University of Southampton

Faculty of Human and Social Sciences

Improving Teaching and Learning in Higher Education through the Use of E-learning: Mixed methods research in one of the southern universities in Saudi Arabia

by Ibrahim Alasmari

Doctor of Philosophy

December 2014

University of Southampton

ABSTRACT

Faculty of Human and Social Sciences

Southampton Education School

Doctor of Philosophy

Improving Teaching and Learning in Higher Education through the Use of E-learning: Mixed Methods Research in One of the Southern Universities in Saudi Arabia

by Ibrahim Alasmari

This study explores students' and teachers' experiences of the current usage of e-learning in one of the southern universities in Saudi Arabia. This was accomplished using a mixed methods approach whereby both quantitative and qualitative techniques of data collection and analysis were used across two phases to answer the research questions.

The findings reveal that, currently, there are various uses of e-learning by learners and teachers in Saudi Arabia, including accessing information and e-resources that they need via a learning management system. Moreover, current usage extends to email services for contacting lecturers and students and online recorded and live lecture. Further, the findings demonstrate that learners and teachers hold positive perceptions towards the use of e-learning, although some attitudes are ambivalent. The technological infrastructure dramatically improved between phases, but the need to improve the quality of teaching and learning; and the engagement in the online communication still exist.

With reference to the above findings, higher learning institutions in Saudi Arabia need to position themselves through better policies, strategies, robust research and collaboration with the intention of coming up with better e-learning programmes and applications and more advanced uses than the usual ones that the learners indicated they use. Moreover, there is a valid requirement for e-learning providers to craft strategies on how effectively to manage e-learners' enormous expectations.

Finally, the study recognises a key limitation with regard to the generalisability of the results, given that it is confined to one university. Moreover, whereas the study has tried to establish different uses for e-learning, it did not tackle the quality of e-learning products currently provided. To this end, therefore, this study could be complemented if more empirical studies were carried out on the quality of e-learning programmes provided in a wider spectrum of institutions across Saudi Arabia.

Table of Contents

List of Tables

List of Figures

Declaration of Authorship

I, **Ibrahim Alasmari,** declare that the thesis entitled:

Improving Teaching and Learning in Higher Education through the Use of E-learning, Mixed Methods Research in One of the Southern Universities in Saudi Arabia

and the work presented in the thesis is both my own, and have been generated by me as the result of my own original research. I confirm that:

- This work was done wholly or mainly while in candidature for a research degree at this University;
- Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
- Where I have consulted the published work of others, this is always clearly attributed;
- Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
- I have acknowledged all main sources of help;
- Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
- None of this work has been published before submission

Signed: Ibrahim Alasmari

Date: 06.01.2014

Acknowledgements

I would first like to thank Allah, who I have always asked to guide me along the right path. I am also grateful to my supervisor, Dr Gary Kinchin, for his advice and support throughout this study. I also extend my special thanks to my previous supervisor, Professor Jane Seale, for her vision, words of wisdom and encouragement.

I would like to thank sincerely all the people who helped me on my PhD journey. To all my brother, sisters, family and friends: for all of your thoughts, prayers and constant support, thank you.

I must also express all my love and appreciation to my beloved Dad, who passed away three years ago, and to my Mum for instilling in me the belief that I could accomplish anything I set out to do in life, to my beloved wife Afrah Alasmari for her great kindness, love and support, and finally to my beloved children, Areej, Abdullah, Afnan and Elyas.

Chapter 1 Introduction

1.1 Background to the Research

Information and communications technology (ICT) has expanded in many countries and in many aspects of life and business. This ICT revolution is considered, in modern societies, to be a relentless force that is continually remodelling people's lifestyles. All the predictions suggest that this incredible rate of change is not going to slow down, rather it will increase to include most nations (Chinn and Fairlie, 2006; Watson, 2006). In recent years, the rapid growth and development of smart tablets and smartphones, including pad technologies, wireless, 3G and 4G networks, along with the growth in social networks, such as Facebook and Twitter, have opened the door to amazing changes to the e-learning environment. The current popularity of these technologies among learners, at both school and university levels, encourages researchers to explore their impact on learning for individuals and groups (Rennie & Morrison, 2013)

In an effort to improve the quality of teaching and learning in the education sector in general, and in higher education in particular, many institutions have chosen to adopt e-learning. There are a number of reasons, such as its flexibility, use of mixed interactive multimedia, access to learning resources, low cost and so on (McCormack and Jones, 1997; Keller and Cernerud, 2002; Conole and Oliver, 2007). In the Saudi Arabian context, where this research was conducted, online courses are being increasingly developed in the universities. At King Khalid University, for example, the e-Learning and Training Centre developed two online courses in 2005 using an Arabic learning management system (LMS) platform called Tadarus, and then later shifted to use a different LMS platform, Blackboard, which it has used from 2006 until now. The growth of e-learning in this university is quite marked in that it expanded from providing two online courses in 2006 to 48 full courses and 341 blended courses in 2011 (KKU annual report, 2011).

Tadarus is similar to other LMS platforms, such as Blackboard, MOODL, eFront, LAMS and so on, that provide an LMS and an environment in which students and

educators enact learning through online communication. This platform has a set of tools to assist students throughout their learning processes, permitting the downloading and printing of documents, electronic resources, for instance e-mail, calendar, chat and so on. It helps the teacher to integrate any kind of material, such as text, images, PowerPoint, audio, video, related websites. Access to the platform is easy; it offers the teacher a complete set of tools to implement numerous kinds of teaching methods.

The use of e-learning in educational institutions is changing how information is presented and arranged. For example, Glenn (2002) indicates that it changes how students interact with information and communicate, both with each other and with their teachers. Glenn adds that computers, the Internet and digital technologies are playing an important role in these new learning environments, and are changing both what is taught and how it is taught. E-learning applications may come in a number of formats. They can be used to support the activities of traditional classes, to replace what might be viewed during traditional classroom sessions or to deliver a set of complete online courses (Arabasz et al., 2003; Ardito et al., 2006; Romero et al., 2008).

The thesis will primarily use the term ‘e-learning’ to refer to the implementation of technology in the learning and teaching process. E-learning can be defined as the use of ICT to improve teaching and learning, and to promote educational interaction between teachers and students in traditional classes, blended courses or distance education. More details about the definition of e-learning and related terms will be highlighted in Chapter 3. It will consider teachers’ experiences of and perspectives on using e-learning at one of the southern universities in Saudi Arabia, which will be referred to Southern University (SU) to respect the anonymity of that university, its staff and students. Those experiences will be highlighted and analysed alongside students’ thoughts and beliefs about the online courses that they have taken there and the ways in which they could be improved, as well as relating all of these opinions to relevant current literature.

1.2 Research Problem and Rationale

The main aim of this research is to investigate teachers’ and students’ perceptions of SU about the e-learning courses they are involved with. The introduction of e-learning

courses is a new concept in most higher educational institutions in Saudi Arabia in general, and at SU in particular, which means little is known about teachers' and students' e-learning experiences in Saudi Arabia. Research from other countries suggests that there is a relationship between teachers' perspectives on teaching and the quality of students' learning outcomes (Reid & Johnston, 1999; Cannon & Newble, 2000). Thus, teachers need to be aware of the impact of their perspective on teaching and learning practices and educational change. It is also important to take students' perspectives into account in order to develop and improve effective teaching. King and Coates (2003) state that there are two important reasons for discovering students' expectations of teaching styles. First, new undergraduates may have unrealistic expectations of how their course might be delivered, so their expectations might need to be managed in order to make them more realistic. Second, teachers and managers can learn from their students how to provide an educational service that is both effective and acceptable to them.

One of the problems with e-learning implementation is an assumption that technology alone is the catalyst for change. What is often missing is how e-learning should be implemented in order to transform teachers' practices and students' learning. There is no conclusive evidence from previous research that technology substantially enhances students' academic achievement (Reksten, 2000; Cuban, 2001; Ungerleider & Burns, 2002; Laurillard, 2002; Salmon, 2004; Martinez et al., 2007). Indeed, Salmon (2004) states that technology in itself does not lead to independent learning, rather the effective use of that technology comes from those who build, develop and moderate online courses. In the context of e-learning in Saudi Arabia it would, therefore, seem important to explore factors that might influence its effective use: factors such as teachers' and students' perceptions of how e-learning should be used to improve learning experiences.

In this study, the focus is therefore on investigating the experiences and roles of teachers at SU in terms of delivering online courses as well as students' thoughts and experiences about online courses and their use of IT. By exploring the perceptions of lecturers and students about what does and does not work vis-à-vis current e-learning practices at SU,

this thesis identifies potential actions and solutions to be implemented to inform practice in terms of how teachers' and students' use of e-learning can be made more productive.

The thesis' main data were collected in 2008–09; then, the research was interrupted by a series of suspensions due to the ill health of the researcher. After a period of recovery and data analysis, it was strongly recommended that I revisit SU in 2013 to collect more data to present the current use of e-learning and compare those with the outcomes in 2008–09. So, circumstances dictated that the study methodology and data collection were divided into two phases, namely Phase One for older data from 2008–09 and Phase Two for more recent data from 2013.

1.3 Research Questions

The questions that frame this research are:

- What was/is the current use of e-learning by the teachers and students of SU in 2009 and in 2013?
- What are teachers' and students' perceptions of the use of e-learning in their teaching and learning?
- What are teachers' and students' perceptions of the ways that e-learning courses could be improved in their organisation in the future?

The first question addresses the current use of e-learning at SU by teachers and students, including information relating to their prior knowledge and experiences, time spent, venues and tools used, online communication and so on. The second question addresses the factors that motivate teachers and students to use e-learning tools, the disadvantages that inhibit teachers from using e-learning, their perceptions regarding the online course materials that they use, their experiences of interaction between each other and their perceptions of their level of achievement in the online environment. The third question explores suggestions for how e-learning at SU could be improved in the future and potential solutions that may help to overcome problems and challenges that have been identified.

1.4 Research Methodology

The research investigated the perceptions of teachers and students involved in two online courses delivered at SU. This study was conducted in two phases.

