for the e-learning environment because of the cost and lack of technical staff who could provide training programmes for all university staff and because most academic staff were unaware of the benefits of using the technology.

This research drew the important lesson that the X University must focus on how it invests in preparing instructors, administrator-level staff, and students in becoming knowledgeable in the use of e-learning tools. This must be done in a way that serves student needs and influences teaching and learning. The research findings show that the three instructors who received their training overseas and showed willingness and motivation acquired the art of delivering their subject materials in a way that attracted students. This approach can be called 'e-learning pedagogy'. Implementing the use of technologies is not only a matter of how to use them but also of how to

motivate students to take part. Not all Saudi instructors at X University have those abilities. To reach that level will take time and needs more extensive work to prepare the instructors.

As a further step, instructors must have a sound knowledge of e-learning pedagogy, as this will support them in creating their e-courses. They can gain this knowledge by following the various steps outlined by Elbaum, McIntyre and Smith (2002), including attending workshops on distance education or undertaking at least one online course that is aimed at making the instructors more knowledgeable about how to present the content they will teach online.

The research findings indicate that although there was a programme provided for instructors to undertake training overseas, the training could not be offered to all university staff. The overseas training programme was offered every 3 to 4 years, which was not enough to ensure all staff were involved. Ideally, this programme should be offered every year, making it available in two languages (Arabic and English) and increasing the number taking the training. The University could reorganise its budget used for redesigning old materials and spend this on the overseas training programme.

An increased understanding of how to deliver subject material in a way that attracts students is central to teaching. The training programme would include understanding the strategies, methods and styles of instruction related to the goals of the course to be delivered. Instructors may be experts in their field but do not necessarily understand the art of delivering information to their students using e-learning technology if they have not received the necessary training. This can be seen in Dawood's case. He did not attend the

programme overseas and it was not possible for him to take it in the English language. Consequently, he was not able to embrace the e-learning technology to the same degree as the instructors who did attend the course.

In contrast, this research provides excellent examples of instructors who received training overseas and attended online courses as students. This experience proved useful and has contributed to their e-learning practices at X University. However, although this was beneficial, they still needed further training in different disciplines regarding e-learning, including extensive training programmes in instructional design. Providing such online courses for all university instructors will lead to better engagement with the e-learning environment. It is not necessary for all training to be completed at once, as this would be expensive. However, such training could be implemented group by group until all of the university's instructors have had the experience.

In addition, the current researcher found that to increase the use of e-learning at X University, more support is needed at the executive level to ensure that the e-learning initiative will succeed. The challenge is to move forwards from mere words of support to true ownership of the initiative. To promote improvement in skills, knowledge and understanding of e-learning, administrator-level staff should take part in online courses as students to experience the benefits of e-learning, and those courses should be well designed to help in adopting e-learning.

A suitable course could be negotiated and organised with the e-Learning Centre. Later, the e-Learning Centre could allow administration-level staff to attend less well designed courses to expose them to the

differences between the two courses, which might help them to recognise where the gap is and how to fill it. Attending online courses would increase their knowledge and help them to adopt new strategies that make use of e-learning.

Based on the findings of this research, implementing this idea would help administrator-level staff see the benefits of the e-learning environment and increase their knowledge and experience. In turn, this would influence their decisions. In addition, administrator-level staff should be encouraged and motivated to attend online courses or a group of online courses so that they understand the importance of implementing e-learning at the university (Rosenberg, 2007). Such online courses would help them to realise the advantages and disadvantages of e-learning.

This could be achieved by increasing the number of e-learning training programmes and workshops provided. Ideally, the workshops and training programmes should be made compulsory.

4. Evaluation and quality control of the e-learning environment at X University is required through its entire lifecycle. When seeking to implement a Western idea, such as e-learning, in Arab countries in general and in Saudi Arabia in particular, there is a need to identify the audience to determine their readiness for this initiative. Arab and Islamic countries differ from their Western counterparts in culture, customs, roles, religion, and educational systems. Thus, the research findings show that a more extensive collection of information from instructors, staff and students about their experiences of e-learning support is necessary. This information should provide a picture of

what is going on in the e-learning environment and encourage the e-Learning Centre to improve e-learning practices at X University.

The findings suggest that the X University must assess students' learning needs prior to designing or recommending courses (Tucker and Gentry, 2009). For instance, the adoption of new technologies should be considered in course design. Knowing how to plan new activities that cover all student needs and use different styles of teaching in the e-learning environment is required, as 'the problem is not how to get new thoughts into your mind, but how to get the old ones out' (Austin, cited in Rosenberg, 2001, p. 200).