Phase One: This involved collection of the main data for the research to explore the current use of e-learning at SU, so the research was conducted using both quantitative and qualitative approaches. The researcher used a mixed methods approach to investigate students' perceptions via two types of data collection. First, the researcher designed a quantitative questionnaire in order to target a large number of students and produce a detailed but broad picture of students' perceptions. Second, the researcher organised a series of three focus group interviews in order to obtain a richer and more detailed picture of students' perceptions. In addition, the researcher used a qualitative method to investigate teachers' perceptions through in-depth face-to-face post-interviews with the teachers who deliver online courses. The teachers were also asked to make a series of weekly reflective diary entries during term time to provide more details about current weekly issues they were experiencing during e-learning sessions.

Phase Two: As explained earlier, after a series of illness suspensions that interrupted his research, the researcher found himself needing to revisit SU in 2013 to examine the current use of e-learning and compare it to the main data outcomes of Phase One. He distributed the same questionnaire to the students taking two units in 2013 and managed to interview two teachers who delivered those courses.

1.5 Thesis Organisation

This chapter (Chapter 1) provides a general introduction to the research and a brief overview of the research problem: its aims, rationale and questions. Additionally, it highlights the research methodology and the different types of data collection that were used.

Chapter 2 provides an overview of the development of e-learning in higher education in Saudi Arabia, including an outline of the organisational structure of the higher education

system in Saudi Arabia and the major objectives of that system. It looks at the stages of national development plans of previous years and the aims of the higher education system in the near future. This chapter also explains the development of e-learning in higher education in Saudi Arabia, and the Arab states in the Gulf region in general, as well as describing specific developments in e-learning, in particular within higher education organisations in Saudi Arabia.

Chapter 3 reviews the literature relating to this study. It aims to examine the definitions of e-learning and related terms, the advantages of e-learning, and some important issues in e-learning that should be considered, specifically those relating to pedagogical, technical and cultural issues. In addition, learning theories and their implications for e-learning are addressed. Users' acceptance and experiences of technology will form some of the theoretical background of this research. Finally, Chapter 3 will highlight the concepts of e-learning and educational change.

Chapter 4 discusses in more detail the research methodology used in this study. It begins by examining the mixed methods research selected to frame it. The researcher considers the strengths and weaknesses of the selected methodology, including the quantitative and qualitative parts, in order to select the most appropriate data collection methods for this study. This chapter also covers the four types of data collection methods used in Phase One in this research. Questionnaires and focus group interview techniques were used to investigate students' perceptions plus in-depth face-to-face interviews and, as already mentioned, weekly reflective diaries were selected to investigate teachers' perceptions. The procedures that were followed for their implementation are described. This chapter also highlights Phase Two of the data collection that was conducted in 2013 using the same questionnaire as in Phase One in 2008–09 and interviews with two teachers who were delivering e-learning courses during the first academic semester of 2013.

Chapter 5 highlights the major findings of the data analysis from the two phases. It begins by analysing the students' responses in Phase One, and then follows with the teachers' responses. Phase Two is then analysed in two ways; it begins by analysing

students’ responses to the questionnaire and follows with a qualitative analysis of the teachers’ responses.

Chapter 6 conducts a joint intensive discussion on the outcomes of the analysis chapter. The qualitative and the quantitate data from the two phases are used for triangulation through a joint discussion.

Finally, Chapter7 presents the conclusion of this research and makes recommendations for future studies.

Chapter 2 Development of e-learning in higher education in Saudi Arabia: Policy context

2.1 Introduction

This chapter briefly summarises the development of e-learning in higher education in Saudi Arabia. It begins (in Section 2.2) with a general introduction to the higher education system in Saudi Arabia. This section presents a general description of the objectives of that system and the higher education national development plans for Saudi Arabia. In addition, it describes a vision for the future of university education in Saudi Arabia. Section 2.3 focuses on the development of e-learning in general, and in Saudi Arabia in particular. The following paragraphs highlight the importance of higher education (in general) in shaping the way in which future generations will learn to cope with the complexities of sustainable development and continuous change.

In the countries of the developed world higher education plays an important part in training, developing and equipping professionals in all sectors and fields with the necessary knowledge and skills to play a significant role in their careers. Such development consequently helps to foster economic growth and social development. In 2000 the Task Force on Higher Education and Society was convened by the World Bank and the United Nations Educational, Scientific and Cultural Organization (UNESCO). It brought together experts from 13 countries to discuss issues relating to the future of higher education in the developing world. Based on intensive discussions and hearings conducted over two years of research, the task force indicated that, without more and better higher education, developing countries would struggle and find it difficult to benefit from the global knowledge-based economy (Task Force on Higher Education and Society, 2000).

Barnett (1992) states that higher education has a great impact on national educational development. Higher education is considered as the upper rank of the educational system within a country in terms of its importance and the overall effect it has on the other

sectors of education (e.g. further education, secondary education) and on students' advancement and acquisition of knowledge, skills and qualifications. Barnett goes on to state that higher education promotes students' understanding by endorsing and encouraging their critical and intellectual thinking. Therefore, higher education plays an important role in developing intellectual ability, personal knowledge and skills. It helps to foster and support research and academic freedom. Higher education allows the pursuit of objective knowledge and the development and enhancement of a student's personal character, autonomy, competence and intellectual integrity (Laurillard, 2002; Bok, 2003). In addition, UNESCO reported that higher education has the ability to introduce change and progress to different societies. This leads to continuous reform of and improvements to cultural, socio-economic and environmentally sustainable factors at a personal level, as well as by communities and nations (UNESCO web page, 2011).

The following sections offer an illustrated introduction to the higher education system in Saudi Arabia and show how it has played an important role in shaping recent developments and improvements throughout the country.

2.2 The Higher Education System in Saudi Arabia

2.2.1 Objectives of the higher education system in Saudi Arabia

The higher education system in Saudi Arabia includes all types of education beyond secondary school, apart from military education, including universities and colleges offering undergraduate, postgraduate and professional programmes. It is in many ways similar to the educational system of the United States (Saudi Arabia Ministry of Higher Education (MOHE, 2012). It also includes teacher training colleges, technical and vocational training colleges, health colleges and institutions, and the Academic Centre for Girls' Higher Education. The Saudi higher education system can be regarded as being centralised as it is governed by the Higher Education Supreme Council (HESC), established by royal decree in 1994. Saudi Arabia began focusing on higher education when the country entered an era of major growth and rapid development in the early 1970s. In 1975, the Ministry of Higher Education was established with responsibility for launching, monitoring and implementing a long-term plan to make sure the Saudi

educational system provided the professional skilled workforce the kingdom needed to run its growing economy. One of the first objectives of the early plan of the Ministry of Higher Education was to establish new higher education institutions throughout the country and to expand those already in existence. By 2012 there were 21 government universities, 12 technical and vocational institutes, 37 Colleges and Institutes for Health and 24 private universities and colleges (Saudi Arabia Ministry of Higher Education, 2012).

Another objective of the higher education system in Saudi Arabia is to implement the industrial and technological changes that result in the transformation of society's needs and the nature of the labour market. It is also responsible for monitoring social and economic changes and growth that have resulted in an increase in demand for education, both quantitatively and qualitatively (Higher Education in Saudi Arabia, 2007).

Iqbal (1983) states that the higher education policy in Saudi Arabia has a number of guidelines for all higher education institutions and universities. One of these is that education should develop in accordance with the country's needs and should attain the highest possible levels, with Islamic studies being a basic and integral part of curricula at each level. Iqbal adds that the Saudi government established within its education policy that the basic aim of education is the duty of acquainting individuals with their God and religion, promoting conduct in accordance with the teaching of religion, and contributing to individual and social fulfilment (p.23). Another guideline is that any university or institution should help to meet the country's workforce needs, that is, expert and qualified professionals capable of participating in overall national development plans (p.24).

Al-Gurney (1999) states that higher education universities and institutions are measured according to the achievement of a number of objectives. Each has to prepare and train citizens to qualify them to undertake responsibility for growth and social development, to improve conditions, and to provide opportunities for gifted and talented students to advance their higher education studies in their preferred field of knowledge. In addition, each should take a leading role in the area of scientific research, leading to advancement of the nation and knowledge in all fields. Besides that, there should be active

participation in finding reliable ways to solve any social problems that might emerge in the modern era. Each higher education institution is measured by its efforts to encourage researchers to contribute towards developing a body of scientific writing, based on an Islamic perspective, which can take its place alongside advanced countries worldwide. Institutions are also measured by their efforts to provide adequate training and further education to graduate students to enable them to achieve their goals and participate effectively in the development of their country (pp.19–20).

When considering some of the objectives of higher education in Saudi Arabia, it is important to highlight that the country's higher education system has moved rapidly towards the achievement of a significant degree of success and educational development. One sign of this success is the rapid growth in the number of new higher education institutions in recent years and in the increase in the Ministry's budget, which has nearly tripled since 2004. The higher education system in Saudi Arabia seeks to co-operate and collaborate with other higher education systems in the Arab Gulf countries. Those higher education systems share a similar vision and objectives, including the comprehensive development of higher education. The Cooperation Council for the Arab States was established in 1981 to foster coordination and links between six Arab states, namely the United Arab Emirates, the State of Bahrain, the Kingdom of Saudi Arabia, the Sultanate of Oman, the State of Qatar and the State of Kuwait, in all fields, including higher and general education, in order to achieve unity and strengthen relations. The decision to strive for unity between these countries was made to foster cultural reality and strengthen historical, social, religious and geographical ties among those states (Cooperation Council for the Arab States of the Gulf Region, 2012).

The history of the Supreme Council clearly demonstrates that great emphasis is placed on education. One of the achievements is the adoption of a common plan for the development of public education curricula (Closing Statement of the 21st Session of the GCC Supreme Council, Manama, State of Bahrain, 2000).

Six other achievements were identified in the 23rd session of the GCC Supreme Council meeting in Doha in December 2002. Those achievements are based on the establishment of a joint long-term educational programme that will pursue joint educational objectives

between the higher and general education systems in the Gulf States. Those programmes are as follows.