Institutions, including X University in Saudi Arabia, usually do what they decide is useful for students from their own perspective, without taking into account students' opinions. The findings suggest that to assess student needs accurately, the university should open a channel of communication between university leaders and students to improve the use of e-learning, leading to a better understanding of student needs. It may be useful for the university to implement this proposal through the e-Learning Centre or the student services department. The university could appoint a knowledgeable person in the e-learning environment who is able to pass on student ideas to the administration and convince them of the importance of those ideas.

In addition, instructors need to understand how students learn in general and how they learn in a specific subject. To apply this new model of teaching and learning, there is clearly a need to understand students' learning processes (see Section 3.4, pp. 56–57). This is consistent with Khan (2005),

who stated that audience analysis would lead to better preparation of the e-learning environment.

Providing an improved survey strategy would require instructors, technical staff and students to complete feedback on the e-learning environment and an ongoing review of the LMS. Although there is an online survey installed in the LMS to obtain feedback at the end of each course, instructors are always burdened by their workload and do not complete the survey if they are not encouraged to do so. Based on the research findings, not all Saudi instructors at X University use or activate the LMS feedback and review facility.

In addition, the findings show that the existing survey was limited to questions such as: ‘Does the material cover the course in a satisfactory way? Is it easy or hard to understand the material? Is the language used easy or difficult?’ As mentioned earlier, the e-learning initiative represents a Western approach to learning.

Consequently, in the absence of special educational agencies or organisations with the ability to accomplish the task in Saudi Arabia, it is difficult to find people who are qualified to carry out such a survey and analyse it. It is not impossible; however, more work is needed and, to ensure objectivity in the evaluation, it is important that the survey be carried out by a group outside the university. Providing such a survey requires the e-Learning Centre to obtain support from an organisation that is knowledgeable in the evaluation of the learning process—whether face-to-face or via e-learning. This organisation would work together with the e-Learning Centre to provide a survey that would cover instructors, students and IT staff. This survey

would be analysed to obtain results to pinpoint where the university needs to do more work to improve the use of e-learning. Thus, further research is required in this area.

6.3 Limitations of the Research

Although the above recommendations are worthy of consideration in further research, a number of noteworthy limitations may affect the reliability and validity of the findings, particularly their generalisation to other contexts.

Firstly, the research focussed on 14 interviews, seven focus groups and eight class observations, as well as document analyses. The research was conducted in one Saudi Arabian city between 2010 and 2012. The participants included an e-Learning Centre leader, an LMS leader, a design group leader, four instructors and 82 students, as well as the National Centre for e-Learning and Distance Learning leader. However, the research consisted primarily of a case study of four instructors from a single university of the 25 universities in Saudi Arabia. Consequently, some or all of the findings may not be generalisable to other universities.

However, despite the limitation that this case study was conducted at one university in Saudi Arabia, involved small samples, and the findings may not be generalised to other universities, the study provides detailed descriptions of each case, including the research site, the participants, the courses, the design and findings, and these provide the basis for the reader to judge the findings' degree of transferability from the case study context to the reader's context (Cohen et al., 2005). Additionally, the study provides insight into the development of e-learning in higher education and provides a picture of real people in real situations (Bell, 2005) at X University in Saudi Arabia. Therefore, the study, together with the details and

rich data it has yielded, provides valuable insight that could be usefully applied to other institutions in Saudi Arabia. The study may be generalizable when future research takes the recommendations derived from this thesis into account and its findings should assist other researchers, educators and policy makers to benefit from the lessons gained and to make more informed decisions in their own context.

Secondly, this research does not include interviews with administrative staff about their perspectives on the use of e-learning. The findings were mainly analysed using Khan's (2002) existing framework and by utilising the researcher's perspectives, interviews and observations. Some of the explanations may appear insufficient because they lack the richness of the voices of administration-level staff. Accordingly, it would be ideal if follow-up interviews were conducted with administration staff and policymakers to gain a better understanding of their past actions and their vision for the future of e-learning at X University.

Regarding the online community, the research findings were limited by the researcher's access to Ahmed's Web 2 technology channels, including Facebook, Twitter and his smartphone (the means he used to communicate and interact with his students) only. The researcher did not have access to the LMS class forum for the other participating instructors who participated because Morad and Saud were busy with academic commitments and Dawood only used it for making announcements or receiving assignments.

Therefore, the results may not provide an accurate picture of how instructors usually interact with their students when using the class forum. In e-learning, the interaction between instructors and students via the class forum system is an important factor. Such class forums are the basis for building an online community in the e-learning environment (Ryba, Selby & Mentis, 2002), leading to increased

knowledge and shared information. Consequently, further research focussing on the online community would be ideal.

Additionally, the research findings were limited by the fact that the researcher did not have access to universities that include female instructors and students. Accordingly, it is recommended that other case studies of female instructors and students be implemented by a female researcher, to further understand how the e-learning system functions in Saudi Arabian education.

The sample of students who participated in this research was limited in that participants came from disciplines selected by the researcher for inclusion (namely computer science, mechanical engineering, marketing and Arabic language studies). Additionally, students who volunteered to take part in the study had been selected by instructors for involvement and many, with the exception of Dr Dawood's students, were knowledgeable regarding the use of e-learning. Had the student selection been based on other criteria and taken from other disciplines, their perspectives may well have differed from those currently reported.

6.4 Further Study

Future research should be conducted to investigate the effects of implementing the recommendations derived from this thesis. This research could involve a similar qualitative study to the one undertaken, instead following the institution and staff through the implementation period of the recommendations, although this may take several years. An evaluation of the influence of the recommendations could then be based on changes in participant views over the period of the study: prior to implementation, during the period when the

recommendations were coming into effect, and following their full utilisation in the institution.

Again, future research could focus on a group of tutors (chosen for specific reasons), studying their perspectives on the e-learning initiatives, as well as those of students and administrative and support staff. For example, a future study might investigate the perceptions of a larger group of instructors with a wider range of experience, knowledge, beliefs and specialties in e-learning from several universities in Saudi Arabia, rather than a single institution.

A careful pilot study should be implemented before conducting the full formal study and participants could be provided with a preparation programme in e-learning, linked with a rewards programme, encouraging them to participate in the study. As the class forums are the basis for building an online community in the e-learning environment (Ryba, Selby & Mentis, 2002), both the full study and particularly the preliminary pilot study and its preparation programme might start with identifying online community channels, their features, functions and benefits. It could focus on how they work, providing practical examples and training. Providing such a programme would increase participants' knowledge about online communities.

Students participating in these studies would serve as a link with university leaders, sharing ideas and avenues for optimising of e-learning. Investigating and pursuing this idea might improve the use of e-learning and lead to a better understanding of student needs. Participants in this pilot study would be exposed to the wide variety of technologies and styles of learning in a way that does not strain the boundaries of religious and cultural values in the Saudi Arabian context. Further

gaps could then be identified, which could support the revision and further development of recommendations.

Additional work could be conducted to determine the level of generalisation of the current findings. For example, for reasons detailed above, the present research was limited by a lack of access to female instructors and students. Consequently, further work might examine the manner in which the e-learning system is developing in Saudi Arabia from the female perspective.

As the sample in the present study did not include university administrators, further research might also focus on their perspectives. Clearly, conducting similar research in other universities in Saudi Arabia would be useful to assess the generalisability of the findings. Moreover, the selection of participants could be widened to include stakeholders from a range of programmes and staff from different areas.

Further, in view of the different methods of using e-learning in universities (such as web-based, blended and Web 2 technologies), it would be valuable to compare learning outcomes across these differing technologies to discover the most useful type of e-learning in different contexts. This might take the form of a comparative study across Saudi universities to evaluate their different experiences in the use of e-learning.

Studies could also be undertaken to identify differences between e-learning and traditional (face-to-face) teaching methods. For example, the current study demonstrates that a gap exists between X University's general strategies for the quality of teaching and the practices of the university's e-Learning Centre. Administrators were concerned that if they provided fully online courses, the quality of teaching—a central requirement at the university—might suffer as a result.

Evidence that learning within a Saudi university does not suffer from the use of e-learning methods may ease such concerns and further research may be used to discover which method (e-learning or face-to-face) receives the most positive feedback from learners. It would also be useful to discover any additional factors to those found in the present study (e.g. motivation, encouragement, willingness and interest) that influence the utilisation of e-learning and its applications. Despite the excitement that e-learning offers, further studies should be conducted to identify either positive or negative long-term and short-term effects of the use of different types of technology in teaching.

The present study demonstrates that to fill the gap between the university's teaching and learning aims and the outcomes of e-learning, as well as to advance the university's use of e-learning, more support is needed at the executive level. This study's findings suggest that administration-level staff must participate in professional development programmes that include attending e-learning workshops as frequently as possible, while also attending e-learning meetings scheduled for the beginning of each semester. By participating in such programmes, the administration staff's knowledge about the e-learning practices at their university would increase, which should optimise the success of the initiative and ensure that the technology is used appropriately in teaching. Further studies might focus on implementing this notion and seek to assess its benefits.

The current study demonstrates the important argument that building a strategy aiming to develop online communities might produce better activation of, and involvement in, online discussion and interaction between instructors and students. In the Saudi Arabian university context, further work considering different

types of online communication channels (teachers-to-teachers, teachers-to-students and students-to-students) would be useful.

The present study focusses on the use of ‘Web 2 technologies,’ but does not examine in great depth other tools such as the ‘LMS class forum’; nor does it deeply investigate the type and level of interactions between students and instructors. Such additional research may reveal the reasons for delays in the activation of online communities. It may also form the basis for work on independent learning and the effect of using e-learning tools on learners, including interaction via online communities and information searched over the Internet. Such research may inform proposals reflecting the limitations and boundaries of using e-learning tools in the Saudi university context, as well as suggesting the roles that instructors should develop to encourage learners to be independent students.