First, there is a programme to adopt a comprehensive, integrative perspective for educational process development. This programme mainly serves the area of curricula and educational process development, including teacher motivation and improvement programmes, assessment of the educational process, development of the culture of educational institutions and setting up a centre for the strategic development of higher education. The second programme aims to promote education professionalisation in the GCC countries. This project has adopted a number of programmes, including a project known as Toward an Applied Model for Education Professionalization that focuses on licensing the educational profession, and a project for the ongoing professional development of teachers. The third programme seeks quality and excellence in the development of the administrative and organisational performance of educational institutions, including higher education systems. The fourth programme aims to strengthen the partnership between education institutions and society, while the fifth programme and its agendas serve to explore educational outputs and their relation to the development of GCC states and the demands of the job market. Finally, the sixth programme focuses on electronic universities and schools. This programme acknowledges the rapid growth of education and communication technology and the need to adopt a framework of coordination and integration in the field of virtual learning. Details about this sixth programme are given at the end of this chapter (Closing Statement of the 23rd Session of the GCC Supreme Council, Doha, State of Qatar, 2002).

2.2.2 Higher education national development plans

The higher education national development plans (HENDPs) are responsible for outlining the framework and mechanisms for implementing and realising higher education policy goals in Saudi Arabia. HENDPs recognise the current strengths and weaknesses of the higher education system in each period of planning. They guides higher education institutions towards meeting goals for the system as a whole. Due to rapid social and economic growth over the last four decades, the Saudi Arabian government began expanding its future vision by setting up five-year national

development plans; these consider all social, economic, education, health and political aspects in order to cope with any circumstances or challenges that might arise in the national development of higher education.

The Ministry of Planning in the Kingdom of Saudi Arabia was established in the 1970s and is mainly responsible for the preparation and co-ordination of all organisational planning every five years. The Ministry of Higher Education works closely with the Ministry of Planning to establish HENDPs to meet the needs arising from dramatic changes in the social and economic aspects of the nation. To date, there have been nine HENDPs. The following paragraphs illustrate briefly the main issues embedded in those plans in order to paint a bigger picture of the gradual changes in higher education policies in Saudi Arabia.

The first national development plan (1970–1974) was the first five-year national plan designed exclusively to guide the direction of higher education organisations. The main objectives of this plan were: to enlarge the capacity of existing colleges and universities so as to accommodate all students who had attained a secondary school certificate or equivalent; to raise the number of academic teaching staff to meet the growth in student numbers; to relocate all colleges and departments into buildings owned or built by the government; and to provide the necessary funds and facilities to help achieve those objectives (Ministry of Economy and Planning (MEP), 2012).

The second higher education national development plan (1975–79) set more comprehensive objectives in terms of content and the level of analysis of the situation. These objectives covered a number of aspects, for instance the enrolment of secondary school students and the provision of funds to improve human resources and facilities, and to speed up the process of completing new buildings and improving their infrastructure. However, this plan and the previous failed to address the needs of higher education institutions. Instead, it comprised multiple plans designed for each institution, based on their individual essential needs (MEP, 2012).

The third higher education national development plan (1980–4) took critical steps towards improving the quality of higher education institutions by conducting an

extensive evaluation and improving all higher education courses and curricula to ensure that the quality of the education provided to students was in accordance with the nation's development needs. This plan also included enlarging the capacity of educational institutions to accommodate more students (MEP, 2012).

The results of evaluation of the third national development plan showed that the policy of allowing any student to enrol at any college or university in any subject failed to produce high quality students. Therefore, the fourth higher education national development plan (1985–89) established a number of conditions to be met for a student to be allowed to enrol The main objective of this plan was to pursue quality rather than quantity in the recruitment of students; those who were rejected could continue their education on a two-year college programme or at a high-level vocational institution. In addition to these objectives, a further principle was to establish a comprehensive plan to evaluate higher education system activities, improve productivity and achieve the national higher education development requirements (MEP, 2012).

The fifth higher education national development plan (1990–94) emphasised the need for interaction between higher education institutions and the needs deriving from social and economic development. The plan encouraged higher education institutions to open new departments in order to offer a greater variety of programmes to address the most important developmental issues. Furthermore, the plan emphasised the importance of supporting research centres in higher education institutions so as to improve scientific research (MEP,).

Further to the fourth and fifth plans, the sixth national development plan (1995–99) addressed two main objectives. The first was to enhance the quality of input and output at higher education universities and institutions. The second was to strengthen the relationship between higher education institutions and both the public and private sectors (MEP, 2012).

The seventh national development plan (2000–04) especially emphasised the importance of the private sector. The government encouraged the higher education private sector to contribute to the development of the Saudi economy through further and continuing

education. The beginning of the seventh national development plan also coincided with the start of the twenty-first century and the beginning of the third millennium, which provided a fillip to higher education institutions with regard to achieving high-level scientific and technological advancement (MEP, 2012)

Higher education output developed dramatically during the period of the seventh national development plan in terms of quality and quantity. The number of university graduates per 100,000 of the Saudi population increased from 117 in 1990 to 412 in 2003. The number of students enrolling in universities, female colleges and private colleges at bachelor level increased from 282,433 in 1999 to 366,344 in 2003, with an average annual growth rate of 6.7 per cent. The total number of graduates at bachelor level exceeded 53,000 students in 2003 compared with 38,000 in 1999, representing an average annual growth rate of some 9 per cent. Furthermore, the number of postgraduate students enrolling in universities and female colleges increased from 8,847 students in 1999 to 10,670 in 2003. Besides the growth in higher education output, there was a parallel growth in resources and infrastructure. For instance, three new universities were established during the seventh development plan, namely Qassim, Taibba and Taif. Moreover, new specialist colleges were set up, including five medical, three pharmaceutical, two dental, one applied medical sciences, one nursing, five science, four computer and two engineering colleges. Two additional private universities were formed, namely the Prince Sultan Private University and the Al-Faisal Private University (MEP, 2012).

The eighth higher education national development plan (2005–09) adopted a broad strategic vision of the country's development needs. It emphasised several objectives. Key among them was the continuing development of the higher education infrastructure to cope with the increased social and economic demands for higher education, development of the Ministry of Higher Education in Saudi Arabia and the establishment of new universities in Jouf, Hail, Jazan, Baha, Tabuk and Najran and one in the northern borders. Another key objective of the plan was to satisfy the increased demand for high quality professional staff. Policies and measures were to be adopted to suit market needs. In addition, students' knowledge and skills needed to be enhanced, and they were to be

encouraged to enrol in specialisations linked to the needs of the Saudi economy and social demands (ibid.).

The ninth development plan was drawn up in 2010 and continues to consolidate efforts aimed at improving and enhancing the competitiveness of both the knowledge society and the national economy. One of the main objectives of this plan is raising the educational level of the workforce so as to be capable of taking advantage of rapidly growing technologies. The ninth NDP is exceptional in the history of the kingdom, with an overall budget amounting to SR 1.4 trillion. Higher education is a core feature of this development plan, with a number of objectives. Among these is enhancing the use of ICT, raising internal and external efficiency in order to achieve development requirements, supporting and enhancing scientific research, and improving knowledge production. The development of cooperation and coordination between scientific institutions at home and abroad is one of the main higher education objectives of this development plan, as well as examining the effect of the partnership on local communities (MEP, 2012).

The eighth and the ninth higher education development plans were modern and ambitious in their scope, and the Ministry of Higher Education commissioned the Research Institute at the King Fahd University of Petroleum & Minerals (KFUPM) to conduct a detailed evaluation of potential developments that might be seen as capable of improving higher education institutions in the long term. The objectives of this study are described in more detail in the following sections to give a brief introduction to the development of e-learning in higher education in Saudi Arabia, and it will be worth offering some insights into ICT in the general Saudi educational system before we progress to the development and future plans for e-learning in Saudi higher education.

2.2.3 ICT in the Saudi educational system

Unlike some other developing countries, Saudi Arabia is still in the relatively early stages of using ICT in education, since it was only officially implemented in secondary schools in the past few decades. It was introduced as a subject in Saudi special advanced secondary schools in 1985 in three main subjects: an introduction to computer sciences, programming in BASIC, and systems programming and the use of information systems.

The Ministry of Education was encouraged by the success of the programme in 2003 to provide computer studies as part of the curriculum of secondary schools. In the beginning the subject was compulsory, with two classes per week of two hours (Alshmrany, 2012; Oyaid, 2009).

That was the first phase of utilising computers in the Saudi educational system. In the second phase, there is a commitment by the Ministry of Education to develop the infrastructure of ICT and its employment in education and learning. Since then, the use of computers has been integrated into the teaching and learning of many subjects in the curriculum. Many projects were developed by the Ministry to fulfil this commitment, for instance a project to develop school libraries into Learning Resources Centres (LRCs) containing information sources in both print and non-print forms, including ICT, and their integration with the teaching and learning process to create rich learning environments. Furthermore, computer laboratories are another Ministry initiative introduced to give students first-hand experience through experimentation and hands-on activities. Digital Technical Centres (DTCs) are yet another new project. They have been established in various educational regions of Saudi Arabia with the aim of meeting educational needs in the areas of digital content and the educational application of ICT. Each of these centres is equipped with a unit for the production of digital interactive educational aids to support school curricula (Alshmrany, 2012; Oyaid, 2009).

To increase ICT integration further, the government has taken two main steps. First, ICT has been included as a compulsory subject in girls' schools and in the primary stage of education since the 2003 academic year. Second, a national project (*watani*) has recently been launched, the aim of which is to further the use of computers within educational technology. There are six objectives for this project:

1. To develop students' skills by exploiting and using information technology (IT) in education, and thereby prepare students in an effective way for the future.

2. To improve teachers' potential by employing information technology in all educational activities.

3. To provide an information-rich environment, with scientific content and direct educational sources for students and teachers.

4. To improve the outcome of the educational process by pursuing outstanding future generations of graduate students who have mastered the use of information technology.

5. To partake in the creation of a nucleus for an advanced information technology industry in the kingdom.

6. To promote comprehensive awareness of the benefits of employing information technology in education and disseminating knowledge about information technology throughout the society at large (Alshmrany, 2012; Oyaid, 2009).

In short, the future of ICT in Saudi Arabia is very promising, since raising awareness and promoting usage in all aspects of daily life, including education, is now a national policy rather than merely an educational aim. One example of this shift is the 'home computer' initiative sponsored by the Communications and Information Technology Commission, in association with the National Commercial Bank. The initiative aims to enable one million Saudi families to buy a new personal computer (PC) in simple and easy instalments within the coming five years. The initiative includes the provision of a high quality PC working in the Microsoft Windows environment with Microsoft Office Professional, one year's maintenance free, 15 hours of Internet subscription per month, free educational CDs and computer training offered at low affordable prices (Oyaid, 2009).