The current study demonstrates that existing strategies should be improved for the effective use of e-learning. The university needs to rethink and redevelop its approach to e-learning and focus on building a good e-learning environment that takes into account many aspects related to the socioeconomic and technological environment.

Considering the repeated complaints about the inadequate technological infrastructure for e-learning from both instructors and students, technological investigations could consider the reasons for the failure to effectively implement e-learning at the university from the perspective of instructors and students. The current research importantly demonstrates that the university must focus on the manner in which it invests in preparing instructors, administration-level staff and students to increase their knowledge of the use of e-learning tools.

6.5 Conclusions

The description of current research into how e-learning continues to develop at X University as a case study in one university in Saudi Arabia emphasises the importance of building a strategy adapted to a specific e-learning environment and the context of the particular institution conducting e-learning. Consistent with previous research in other contexts, this study highlights the importance of the teacher's convictions about e-learning and the way these convictions affect the practice of e-learning in the classroom at X University.

The study clearly demonstrates that despite the undeniable value gained by instituting well thought-out e-learning programmes, this implementation must be undertaken carefully, thoroughly and with full preparation. A rush to implement new methods alienates those who are not convinced of utilising e-learning. It is very likely that a combination of the two approaches—the traditional and the technological—will continue to be required, particularly in X University in the Saudi context.

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Appendices

Appendix 1

Interview's Questions for Instructors in the First (1) Round

Project title: The Development of E-learning in Higher Education

Organisation:

Course Name:

Course Code:

Date: / /

Instructor Name:

Day:

Key research question: *To what extent does the practice of e-learning at university X in Saudi Arabia match the guidelines provided by the university?*

Introduction:

I would like to obtain your perceptions and experiences through this interview. In particular, the interview is designed to explore the environment of good practice in e-learning. The purpose of the study is to assist Saudi Arabia' support staff, teachers and students who are moving from a traditional mode of teaching to the new mode of teaching – 'e-learning' – in order that they can develop an effective practice of e-learning that reflects the language and culture of their country. It is also to enhance teaching and learning.

Questions:

1. In what ways do teachers at the tertiary level use e-learning?
 - Could you please tell me about what form of e-learning you use (online, blended learning, or not online - e.g. e-portfolio)?
 - Which tools do you use with your students?
 - How has their use of an LMS been successful and unsuccessful?
 - How do you collect assignments?
 - How you distribute any supplementary resources among learners?
 - Is there any formative assessment?
2. What are educators needs for professional development (PD)? How are these needs being met?

- As you may know, the online community has an impact on future e-learning developments. Have you been involved in any online community? If not, is there any plan or strategy to build a community of e-learning adopters within and across institutions? If so, what are the processes to perform that plan?
 - In terms of PD, training, and support for academic staff, is it optional or compulsory? Is it continuous or are there just one or two workshops?
 - Are there any rewards and incentives for academic staff improvement in general?
 - Is there any compensation for extra time devoted to developing e-learning courses for educators?
 - Have you received any encouragement or persuasion to use and develop e-learning?
 - Do you find any difficulty when you try to implement what you have learned about e-learning? If so, what do you do to overcome this difficulty?
3. What technical staff work with the teachers and students, and how do they support the e-course?
- How will users (internal and external) of an LMS be supported? How will training be implemented?
 - Is the institute involved in any partnerships that could help in establishing activities including e-learning infrastructure; LMS and applications; creating e-learning materials, PD, etc.? If so, what is their role in doing that?
 - What is the process used by educators at the tertiary level in designing e-content?
 - What about the phases of development from course design to delivery to evaluated?
 - Beyond the Internet, what additional technologies will be needed to deliver learning objectives (CDs, DVDs, podcasts, teleconferences, web and video conferences, white boards)?
 - Where and how do you or the technical support provide orientation for new learners? Is it done one-to-one or in group sessions?

- What orientation do you or the technical support provide about e-learning?
4. What are the current pedagogic beliefs of teachers at the tertiary level about e-learning?
- What have been the impacts of e-learning on interaction between students and educators? In addition, what have been the students' outcomes?
 - What do you do to communicate with your learners (telephone, face-to-face, email, other)?
 - How will you solve technical problems students may have with computer and the Internet?
 - How do you provide feedback to learners about their progress and performance?
 - What are the conditions needed to tailor e-learning courses that serve New Zealand needs, cultures and context and are suitable for the diversity of educators?
 - What do you do to understand the needs of each one of your students?
 - What do you do to motivate your students to become more self-directed in their learning?

Appendix 2

Interview Questions for Instructors in the Second (2) Round

Teachers' Belief

Project title: The Development of E-learning in Higher Education

Organisation: _____ **Course Name:** _____ **Course Code:** _____

Date: / / **Instructor Name:** _____

Day: _____

Key research question: *What influence do teachers' pedagogical beliefs have on the practice of e-learning at the university?*

Introduction

I would like to discover your perceptions and experiences through this interview. In particular, the interview is designed to explore your beliefs about e-learning. In order to understand how e-learning is developing in higher education in Saudi Arabia, it is important for me to explore how teachers' teaching beliefs impact on the ways they adopt e-learning tools in their classroom practices. Your help is very much appreciated in contributing towards a better understanding of more culturally relevant ways of e-learning adoption and practice in Saudi Arabia's higher education system.

Questions: These questions will cover two areas: beliefs and practices.

A: Do you believe that e-learning has a significant role in teaching?

1. Why did you become interested and involved in e-learning in your classroom practice? [Probe: when started, how started, why started, how many years]
2. What essential skills do you believe a lecturer needs for e-learning?
3. Who do you believe are the other people/services who are crucial to the e-learning process?
4. Do you believe that your students could provide some good suggestions about e-learning for their class with you?

5. In what way do you think Saudi culture influences your adoption of e-learning?
6. How do you think your course content influences your adoption of e-learning?
7. How do you believe your pedagogy influences your adoption of e-learning?

B: What is your practice with e-learning?

1. Which course(s) have you developed and taught using e-learning tools? [Probe: types of courses — fully online or mix mode (web enhanced / supplement), current online course teaching and number of students in online class]
2. Did you have to change your teaching style when you used e-learning? In what way, or why do you say that? Can you give me a specific example?
3. How has e-learning changed your teaching practice in:
 - a. your role as a lecturer?
 - b. your interactions with your students?
4. How would you describe your role as a teacher?
5. How do you know when learning is occurring in your classroom?
6. How does the Saudi culture influence the way you teach?
7. How does the Saudi culture influence the way your students learn? How can using e-learning maximise/support student learning?

Appendix 3

Interviewer's Questions for Technical Staff

Project title: The Development of E-learning in Higher Education

Organisation:

Technical Staff Name:

Date: / /

Day:

Key research question: *To what extent does the practice of e-learning at university X in Saudi Arabia match the guidelines provided by the university?*

Introduction:

I would like to obtain your perceptions and experiences through this interview. In particular, the interview is designed to explore the environment of good practice in e-learning. The purpose of the study is to assist Saudi Arabian support staff, teachers and students who are moving from a traditional mode of teaching to the new mode of teaching – ‘e-learning’ – so they can develop effective e-learning practices that reflect the language and culture of their country. It is also to enhance teaching and learning.

Questions

1. What does the e-learning unit do to accommodate e-learning?
 - What strategies have you used to recruit educators to use the learn module (Moodle, Blackboard, WebCT) that you operate?
2. What are educators' needs for professional development (PD)? How are these needs being met?
 - As you may know, the online community has an impact on future e-learning developments. Has any online community been established? If not, is there any plan or strategy to build a community of e-learning adopters within and across institutions? If so, what are the processes to carry out that plan?

- In terms of PD, training, and support for academic staff, is it optional or compulsory? Is it continuous or are there just one or two workshops?
 - Are there any rewards and incentives for academic staff improvement in general?
 - Is there any compensation for extra time devoted to developing e-learning courses for educators?
3. What technical staff work with the teachers and students? How do they support the e-course?
 - How will users (internal and external) of the LMS be supported? How will training be implemented?
 - Is the institute involved in any partnerships that could help in establishing activities, including e-learning infrastructure; LMS and applications; creating e-learning materials, PD, etc.? If so, what is the partnership's role to do that?
 - What is the process used by educators at the tertiary level in designing e-content? How you evaluated the contents, the staff, and the design?
 4. What are the current pedagogical beliefs of educators at the tertiary level about e-learning?
 5. What are the conditions needed to tailor e-learning courses that serve Saudi Arabian needs, cultures and context and that are suitable for the diversity of educators?

Appendix 4

Interviewer's Questions for Leaders in the First (1) Round

Project title: The Development of E-learning in Higher Education

Organisation:

Leader Name:

Date: / /

Day:

Key research question: *To what extent does the practice of e-learning at university X in Saudi Arabia match the guidelines provided by the university?*

Introduction:

I would like to obtain your perceptions and experiences through this interview. In particular, the interview is designed to explore a good practice environment for e-learning. The purpose of the study is to assist Saudi Arabian support staff, teachers and students who are moving from a traditional mode of teaching to the new mode of teaching – ‘e-learning’ – so they can develop effective e-learning practices that reflect the language and culture of their country. It is also to enhance teaching and learning.