2.2.4 A future plan for university education in Saudi Arabia

The Ministry of Higher Education is working on a document to describe a future vision involving producing a 25-year development plan to consider all social, economic, educational, technical, and political and health aspects, in order to respond effectively and adequately to whatever circumstances or changing conditions might arise in Saudi life.

The KFUPM formed a team of experts who, in collaboration with the Ministry of Higher Education, established guidelines for the project, known as AAFAQ (MOHE, 2010). The project has four main goals:

1. Studying all the major issues and problems relating to higher education in Saudi Arabia, including highlighting appropriate and practical solutions in the light of general higher education goals and objectives.
2. The devising of a long-term (25 year) strategic plan comprising vision, values and standards for performance measurement, the needs of various sectors, the quality of outcomes, funding, and setting a clear vision regarding implementation.
3. Continuing with the current comprehensive five-year implementation plans.
4. Suggesting a mechanism to enable universities and higher education institutions to continue with strategic planning and the implementation of strategic and operational plans (MOHE, 2010)

To achieve these goals, the AAFAQ project team have established effective contribution targets for all higher education institutions in Saudi Arabia. Their role is to work as a body and coordinate the various studies and research projects produced within the scope of the plan. Studies have been conducted in different disciplines, and the following aspects will all be reviewed: admission and capacity, ICT, the job market, cost and finance, infrastructure, management and organisation, the educational process, graduate education, scientific research, health education, female education, private education, teacher and staff education, the learning environment, educational technology and community services (MOHE, 2010).

With regard to the development of e-learning in Saudi Arabia, the AAFAQ project has given great consideration to evaluating all aspects relating to the current use of educational technology in most higher education institutions in Saudi Arabia. It has also highlighted the factors, methods, tools and infrastructure required for the utilisation of educational technology in higher education institutions. This broader vision of the AAFAQ project has already conducted a study comparable to that of this thesis, that is, focusing on the current use of e-learning in one of the higher education institutions in

Saudi Arabia and identifying ways to improve it from the perspectives of both university teachers and students. It would, therefore, seem appropriate to link the results of this thesis to the wider vision of AAFAQ.

In order to meet the future vision and growing demand for higher education in Saudi Arabia, the Ministry of Higher Education in Saudi Arabia has established 'study abroad' programmes that sponsor thousands of high school students and university graduates to study a range of subjects overseas that meet market needs and demands in Saudi Arabia. In 2007, more than 25,000 Saudi students were studying a wide selection of reputable universities in more than 29 countries (Abalhassan, 2007). By February 2008, that number had exceeded 40,000, according to the statistical department of the Ministry of Higher Education in Saudi Arabia (MOHE homepage, 2013). This number had again increased to 130,000 sponsored students in 46 countries by April 2012 (ibid.).

In addition to managing its own study abroad programme, MOHE also directs two of the largest study abroad programmes in Saudi Arabia. The first is sponsored by King Abdullah (Custodian of the Two Holy Mosques) and was launched in 2006. This aims to provide scholarships for thousands of high school and university students to continue their education in high ranking universities in other countries. The second programme was launched by Crown Prince Sultan bin Abdulaziz and provides scholarships in the humanities and administrative sciences (Abalhassan, 2007). These study abroad projects seek to extend MOHE's reach across the Kingdom in order to meet the growing demand for higher education and the rapid growth in the various technologies that it now utilises. The Kingdom has launched a number of nationwide development projects, including technology and economics parks, thus it can be appreciated that the study abroad programmes are designed to produce a skilled and qualified workforce capable of delivering technological and educational growth embedded within national development phases and projects. The most frequently chosen subjects within the study abroad programmes are computer sciences, educational technology, e-commerce, engineering, medicine, dentistry, applied medical sciences, health sciences, marketing and finance, bio-technology, materials technology, pharmacology, the oil industry, information systems and law.

Both the AAFAQ project and the study abroad programmes illustrate the importance attached to educational technology and e-learning in terms of underpinning successful education and economic growth within Saudi Arabia. The next section will highlight in more detail the development of e-learning in higher education in Saudi Arabia, and will address, albeit briefly, the Ministry of Higher Education's efforts and vision to develop educational technologies in higher education institutions throughout the country.

2.3 Development of E-learning in Higher Education in Saudi Arabia

The first and third chapters of this thesis offer a general overview of the development of e-learning. This chapter, however, aims to present a more specific review of the development of e-learning in Saudi Arabia. Whilst e-learning, and related technologies, has been explored and developed globally since the 1990s, its development in Saudi Arabia is relatively recent. Online learning has been suggested as an effective way to provide learning and teaching experiences to students in Saudi universities and as a way to reach the large numbers of anticipated students, since it is available to students anytime, anywhere (Albalawi, 2007). Therefore, the National Centre of E-learning and Distance Learning, known as the ELC, was established in 2008 by the Saudi Ministry of Higher Education to guide the necessary changes and innovations, and to provide and prepare e-learning materials (Al-Dosari, 2011). As a result, the number of universities that have agreed to integrate the e-learning system with the traditional system of education has increased since then (Al-Dosari, 2011).

In addition, Alamthal Team (2005) states that Saudi Arabia is regarded as one of the leading countries in the Middle East in terms of applying technology in higher education institutions. A total of US$125 m. was allocated by the government to develop e-learning programmes in the country by 2008. King Saud University in Riyadh, for example, was among the first to introduce e-learning into its curriculum, using an LMS called WebCT then shifting to an Arabic LMS called Jusur, more details of which are given below. The staff were encouraged to use e-learning to enhance the quality of the traditional system. Furthermore, King Saud University developed a special server to

enhance educational technology back in 2002 and to provide students and teachers with a wide range of references and articles (Al-Lahibi and Al-Ali, 2004).

King Abdul-Aziz University was the first to adopt e-learning to benefit distance learning students as well as those attending traditional classes. The university also has the largest electronic library in the country with 16,000 e-books (King Abdulaziz University, 2009). King Fahad University for Petroleum and Minerals also launched a centre for e-learning to provide its teachers and students with an infrastructure that helps in the design of electronic courses through the Blackboard learning management system (Al-Moudi, 2005).

Beside e-learning courses provided by a number of higher education institutions in Saudi Arabia, the Ministry of Higher Education, as mentioned previously, established a National Centre for E-learning and Distance Learning. This aims to guarantee the quality of online courses to ensure they deliver acceptable services. It also seeks to apply the lessons learned from international experiences in the area of learning technology. In addition, it seeks to integrate e-learning into the structure of the national higher education system and its organisations. Its future goal is to reach learners around the world and enrich their learning experiences through modern electronic media and technology solutions (Abaalhassan, 2007).

The National Centre for E-learning and Distance Learning is considered to be one of the leading examples in the use of e-learning in higher education in the Middle East and in the Arab world. The centre initiated a number of projects to achieve its objectives. Among these projects is the ongoing design of Jusur, the learning management system, which is now highly developed and used by more than nine government universities in Saudi Arabia. Another project introduced by the National Centre for Electronic and Distance Learning is the educational portal. The main objective of this project is to promote knowledge, to encourage learning and teaching skills, and to enhance the exchange of experiences between the members the participating and subscribed universities. The centre has also designed a national repository for learning units called MAKNAS. The main objective of this project is to enrich the educational content of

digital courses and e-learning units for higher education institutions in Saudi Arabia (National Centre for E-learning and Distance Learning, 2012).

The National Centre for E-learning and Distance Learning in Saudi Arabia has also encouraged the wider academic community, higher education institutions and individuals, by establishing an e-learning award for excellence. This award encourages creativity and competition in relation to e-learning in an award presented annually at a national ceremony dedicated to this purpose. The centre has also established a Saudi Digital Library (SDL) project to construct an electronic library that provides users with a huge number of references, e-books and articles from famous international publishers (National Centre for E-learning and Distance Learning, 2012).

To investigate the effects of such a shift, many studies have been conducted in Saudi Arabia to explore different aspects of e-learning (Alebaikan, 2010; Almalki, 2011; Alqahtani, 2010). From the outcomes of these studies, it is clear that there is an overall positive attitude among both students and instructors towards the use of so-called blended learning (Alebaikan, 2010; Almalki, 2011; Alqahtani, 2010). However, it is also clear that e-learning in Saudi Arabia faces various challenges, such as the adaptation of this element in traditional university culture, finding the right instructional design and time constraints (Alebaikan and Troudi, 2010). Moreover, there have been indications that the existing use of e-learning in Saudi Arabian higher education institutions needs to be further developed if the country's strategic goals and vision are to be realised. For example, Al-Jarf (2007) found that only six universities in Saudi Arabia were offering e-learning courses using virtual LMS at that time. He argued that the numbers and types of e-learning courses being produced were disproportionate to the number of colleges and universities in Saudi Arabia. He also highlighted a number of challenges that higher education institutions face for the effective adoption of e-learning. These include a lack of motivation from students and teachers, online teaching skills, training in technology integration, administrative support, a suitable and necessary infrastructure and funding to help introduce online courses effectively (Al-Jarf, 2007).

Yamani (2006) also argues that student response to e-learning as a new way of learning is poor, despite the efforts by higher education institutions to introduce it. Furthermore,

it has been emphasised that such a relatively new way of teaching and learning has forced Saudi universities to move from formal classroom training and education to a new approach of teaching and learning that does not require a classroom at all (Albalawi, 2007; Alebaikan, 2010). This includes changing from teacher-centred learning to learner-centred learning, considering learners' requirements according to their needs, interests and abilities, and tailoring learning to each learner's own pace (Algahtani, 2011). Finally, Alebaikan (2010) concludes that there are issues with pedagogical practices for both learners and instructors in such teaching and learning environments. Her study revealed the following issues. First, the poor utilisation of blended pedagogy was identified as a significant obstacle. Second, there was only limited experience in developing Web-based teaching methods as well as student-centred strategies in face-to-face class time among the Saudi university lecturers who participated in her study. Finally, there was little understanding of the new role of the lecturer in blended courses, that is, becoming a facilitator in the shift from a lecturer-centred to a student-centred environment, and as a promoter of interaction and collaboration between peers in order to facilitate engagement, and of how lectures are affected, being a commonly used teaching strategy in Saudi universities in which knowledge is presented via a one-way system, from lecturer to students (Alebaikan, 2010).