Questions:

1. What does the institute do to accommodate e-learning?
 - Is there support for the initiative from the Ministry of Education?
 - Is there any e-learning unit or department?
 - Are the students informed of any policy relating to e-learning and their courses?
 - What strategies have you used to recruit learners to e-learning courses that the institute provided?
2. What are educators' needs for professional development (PD)? How are these needs being met?
 - As you may know, an online community has an impact on future e-learning developments. Has any online community been established? If

- not, is there any plan or strategy to build a community of e-learning adopters within and across institutions? If so, what are the processes to carry out that plan?
- Is PD, training, and support for academic staff optional or compulsory? Is it continuous or just one or two workshops?
 - Are there any rewards and incentives for academic staff improvement in general?
 - Is there any compensation for extra time devoted to developing e-learning courses for educators?
 - How are educators encouraged and persuaded to use and develop e-learning?
3. What technical staff work with the teachers and students, and how do they support the e-course?
- How will LMS users (internal and external) be supported? How will training be implemented?
 - Is the institute involved in any partnerships that could help in establishing activities, including e-learning infrastructure; LMS and applications; creating e-learning materials, PD, etc.,? If so, what is the partnership role to do that?
 - What is the process used by educators at the tertiary level in designing e-content?
 - Beyond the Internet, what additional technologies will be needed to deliver learning objectives (CDs, DVDs, podcasts, teleconferences, web and video conferences, white boards)?
 - How much time of your time is spent supporting e-courses, compared to more typical maintenance?
4. What are the current pedagogical beliefs of educators at the tertiary level about e-learning?
5. What are the conditions needed to tailor e-learning courses that serve Saudi Arabian needs, cultures and context and that are suitable for the diversity of educators?

Appendix 5

Interview Questions for Off-Campus Leaders

Project title: Development of E-learning in Higher Education within Saudi Arabia.

Organisation:

Date: //

Day:

Key research question:

To what extent does the practice of e-learning at university X in Saudi Arabia match the guidelines provided by the university?

Introduction

I would like your perceptions and experiences through this interview. In particular, the interview is designed to explore the e-learning environment in Saudi Arabia and how it is developing. The purpose of the study is to assist Saudi Arabian support staff, teachers and students who are moving from a traditional mode of teaching to the new mode of teaching – ‘e-learning’ – so they can develop effective e-learning practices that reflect the language and culture of their country. It is also to enhance teaching and learning.

Questions

E-learning and Distance Learning Initiative (National Centre)

- Q 1.** I would like you to talk to me about the initiative to establish the National Centre (when it started, where the idea came from, the support for the centre).
- Q 2.** Does the National Centre have a partnership with any others? Of what kind? What are the mechanisms to provide these services by the partners?
- Q 3.** How does the selection of team work at the Centre and on what basis? What are the roles of each member of this team?
- Q 4.** What is the role of the Centre? Who are the beneficiaries of the Centre?
- Q 5.** Is there any support provided to universities, especially for centres or deanships of e-learning at these universities? What kind of support? Is there coordination between the universities and the Centre for the exchange of experiences? Is The centre involved in that?

- Q 6.** What is the e-learning policy followed by the Centre?
- Q 7.** With respect to the educational e-content, does the Centre prepare any academic content that can be utilized by colleges and universities? What is the mechanism used for that?
- Q 8.** Are the universities supposed to use systems that are run by the Centre such as Learning Management Systems (LMS) for example, or does each university have its own policy? If not, what is the involvement of the Centre with these universities?

Training or professional development

- Q 1.** What is the training strategy used at the Centre? What are the most important training programmes made? Who are they made for? Are they free of charge or are fees paid by the trainee? Are the programmes ongoing or are they occasional?
- Q 2.** Does the Centre offer any technical support for universities and institutions regarding e-learning and distance education? What kind of support is offered?

Systems developed by the Centre

- Q 1.** We find a lot of universities based on English language teaching. Since the universities have their own policies and the freedom and right to use the systems they deem appropriate, which are mostly in English, what is the objective of the systems that are developed by the Centre, which are in Arabic?
- Q 2.** Who uses these programmes developed by the Center? If the answer is the universities, is there a conflict with what the universities offer?
- Q 3.** When the Centre developed the LMS programmes in Arabic, was the goal to preserve our Arab identity since we should not simply absorb foreign ideas as they are but must amend them to fit in and harmonise with our customs, religion, and policies? What works for the West may not work for us.