This thesis aims to explore the issues raised by Al-Jarf and others in more detail by examining the current use of e-learning in one selected university in southern Saudi Arabia (SU). In particular, the study reported in this thesis explores teachers' and students' perceptions and experiences in order to expand our understanding of potential challenges to the effective adoption of e-learning.

The following chapter will review literature relating to this study. It aims to highlight definitions of e-learning and related terms, the advantages of e-learning and some important issues in and challenges to e-learning that should be considered, specifically issues relating to pedagogical, technical and cultural issues. In addition, learning theories and their implications for e-learning are addressed as this thesis deals with the

pedagogical issues of e-learning. Finally, the following chapter will highlight students' and teachers' perceptions of e-learning and their relation to educational change.

Chapter 3 Literature Review

3.1 Introduction

Generally speaking, in this day and age many organisations, whether companies, government institutions, manufacturers, public services or educational institutions, rely on some kind of ICT. In educational institutions in general, and in higher education institutions in particular, electronic learning has become a widespread method for providing education and exchanging knowledge at postgraduate and undergraduate levels. Utilising LMS, multimedia, video conferences, the World Wide Web, wireless networks and other ICTs to deliver information and provide access to online communications adds new dimensions of richness and complexity to learning and teaching experiences (Lewis, 2002; Arabasz et al., 2003; OECD, 2005; O'Donoghue, 2006; Imamoglu, 2007).

Over a decade of research has been conducted into of the use of e-learning in higher education and its development; from this, the conclusion is that a key element in achieving the effective use of e-learning materials and IT resources is the ways learners are able to use them and the ways teachers and lecturers successfully incorporate their use into their courses. This is what White (1999) illustrates when he states that it is essential to the development of practice that practitioners build their use of IT upon the foundation of good teaching methods and an understanding of student learning. The OECD Centre for Educational Research and Innovation (OECD/CERI) undertook a qualitative survey of practice in 19 educational institutions from 13 countries to improve the understanding of e-learning practices and issues at an institutional level. One of the main findings of that study is a broad agreement that what makes e-learning effective is the role of the learner in 'making sense' of received materials, the significance of peer and student-tutor interaction, and the use of a range of activities and pedagogies (OECD, 2005).

The study is not concerned with how to design or develop e-learning resources. It is beyond its scope to create video conferences or Web pages for teaching and learning.

Rather, this study is concerned with analysis of the effective use of e-learning resources for teaching and learning from the perspectives and experiences of teachers and students in the higher education sector in Saudi Arabia. Therefore, this chapter presents a review of the literature relating to definitions of e-learning and related terms, the advantages of e-learning and some important challenges to e-learning that should be considered, such as pedagogical, technical and cultural issues. This chapter also presents a brief overview of learning theories and their implications for e-learning, and finally an illustrated theoretical background of the literature regarding users' experiences, their acceptance of e-learning and how that can be related to the concept of educational change.

3.2 Definitions of E-learning and Related Terms

In the area of learning technology (LT), Oliver (2000) and Conole and Oliver (2007) state that there are a number of terms that might be understood to be synonymous with educational technology. These terms encompass distance education, educational multimedia (EM), technology-based learning (TBL), computer-assisted learning (CAL), online learning (OL), information and communication technology (ICT), e-learning and all other terms that focus on the use of technology to support teaching and learning. The purpose of this section is twofold: first, to introduce a brief review and give definitions of some of the common terms and concepts in the field of educational technology that relate to e-learning; and, second, to review and summarise the definitions of e-learning, as e-learning is the focus of this research study.

Distance education is one of the best-known terms in the educational technology area. It has been utilised for over a century, according to Moore and Kearsley (1996). They indicate that this type of learning is used for those with time and geographic constraints; it is a form of planned learning that requires special course design techniques, special teaching methods and techniques, special electronic and other technological communicational techniques, and special organisational and administrative arrangements (p.2). This form of learning has been popular for decades using a number of delivery media, including correspondence courses, mail, television satellite courses and telephone courses. However, due to the growth of computer technology, modems

and the Internet, what Moore et al. (2001) call ‘modernized distance learning’ has emerged; they illustrate how pure online distance education offers more flexibility and convenience to teachers and students alike through online communication and contact. The term ‘distance education’, as used here, refers to a method of education whereby students can learn in their own time, in any place and without face-to-face contact with a tutor (Bates, 2005).

Online learning is also a term frequently used in the educational technology literature and is not confined to pure distance learning; the online learning circle is wider, as it is also used as a support for the traditional classroom through extending communication and the availability of resources both outside and inside the classroom environment (Moore et al., 2001; Lehmann, 2004). Online courses, according to Allen and Seaman (2007), are those courses that deliver at least 80 per cent of their content online. They state that enrolment in online courses run by higher education institutions has been growing significantly slower than overall enrolment in higher education over the past several years in the United States of America. They also indicate, in a study called ‘Making the Grade: Online Education in the United States’ (2006), that around 3.2 m. students registered for at least one online class during the 2005 autumn term, a substantial increase over the 2.3 m. students who registered the previous year. Online learning has in this sense a very similar meaning to e-learning, as is highlighted at the end of this section.

Like online learning, ICT is also one of the more common terms widely used in the educational technology literature. The British Columbia Ministry of Education (BCME) states that this term

> refers to the processes, tools and techniques used for communicating ideas and information, inquiring, making decisions and solving problems. ICT supports locating, retrieving, sorting, analysing, and creating meaning and communicating information using computer technology. (BCME Education Technology Branch, 2000, p.1)

Some other researchers have described ICT as those information and communication technologies that help and support learning and teaching (Andrews, 2004; Guri-Rosenblit, 2005). Guri-Rosenblit (2005) argues that the ICT referred to in the

educational literature is known by many different terms, such as Web-based learning, computer-mediated communication, e-learning, virtual classes, online instruction, cyberspace learning environments, computer-driven interactive communication and distributed learning. All of these terms refer to methods of electronic learning, so he settled on using the term ‘e-learning’ as an umbrella term for all of the other terms. This thesis also applies the term to all forms of ICT.

Similar to e-learning and its related terms is the term ‘blended learning’ (BL). This term is a new addition to the educational technology terminology. Rooney (2006) states that in 2003 the American Society for Training and Development identified BL as one of the top ten trends emerging in the knowledge delivery industry. Bonk and Graham (2006) state that ‘blended learning systems combine face-to-face instruction with computer-mediated instruction’ (p.12). This definition addresses the combination of traditional face-to-face learning and modern distributed learning environments that support online communication and interaction. Blended learning, according to Allen and Seaman (2007), is a method of education in which 30 to 79 per cent of the course content is delivered online. Blended learning typically involves online discussion forums and emails, as well as some face-to-face interaction. Allen and Seaman (2007) define two other forms of online courses: the online-course and the Web-facilitated course. They state that an online course is a type of learning where most of the content, estimated at least 80 per cent of the learning content and activities, is delivered online. The term ‘Web-facilitated course’, according to Allen and Seaman (2007), refers to those courses where one to 29 per cent of the content and activities use Web-based technology to support and facilitate face-to-face learning.

As pointed out earlier in this section, there are a number of terms that may be understood as synonymous with e-learning, but it is beyond the scope of this study to explore and illustrate all the terms with strong links to the term. The evolution of educational technology has been rapid, so new terms and concepts are continually emerging in this field. Conole and Oliver (2007) state that funding initiatives in the UK have attempted to, or are about to, introduce another term, ‘technology-enhanced learning’, indicating that this evolution is not over. The Engineering and Physical Sciences Research Council

(EPSRC) established a project in 2007 called Technology-Enhanced Learning (TEL). Its programme of research aims to build a strong conceptual foundation in an area recognised as crucial to the future of e-learning in the UK (EPSRC, 2008). The term 'technology-enhanced learning' has been used on the EPSRC project as a synonym for e-learning. TEL aims to explore the role that technology plays in enhancing learning by providing a better understanding of users' capabilities, leading to enhancement in learning outcomes and learning quality. The rest of this section comprises an overview of definitions of e-learning as the focus of this research study.

Strictly speaking, e-learning is just one part, the learning part, and needs to be complemented by e-teaching or e-moderation. In 2000 Gilly Salmon wrote 'E-moderating: the key to teaching and learning online'. She used the term 'e-moderator' as a synonym for online teacher. The role of the e-moderator, as highlighted by Salmon, is 'promoting human interaction and communication through the modelling, conveying and building of knowledge and skills through using [the] mediation of online environments designed for interaction and collaboration' (Salmon, 2004, p.4). However, because the term 'e-learning' is commonly understood in the educational technology literature, the researcher will use it as an umbrella term for both learning and teaching aspects.

E-learning in most research studies refers to a number of educational methods, such as distance learning, campus-based learning, distributed learning, network learning and all other forms of learning that are supported by or supplemented with any form of ICT (Oblinger et al., 2001; Clark & Mayer, 2002; Maltz & Deblois, 2005; OECD, 2005; Imamoglu, 2007). The OECD (2005) uses this definition and also defines e-learning in general as 'the use of ICT to enhance or support learning in tertiary education' (p.11). Another definition that describes the central concern of e-learning was introduced by Clark and Mayer (2002). They identify e-learning as content and instructional methods delivered on a computer (including CD-ROM, the Internet or an intranet) and which are designed to build knowledge and skills relating to individual learning or organisational performance goals. This definition involves all forms of courses that are designed to provide information and knowledge, as well as those designed to build specific

performance skills; it includes elements that address the what, how and why of learning. The 'what' of e-learning refers to courses, including both content (knowledge and information) and instructional methods that involve techniques that help learners to understand the content. The 'how' of e-learning courses involves all digital and electronic forms, and the 'why' of e-learning aims to improve organisational performance as well as building learners' knowledge and skills (Clark and Mayer, 2002, pp.11–13).

The Knowledge and Learning Systems Group at the University of Illinois (2000 p.5) defined e-learning in greater detail as follows:

> The acquisition and use of knowledge distributed and facilitated primarily by electronic means. This form of learning currently depends on networks and computers but will likely evolve into systems consisting of a variety of channels (e.g., wireless, satellite), and technologies (e.g., cellular phones, PDAs) as they are developed and adopted. E-learning can take the form of courses as well as modules and smaller learning objects. E-learning may incorporate synchronous or asynchronous access and may be distributed geographically with varied limits of time.

This definition paints a bigger picture of e-learning; it involves all uses of knowledge distributed and facilitated by any kind of technology or channels. It also involves all forms of courses or modules, whether they be synchronous or asynchronous. In the Saudi Arabian context, this definition, as used by the Knowledge and Learning Systems Group at the University of Illinois, is the one most likely to reflect e-learning in Saudi Arabia as it involves the use of any type of technology to enhance learning and teaching at all educational levels, from pre-school nursery to doctoral studies, whether synchronous or asynchronous (Bokahhos, 2005; Alamthal, 2005).

As mentioned earlier, it appears that one reason for this variety of definitions is that e-learning is a relatively new term and so definitions refer to an emerging field. Additionally, they have been considered by authors with dissimilar views from a variety of disciplines. Conole and Oliver (2007) address this issue clearly when they state that e-learning is rapidly changing according to current trends, fads and political initiatives. Therefore, it is difficult in a practical sense for one definition to capture this swiftly changing situation. The aim of this section is not to discuss the rationale behind the use

of this term; instead, it aims to provide a broad overview and understanding of its meaning.

E-learning, as described above, exists in a variety of formats and adopts a variety of learning theories. According to Schlusmans et al. (2004), a large number of higher education institutions have introduced e-learning through the use of an LMS. They indicate that lecturers use this system to deliver course information and content, and to upload their PowerPoint presentations and further reading to the Web. Lecturers also use e-mail, newsgroups, discussion forums, chat rooms and video conferences in addition to their lectures and seminars (p.126). Schroeder et al. (2010) address the continuing popularity of LMSs across the globe, as much teaching in many institutions is supported by ICT, largely in the form of Learning Management Systems. Most Saudi Arabian universities have introduced selected LMS platforms as an enhancement to their e-learning course programmes. At King Khalid University, for example, as discussed previously, the E-learning and Training Centre developed two online courses in 2005 using an Arabic learning management system platform called Tadarus, and then shifted to using another LMS platform called WebCT until 2006, when it moved to the Moodle Learning platform up to 2008. Since 2009 it has used the Blackboard Learning Platform (King Khalid Universityhttp://www.kku.edu.sa/ELearning, 2013). This thesis, as highlighted in Chapter 1, explores the use of e-learning by teachers and students in one of the southern universities in Saudi Arabia (SU). In that university, e-learning courses are mainly delivered through an LMS platform. Therefore, the perceptions of the teachers and students, which are the focus of this study, mainly concern the use of the LMS platform in that university.

This study, as illustrated earlier, was developed in two phases. Phase One was conducted in 2008 and then analysed. At that time, e-learning was just being introduced at SU and the main form of e-learning was through an LMS. Due to family problems and long-term illness, the researcher decided to take time out from the course. On resumption, much seemed to have changed and the researcher was advised by experts to revisit the study in order to address the current use of e-learning in what is referred to as Phase Two. The

two phases highlight a number of interesting outcomes, as will be revealed later in the discussion chapter.

3.3 Why Investigate E-learning and Its Advantages?

Several advantages and disadvantages are usually associated with e-learning. This section examines the advantages of e-learning for teachers and students at higher education levels; it will be followed by a section that further considers the disadvantages as issues that should be considered when developing e-learning courses.

E-learning brings a number of advantages to its users. These include flexibility, building a personal learning environment and sharing resources, communications, reach, cost and motivation. The researcher will go through them in the following paragraphs.

E-learning in education provides a scenario with the possibility and flexibility of equitable education for all people in society. It provides an opportunity for many people to continue their professional development without fear of restriction. Moore et al. (2001) and Jochems et al. (2004) indicate that there is an increasing number of non-traditional students who are continuing their professional development through e-learning because of the flexibility that such courses provide. These non-traditional students are often, according to Moore (2001), campus commuters, post-holders, carers, those with a disability or lifelong learners. For the same reasons, even traditional on-campus students are more likely to be contributing to the roster of e-learning courses if their university adopts this kind of course. Another form of flexibility that makes e-learning effective is the application of student-centred instruction. Effective e-learning programmes should enable students to choose between different levels of guidance, different delivery modes and so on (Jochems et al. 2004).

Successful e-learning should address a diversity of learners and a diversity of learning styles. According to Dimitrova et al. (2003), e-learning programmes have to pay attention to learner-centred design principles that meet individual needs. This leads to the need to have sufficient understanding of learning styles and to adopt different types

of pedagogy. This point will be illustrated in more detail when this chapter addresses the challenges to pedagogy in e-learning.

The flexibility and accessibility of e-learning result not only in opportunities for learners to study in different formats and to share learning resources regardless of time, space and place, but means that different individual needs can be addressed, especially for those with special needs such as dyslexia (Ossiannilsson and Landgren, 2011). This thesis is pleased to report the positive attitude revealed by analysis of one of the focus groups where two of the participants were visually impaired. They were happy to share their positive experiences of using e-learning, and took great interest in further improvements in this field. Those special experiences will be highlighted in the analysis chapter.

According to White (1999), most LMS platforms allow their users to build their own resources through the use of computer-based tools. These individual or group resources may be an opportunity for students to share their experiences, as well as enabling learners to acquire personal skills. White gives the example of music students at the University of Southampton who work individually to build their own websites to describe and discuss their research products. Koper (2004) states that the sharing and reuse of learning artefacts are perhaps the most promising advantages of e-learning. In addition, increasing students' responsibilities and interactions is one of the main goals of adopting e-learning. Moore et al. (2001) state that, in the e-learning environment, teachers do not control students in the same kind of face-to-face class environment. Students in e-learning bring with them different expectations, experiences and motivations for learning (p.27). Most LMS platforms allow students to revisit their lessons by revisiting recorded lectures, normally hosted on their LMS platform for a certain period of time (Hyder et al., 2007).

Besides creating a personal learning environment, e-learning offers great opportunities for students to communicate online, on or off the university campus. It also has the potential to increase the interaction among students and give university teachers, administrators and technicians a taste of coordination. These environments create opportunities to share experiences, knowledge, concerns and social aspects. E-learning

communication tools, according to Lehmann (2004), bring human and social life to the virtual classroom. In addition, e-learning extends learning opportunities through the availability of research and electronic resources. MacDonald et al. (2005) highlights a number of advantages relating to the use of electronic resources, including avoiding queues and reducing the pressure on library resources, besides offering availability of these resources at any time. They can also be hyperlinked to related items of interest and interactivity quizzes. Moore et al. (2001) state that tutors and instructors who use e-learning can create a life experience for their students through online virtual trips to museums and libraries, or even by arranging online discussions with content experts.

One of the greatest benefits of adopting e-learning in universities and academic life is that users, such as students, teachers or even researchers, may access information resources easily. E-books, e-journals, online databases and other forms of online resources can be reached easily, anywhere, any time, on or off campus (Holmes and Gardner, 2006; Fee, 2009).

Enhancing the quality of teaching and learning is a further advantage of e-learning. A number of studies have indicated that adopting e-learning in higher education may enhance such quality. They found that e-learning can improve student participation, retention and achievement. It can also improve teaching skills and create new ways for teachers to deliver their courses in a variety of formats (Larsen & Vincent-Lancrin, 2005; OECD, 2005).

Taylor (2002), in his research conclusion, presents a number of reasons why educational institutions and commercial organisations should utilise e-learning and training in their education and training programmes. First, online teaching and learning have the ability to extend the institution's educational reach far beyond its physical location. Second, e-learning via use of the Internet and virtual systems reduces the cost of teaching and training, especially if the organisation is in a remote location. In addition, e-learning may help students to take control of their own learning and to learn at their own pace, as described earlier in this section. E-learning can also, according to Taylor, help teachers and lecturers to present their work through new and challenging media, with the availability of graphics and multimedia enhancements, and allow the online submission

of assignments. Arabasz et al. (2003) indicate that teachers and lecturers may adopt learning strategies to improve their teaching methods and provide students with up-to-date materials in their academic field, while Taylor (2002) states in his research conclusion that e-learning will provide both teachers and students with opportunities to communicate easily with a global network of colleagues.

Another advantage of e-learning courses is the possibility of offering a motivational environment for those who are shy or who have difficulty in communicating orally with other students in traditional classes. Porter (2004) stresses this point, and adds that e-learning not only offers a motivational environment for the shy student but opens up the space of knowledge to those who are computer literate. These students can improve their e-learning skills because they are interested in online education and have the computer skills to take advantage of it.

3.4 What are the Challenges to E-learning?

The literature includes a number of studies, from both theoretical and experimental perspectives, that discuss disadvantages, challenges and issues relating to the value of delivering e-learning courses through the use of an LMS in higher education institutions for on- and off-campus learners. In SU in Saudi Arabia, the field of interest for my research as described in Chapter 1, e-learning courses were established in 2005. The challenges to e-learning at SU, as analysed during and after the fieldwork, were huge and diverse. The research was initially formulated to investigate students' and teachers' experiences of using a Learning Management System as the main method of delivery for the e-learning courses they were taking. Similar types of studies present a number of challenges linked to students' and teachers' experiences of using an LMS. Most of these challenges can be categorised into two main types, namely pedagogical or technical. Colbran and Al-Ghreimil (2013) investigated the use of information technology to support quality teaching and learning in seven universities in the Kingdom of Saudi Arabia. Open-ended questions explored academics' views on the positive and negative aspects of an LMS. Typical 'negative' responses related mainly to technical and pedagogical problems, such as losing data due to technical issues, systems failures on

some occasions, the risk of viruses affecting data, the need for technical support and extra resources, a lack of student engagement and communication, learning difficulties associated with computer literacy, the need for adequate staff and student training, low speed of the Internet, poor maintenance and students' low level of computer skills. Another study, by Alqurashi (2009), indicated that higher education institutions, university teachers and students face multiple technology-related challenges, especially those who are new to the e-learning field or those institutions which have just started to implement e-learning courses. He found that there were 'three main reasons behind this reluctance to engage in electronic forms of teaching: change resistance, technophobia and insufficient computer skills' (p.6).