Appendix 7

Observation Schedule

Project title: The Development of E-learning in Higher Education

Organisation:

Course Name:

Code

Name:

Date: / /

Day:

Key research question: *To what extent does the practice of e-learning at university X in Saudi Arabia match the guidelines provided by the university?*

Introduction:

The observation will focus on the interaction between teachers and students, delivery of e-content, when and how the e-learning teaching mode is used, how effective the e-learning is for both teacher and student. It will also explore the mode of e-learning, whether it was distance online learning or online blended with campus activities. The purpose of the study is to assist Saudi Arabian support staff, teachers and students who are moving from a traditional mode of teaching to the new mode of teaching – ‘e-learning’ – so they can develop an effective practice of e-learning that reflects the language and culture of their country. It is also to enhance teaching and learning.

Research instruments	
Class lecturers pre-session report	
Preliminary information	
Organisation	
Course Name	
Tutor	
Session	
Date / / 2010	
<p>I would appreciate it if you could outline your lesson plan for this session, attach it if already prepared, including:</p> <ul style="list-style-type: none"> • Teaching objectives • Learners, tasks and learning objectives • Materials and means that will be used in this session 	
Please comment on the following questions:	
1. In what way will you use e-learning (blended learning) in this session?	
2. What are the planned patterns of teaching with e-learning (blended learning) in this session?	
3. For this session, what forms of presentation teaching material will be used and how are these integrated with ICT presentation and use?	
4. Please note any particular technology to be used in this session?	
5. Any additional comments about your use of LMS?	
<p>Thank you for your participation. I would appreciate it if you could send this report with your lesson plan to oaal2@uclive.ac.nz or post to PO BOX: 12368 Al-Dammam 31473 Saudi Arabia.</p>	

Appendix 8

Focus Group Questions for Students Second (2) Round

Project title: The Development of E-learning in Higher Education

Organisation: _____ **Course Name:** _____ **Course Code:** _____

Date: / /2012 **Student Name (optional):** _____

Day: _____

Key research question:

What influence do teachers' pedagogical beliefs have on the practice of e-learning at the university?

Introduction

I would like first to thank you for your agreeing to participate with me in my research. Through these questions, I would like to discover your perception and experiences of e-learning. In particular, the interview is designed to explore your beliefs about e-learning. In order to understand how e-learning is developing in higher education in Saudi Arabia, it is important for me to explore how teachers' teaching beliefs impact on the ways they adopt e-learning tools in their classroom practices. Your help is very much appreciated.

Questions:


A: Do you believe that e-learning has a significant role in your learning? Why?

1. Why did you become interested and involved in e-learning in your classroom practice?
2. What essential skills do you believe your teacher needs for e-learning?
3. Who do you believe are the other people that are crucial to the e-learning process?
4. Do you believe that you could provide some good suggestions about e-learning for your class?
5. How do you believe the Saudi culture influences your adoption of e-learning?
6. Do you believe the content is sometimes a barrier to using e-learning tools?

B: What is your practice with e-learning?

1. Which course(s) have you studied using e-learning tools?
[Probe: type of courses, fully online or mixed mode (web enhanced/supplement), current online course teaching and number of students in online class]
2. Did you have to change your learning style when studying using e-learning? In what way, or why do you say that? Could you give me a specific example?
3. How would you describe your role as a student?
4. Did your teacher provide any activity for checking students' understanding in the classroom?
5. How does Saudi culture influence the way you learn?

Appendix 9



Respondent Information

First Name	Last Name
<input style="width: 90%;" type="text"/>	<input style="width: 90%;" type="text"/>
Your E-Mail Address	
<input style="width: 80%;" type="text"/>	

Several groups use the TPI to survey their personnel. You may be a member of one of those groups. Please read the following list carefully. If you are a member of one of those groups, check the appropriate button. If you are certain that you are NOT affiliated with any of those groups, check the final button at the end of the list that reads, 'No, I am not a member of any of these groups.' You must check the correct button before proceeding to answer the TPI questions.

- SoTL** - Multinational Teaching Fellows
- UNAP-TDI** - Universidad Arturo Prat
- U21** U21 - Global
- PSU-JFDP** Junior Faculty Development Programme
- UTEC** - UTHSCSA: San Antonio
- CSMLS** - CSMLS Forum; Hamilton ON
- DUC** - Deakin / Calgary Universities (On-line & F2F Study)
- OT-ENS** - OT Educators' National Survey
- SEA** - Society for Education in Anesthesia
- CALT** - Canadian Assoc. of Law Teachers
- UBC - CIS** Computer Integration Study - UBC
- PAS - ESP** - Pediatric Academic Societies - Educational Scholars Programme
- NMU-T** - NMU Supervising Teachers
- NMU-S** - NMU Student Teachers