So for the purpose of framing those challenges and addressing their boundaries, pedagogical and technical issues will be examined in depth in the following sections. The researcher also addresses other, related issues that may surround and affect teaching and learning environments, such as cultural challenges. Those categories help both researcher and reader to limit the boundaries of those challenges; however, the research is conducted using mixed methods research with four different types of data collection in Phase One and two different types of data in Phase Two, so there are more issues to be addressed later on in the analysis chapter and beyond, as emergent themes are presented by the participants. Those themes will provide rich and detailed insights into the micro levels of participants' experiences.

3.4.1 Pedagogical issues

The e-learning environment has certainly changed the roles of both teacher and learner. According to Salmon (2004), the teacher's role has changed from being that of someone who controls most of the overall learning process to someone whose main task is more to do with guiding, counselling, mentoring and moderating. Despite these role changes, the e-learning tutor is still the creator of the course structure and the activities within and surrounding it, while the e-learning instructor remains the facilitator of interaction and collaboration. E-learners, on the other hand, are much more autonomous and will be considered as true partners in the whole learning process (Clarke, 2004).

A lack of professional development among faculty members is one of the most significant barriers confronting higher educational institutions (Barker, 2002; Levine and Sun, 2002; Clarke, 2004; Salmon, 2004). Levine and Sun (2002) argue that online tutors tend to develop their teaching styles based on their experiences as students, where the face-to-face lecture is the main mode of instruction in higher education. To achieve meaningful results in e-learning programmes, they claim that online tutors need to change their teaching style to focus on coaching and discussion, and to design a variety of online activities that will meet students' needs. This shift in pedagogy to an e-learning environment raises concerns among tutors in higher education regarding their new role and workload. For example, designing online courses, maintaining chat rooms and responding to emails from students require more time and energy from online tutors than traditional courses (Levine and Sun, 2002).

The success of any e-learning programme in a higher education institution also depends heavily on the efforts that have been made by that institution's members. The management groups of higher education institutions should prepare teachers and students to cope with a major shift from traditional teaching and learning methods to a wide range of ICT. Clarke (2004) states that some learners' lack of technological skills might prevent them from participating effectively in a virtual learning environment. Learners who intend to participate in discussion forums or in online work or activities have to have a basic knowledge of how to browse the Internet, access software programs, send e-mail messages, use the keyboard and save and print documents. All these basic skills could be learned in an introductory short course at the beginning of any online course. However, due to the growing number of Internet users around the world, these problems are becoming ever less frequent.

Martínez (2007) conducted research to evaluate an experimental online course developed as part of a European project, a Multidimensional Approach for Multiplication of Training Environments (MAMUT). The aim was to identify psychological issues that might influence online learning and result in online courses being unsuccessful. The study found that there are a number of issues leading to unexpected results in online courses. These include poor pedagogical design, a lack of

student–tutor interaction, insufficient experience and time to become familiar with the LMS, and a lack of computing services and resources. These results confirm the basis of this research that, for e-learning courses to be effective and successful, higher education institutions need to take into account students' and teachers' perceptions of e-learning courses, and the challenges and problems they might face, in order to find solutions to those problems in the future.

Most Saudi universities do not have a long tradition of online pedagogical training of their teachers. The majority of experienced teachers have never been introduced to online pedagogic theory or methods. Therefore, there is not much interest among those teachers in delivering their courses online or through LMS platforms, even though their institution might provide an LMS platform (Sahab, 2005). This fact has led some Saudi universities to establish in-service training programmes to improve the online teaching skills among higher education tutors. King Khalid University, for example, ran a series of intensive training courses in April 2007 and those courses were delivered the following month at three other universities, namely Jezan, Al-Taif and Al-Jouf universities (King Khalid University, 2013). This kind of in-service training programme is very important for training teachers directly and visually to use an LMS, although some online teachers may prefer to learn to use their LMS with the help of a system guide book or handouts. However, Badge et al. (2005) argue that one of the major findings of their study was that, while many staff at the University of Leicester had to some extent used an LMS known as Blackboard, the majority of the tutors had failed to make use of the potential pedagogical advantages offered by full familiarity with the functionality of the system. A small number of staff had attended formal in-service staff development programmes, but the majority of tutors classed as Blackboard users were self-taught. Badge et al. (2005) argue that when tutors begin to use an LMS in a self-taught environment they do not realise how it can be used to improve the educational value of their teaching.

In all higher education institutions, either where the technological infrastructure and support are strong or where e-learning courses have only recently been introduced, there is a need to set up staff development programmes to provide online teachers with the

skills required to help them design and moderate effective e-learning courses. Higher education institutions need to improve online teaching in terms of quality and quantity. Online teachers need new attitudes, knowledge and skills, and new ways of operating and moderating successfully in the online environment (Leonard and Guha, 2001; Barker, 2002; Salmon, 2004).

Arabasz et al. (2003) highlighted one of the major obstacles and challenges to e-learning tutors in an e-learning environment, i.e. the amount of time required to develop and maintain e-learning courses as compared to traditional courses. E-learning tutors need significant time to plan, restructure and re-engineer their courses to adapt them to the online format; they should also attend technical and pedagogical professional training programmes, and communicate with and provide feedback to students. Salmon (2004) argue that the effective use of the LMS platforms may help teachers use online resources and link them to course content. It also relieves the online teacher of an extra administrative burden.

After giving a brief overview of the importance of the term ‘pedagogy’ in the e-learning environment, it is essential to highlight that, to be successful, teaching online needs an effective online curriculum. According to Porter (2004), each course within a curriculum must be well developed and designed for students with a variety of abilities and learning styles. Learners in an e-learning environment expect a complete, innovative, interactive, well-designed and cohesive curriculum. Failing to meet these criteria may lead to negative or unexpected outcomes or to learners finding other courses that satisfy these criteria (Porter, 2004, pp.6–18). A similar opinion was stated by Dimitrova et al. (2003); they comment that paying attention to pedagogical style and learner diversity will enhance students’ academic achievement, as well as improve their attitude to their course. So, e-learning developers need to have a greater understanding of the learner population, learning theories and their use of learning technologies.

Identify learning theories and their implications for e-learning

Learning is an essential word in people’s lives. According to Marton and Booth (1997), it relates to how we perceive and understand the world and how we make meanings and knowledge. Education deals with students as people, and not every student learns in the

same way. Students may bring different backgrounds, experiences and expectations to learning. So, it is quite difficult to find easy answers to such questions as ‘How do we learn as students?’, ‘How do we teach as teachers?’ and ‘What are the best materials and resources to deliver information and knowledge?’ This section of the literature review intends to offer a broad overview of learning theories and the implications these have for e-learning.

Earlier in this chapter, the researcher highlighted that many higher education institutions have introduced e-learning to their educational systems. Generally, some e-learning courses are designed in the same way that traditional courses are designed, without any deep understanding of the role e-learning courses will play in delivering knowledge and information to the individual learner in particular, and to the educational system of the institution in general. Therefore, before designing an e-learning course it is essential to determine which learning theory will be the best to achieve the goals and objectives of that course.

In the learning literature, there are different schools of thought about how learning takes place. In this chapter, the focus is on three different and common views on learning environments: behaviourism, constructivism and social cognitive learning theory. The first of these schools is behaviourism.

Behaviourism

Behaviourism is one of the most common and well established learning theories in the education literature. According to Squire (1992) and Cheney (1993), behaviour is not caused by the mind but by consequences that drive our actions. Students may repeat a behaviour if they find it has pleasant consequences. However, they might not repeat it if they experience unpleasant consequences. Cheney (1993) stated that behaviourists view learning as a set of acquired tendencies or actions. The behaviour of learners is shaped to respond in a predetermined manner to a particular set of circumstances. What is important in behaviourism theory is what the learner is doing, not what he/she is thinking. It should also be noted that, for behaviourists, learning is a reaction to the environment. So, by manipulating the environment, behaviour can be changed.

According to Burton et al. (1996), Skinner is one of the best-known behaviourists. His view of learning, according to them, is that complicated learning comprises a number of smaller parts that are sequenced. He looks at learning as an approach built from small to large and from simple to complex. He believes in the importance of frequent feedback at each stage of the learning process. Learners usually, in this theory, react to the environment. However, that does not mean that the learner is a passive receiver. Burton et al. (1996) cite Skinner's argument that the learner must also play an active role in the learning process and not just react to the environment. Learners, he believed, learn in three ways: by doing, by experiencing, and by engaging in trial and error. Laurillard (2002) argues that the knowledge and experience that students bring to a course will affect the way they deal with new knowledge being taught. At the end of this chapter, the importance of the role played by students' and teachers' experiences and perceptions of improving the learning process in general and the e-learning environment in particular is highlighted.

Application of behaviourism to e-learning

Behaviourism theory has many implications for the e-learning environment. In the previous section it was highlighted that behaviourism theory pays great attention to the importance of frequent feedback at each stage of the learning process. When designing an e-learning course it is very important to assess students' progress and learning outcomes through frequent feedback and by questioning students after each learning stage. This feedback helps students to know whether they have understood the section or whether they need to review it (Burton et al., 1996; Moore et al., 2001; Jochems et al., 2004). Breaking up content into small components in the learning process will help the learner who learns quickly to skip from one unit to another, even if other are still working on earlier units. This also helps to ensure that students understand the content and activities. Furthermore, it takes the learning process from the simpler stages to the more complex.

Many of the LMS platforms use a number of user-interface tools, guidelines and learning objects that help students and even teachers to remember how to access information. In addition, online assessments and feedback, such as quizzes, tests or

surveys, become easy to set up and create via these LMS platforms (Richardson and Turner, 2000; Bosco, 2007). This type of online assessment provides immediate feedback, which is very important in behaviourism.