- **PSU** - Pediatrics Department, Hershey Medical Center
- **RP** - Republic Polytechnic, Singapore
- **VCHA** - Vancouver Coastal Health: Educators' Workshop
- **WUN** - Worldwide Universities Network US/UK
- **UBC** - Certificate in Practice Education in Health Services
- **U of T** - Toronto Teaching Scholars Programme
- **U of O** - University of Ottawa ABE Instructor Study
- **LSU** - Louisiana State University Faculty
- **UCLA-VA** - PM&R Residency Programme Faculty
- **USQ** - University of Southern Queensland
- **APMEC** - 2nd Asia Pacific Medical Education Conference
- **MSU** - Michigan Interns Team 2
- **MSU** - Michigan TE-150
- **MSU** - Michigan TE-807
- **MSU** - Michigan Faculty-Teacher Ed
- **UC Davis** - Teaching Scholars Programme
- **PANKEY** - Pankey Institute Dental Faculty
- **Duke** - Graduate School Pathways
- **Korean** - Instructors and Educators
- **UII** - Kennslufræði HI (University of Iceland)
- **UBC** - UBC Teacher Education Longitudinal Study
- **BCIT** - British Columbia Institute of Technology
- **PIDP** - Provincial Instructor Diploma Programme (VCC)
- **ITESM** - Instituto Tecnológico y de Estudios Superiores de Monterrey

- JIBC** - Justice Institute of British Columbia
- AAOS** - American Academy of Orthopaedic Surgeons
- RRU** - Royal Roads University
- UBC Adult Education Courses
- UBC** - Faculty SoTL Leadership Programme
- UTAS** - University of Tasmania
- No, I am not a member of any of these groups.

Taking the Teaching Perspectives Inventory ...

This inventory will help you identify your perspectives on teaching. As you consider the following statements, think of specific content and learners. If you are not primarily a teacher or instructor, think of a situation in which you usually have some educational responsibility.

NOTE: Because these statements represent contrasting views of teaching and learning, you will agree with some, but not all, of the statements below. Try to discriminate between statements that do and do not represent your views.

Different Educational BELIEFS: *What do you believe about instructing or teaching?*

For each statement, select the response that best represents your Agreement or Disagreement.

Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree

	SD	D	N	A	SA
1. Learning is enhanced by having predetermined objectives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. To be an effective teacher, one must be an effective practitioner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Most of all, learning depends on what one already knows.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. It's important that I acknowledge learners' emotional reactions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. My teaching focuses on societal change, not the individual learner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Teachers should be virtuoso performers of their subject matter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. The best learning comes from working alongside good practitioners.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Teaching should focus on developing qualitative changes in thinking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. In my teaching, building self-confidence in learners is a priority.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Individual learning without social change is not enough.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Effective teachers must first be experts in their own subject areas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Knowledge and its application cannot be separated.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Teaching should build upon what people already know.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. In learning, people's effort should be rewarded as much as achievement.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. For me, teaching is a moral act as much as an intellectual activity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Different Educational INTENTIONS: *What do you try to accomplish in your instruction or teaching?*

For each statement, select the response that best represents how OFTEN it represents your educational intention.

Never | Rarely | Sometimes | Usually | Always

	N	R	S	U	A
16. My intent is to prepare people for examinations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. My intent is to demonstrate how to perform or work in real situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. My intent is to help people develop more complex ways of reasoning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. My intent is to build people’s self-confidence and self-esteem as learners.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. My intent is to challenge people to seriously reconsider their values.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. I expect people to master a lot of information related to the subject.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. I expect people to know how to apply the subject matter in real settings.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. I expect people to develop new ways of reasoning about the subject matter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. I expect people to enhance their self-esteem through my teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. I expect people to be committed to changing our society.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. I want people to score well on examinations as a result of my teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. I want people to understand the realities of working in the real world.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. I want people to see how complex and inter-related things really are.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. I want to provide a balance between caring and challenging as I teach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. I want to make apparent what people take for granted about society.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Different Educational ACTIONS: *What do you do when instructing or teaching?*

For each statement, select the response that best represents how OFTEN you do that action.

Never | Rarely | Sometimes | Usually | Always

	N	R	S	U	A
31. I cover the required content accurately and in the allotted time.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. I link the subject matter with real settings of practice or application.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33. I ask a lot of questions while teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. I find something to compliment in everyone's work or contribution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. I use the subject matter as a way to teach about higher ideals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. My teaching is governed by the course objectives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37. I model the skills and methods of good practice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38. I challenge familiar ways of understanding the subject matter.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39. I encourage expressions of feeling and emotion.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40. I emphasize values more than knowledge in my teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
41. I make it very clear to people what they are to learn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
42. I see to it that novices learn from more experienced people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
43. I encourage people to challenge each others' thinking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. I share my own feelings and expect my learners to do the same.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
45. I link instructional goals to necessary changes in society.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Submitting your completed TPI questionnaire ...

Before proceeding, please verify that you've answered all the questions and that the e-mail address you included at the top of this form in the **Respondent Information** box is accurate.

[return to top of form to verify information](#)

SUBMIT Answers Now

A copy of your TPI scores will be e-mailed to you for your convenience.