Constructivism

Generally, psychologists (e.g. Piaget, 1950; Bruner, 1960; Biggs and Moore, 1993; Savery and Duffy, 1995) use constructivist theories to explain the idea that learners create knowledge. Knowledge, they say, is the creation and integration of facts by the learner. At the heart of this theory is the idea of continuous building and amending of previous knowledge, structures or actions. The learner plays an important part in constructing their own meaning and knowledge, rather than being guided by instructors giving information. Under this theory, there are a number of tools that teachers may use in their teaching process, such as problem-based learning, collaborative learning, simulation and mentoring (Haughey, 2002).

Application of constructivism to e-learning

Stone (1998) states that there are a number of stages in the use of computers to support learning and teaching. The process began in the 1960s and 1970s, under a behavioural approach, through computer-based learning and training. Then, there was a shift to a cognitive approach to learning in the 1980s. However, when the World Wide Web became easily accessible by many people in the 1990s constructivism became one of the more appropriate approaches to learning and teaching in the online environment through computer-mediated learning. Haughey (2002) indicates that the most common type of pedagogy associated with or promoted by technology implementation is constructivism. In addition, Granger et al. (2002) state that research into the use of technology to support learning and training finds that the constructivism approach to learning is part of teachers' professional development. Stone (1998) indicates that the design of computer-based learning activities is different to the design of computer-mediated learning activities; computer-based learning activities are linear, meaning that students do not move to the next learning activity and concept until they have fully understood the previous concept. On the other hand, students who learn via a computer-mediated learning approach are self-learners, and they learn by jumping from site to site and

activity to activity, without following a predetermined approach. They build their knowledge and understanding through communication and interaction with other learners and teachers in the online environment. In this respect, Oliver et al. (2002) state that interaction among online students has an adaptive mediating role, helping students to recognise and resolve problems and challenges. In addition, listening to the dialogues of others may have a positive impact on learning.

LMS platforms are commonly designed to assist constructivism approach activities through communicational tools, such as personal email, chat rooms, learning groups, discussion forums, synchronous conversation, video conferences and so on (Jonassen et al., 1995; Moore et al., 2001; Bosom et al., 2007).

Social cognitive theory

According to Wulfert (1993) and Boeree (1998), Albert Bandura was the creator of social cognitive theory, also known as social learning theory. Bandura highlighted that learning is composed of interaction between three areas: the environment, cognitions and behaviour. His belief is that, through a self-regulatory process, people have the ability to create some measure of control over their own actions. They may influence their behaviour by establishing goals for themselves, arranging environmental inducements, creating cognitive strategies, evaluating and assessing their goals and mediating the consequences of their actions (Wulfert, 1993). Wulfert indicated that, in Bandura's opinion, self-efficacy is the most important aspect of self-regulation. Self-efficacy, according to Wulfert, is understanding that you have the ability to bring about certain outcomes because of your own actions. It is also considered to be a key to changing behaviours. Boeree (1998) states that a person who has high self-efficacy is someone who can solve problems more efficiently; he highlights four sources that Bandura considers key to strengthening self-efficacy. The first and most important source is to be successful. Completing a difficult task successfully will increase a person's self-efficacy. Second, self-efficacy comes from vicarious experiences. Looking at someone who is similar to yourself and witnessing their success in a certain task will make you believe that you can succeed in it also. Third, self-efficacy can be increased through 'encouraging words'; encouraging people to do something may lead to them be

successful. Finally, teaching coping strategies may help people to become capable of succeeding and may increase their self-efficacy.

Application of social cognitive theory to e-learning

The previous section highlighted how self-efficacy is a most important aspect of self-regulation, and how the self-regulation process gives people some measure of control over their own actions. Pre-training sessions are important in building self-efficacy for those who use a computer in their learning, especially those who have previously experienced failure with computers, have limited computer skills or who have used computers only rarely in the past. Before inaugurating any e-learning course, the higher education institution should ensure that all students and teachers who are taking the course are pre-trained in the use of computers. This will make them more confident and more productive (Espejo et al., 2003; Newland et al., 2006).

Social cognitive theory places great emphasis on learning by modelling, observation, encouragement and motivation. Wulfert (1993) and Salmon (2004) stress that it is important for online teachers to take an active part in online communication and discussion, respond to students' enquiries via email, encourage students who are unlikely to participate, and design online activities that help students to challenge themselves. Being close to the students in the online environment and giving them all necessary forms of help and support will help students to succeed in their courses and lead them to believe in themselves; in turn, this will add to their self-efficacy and confidence.

3.4.2 Technical issues

There are several technological issues associated with using e-learning in general, and an LMS in particular, as a way of delivering e-learning courses, especially in those universities that have only recently introduced e-learning to their educational system.

Harrison (1997) outlined several technological issues associated with using the Internet in a virtual learning environment, including the availability of Internet access to teachers and students on or off the campus, training students and teachers in the use of various software packages, (in)appropriate infrastructure, lack of technical support, and the cost

of the acquisition and use of appropriate technology. Although Harrison's research was conducted in 1997, some of his findings are still valid for many similar environments where the Internet and e-learning courses have just been introduced to academic society. In Saudi Arabia, for example, Almosa (2002) and Al-Hejji (2003) report a number of technological issues that would challenge both the general and higher education systems in Saudi Arabia. Among them are the lack of technology infrastructure, the generally slow Internet connection speeds, the lack of teachers and students with technological skills, and the lack of technical support.

Having described 'generally' the common technical problems related to e-learning, this section will specify particular technical problems related to learning management systems. This thesis, as highlighted in Chapter 1, explores the use of e-learning by teachers and students in one of the southern universities in Saudi Arabia (SU). There, e-learning courses are delivered mainly via an LMS platform. Therefore, the perceptions of teachers and students, which are the focus of this study, mainly concern the use of that LMS platform in that university so it is appropriate to give some insight into the technical challenges relating to the use of LMSs, as reported in the e-learning literature.

LMSs are a form of software that are designed to present, manage, follow up or evaluate all learning activities on the Internet, and they can be synchronous or asynchronous. Examples of such products are Blackboard, MOODL, eFront, LAMS and so on. Similar to LMSs are Learning Content Management Systems (LCMS); they are an alternative development for similar use. LCMS are more likely to go further and allow users to participate more in designing, creating, using and reusing content (Alkalifah, 2008).

LMSs consist of a number of tools that help to enhance student-centred learning and students' interaction with other learners and the instructor. Those tools are subject to rapid change and improvements according to the evolution of ICT. Examples of such tools are course content, course homepage, chat room, discussion board, announcement board, calendar, homework drop box, external links, administrative control, online assessment, grade book, e-mail box, personal home page and so on (Moore et al., 2001; Al-Salem, 2004; Ali & Elfessi, 2004).

Ali and Elfessi (2004), in their study examining students' performance and attitudes toward the use of information technology in virtual and conventional settings, stated that their online group showed a decreased comfort level in using technology, and this could have been related to the technical problems they experienced in using Blackboard. Examples of such problems are downloading documents, submitting assignments and using virtual communication tools. They found that the difficulty of handling such problems may relate to the fact that many of the students had just been introduced to the technology in that class. Song et al. (2004) obtained similar results in their study of student perceptions of what were useful or challenging characteristics of online learning. They found that the biggest challenges reported by participants were technical problems (58%); this was also reported across all the interviews, with one interviewee commenting that the technical problems she faced during the online course constituted the whole focus of that course.

Other technical problems linked to the use of an LMS may relate to the speed of the Internet and system errors. Belawati (2005) indicates that technical problems were regarded as one of the major difficulties of using the LMS at Terbuka University (UT) in Indonesia. The LMS was then newly established at the UT, and many of the students who responded to closed and open ended questions relating to technical problems stated that the most common and major technical problems they faced were low Internet speeds, connection stability, system reliability, an increased number of system errors and the complexity of the application. A recent study in seven universities in Saudi Arabia revealed similar types of problems. Colbran and Al-Ghreimil (2013) conducted research to investigate the use of information technology to support quality teaching and learning in seven universities in the Kingdom of Saudi Arabia. Typical 'negative' responses in their study mainly related to the technical problems, such as: losing data due to technical problems; systems failures on some occasions; risk of viruses affecting data; technical support needs; difficulties associated with computer literacy; low speed on the Internet; poor maintenance and students' computer skills.

3.4.3 Cultural issues

When a higher education institution moves towards adopting e-learning courses, there needs to be some understanding of the cultural circumstances and unique differences that culture brings to the e-learning and teaching environments. According to Wentling et al. (2000), culture is a complex and broad concept. It shapes the values, assumptions, perceptions and behaviour of the members of a society. It also frames peoples' thoughts, actions, rituals and even their businesses. Salmon (2004) confirms the need to find out more about the world of teachers and students before adopting online courses, especially their ideas about learning and teaching online. However, Klink and Jochems (2004) argue that it is not easy to build the theoretical framework required to integrate technology into teaching and learning. They indicate that faculty managers who are ambitious and enthusiastic regarding integrating e-learning into their educational programmes have to be willing to adopt new methods when dealing with such change. Substantial efforts have to be made to develop awareness within the various faculties regarding the expected advantages and potential pitfalls of such radical change. In addition, the faculty manager should identify the requirements of every faculty member who will participate in using e-learning in the teaching and learning processes. Finally, they should provide faculty members with technical support and training in the use of the new facilities (Klink and Jochems, 2004, pp. 151–161).

The cultural change caused by the adoption of e-learning courses may not be easily incorporated into those organisational or educational systems that have only recently adopted such technology in their academic organisation. People often refuse to accept change easily; they might feel threatened and intimidated by any new movement that might change their culture or lifestyle. Therefore, understanding the culture of a society and people's use and perceptions of technology may help online lecturers and instructional designers to design culturally appropriate materials and content. In the Saudi Arabian context, as described in Chapter 2, innovations such as e-learning have made their way into many higher education institutions. However, this kinds of learning and teaching delivery systems are still in their infancy. In many schools and universities there are still largely traditional classes and teaching styles representing styles of teaching and learning that have been used for decades. So, when launching e-learning

programmes to promote educational change, it is important to consider how schools or higher education institutions will introduce e-learning to their teachers and students.

3.5 Users' Experiences and Acceptance of E-learning

In today's world, teachers and students in higher education are increasingly facing different forms of technology associated with their academic and social lives. The initial intent of this research was to explore students' and teachers' experiences of e-learning of a university in Saudi Arabia, SU, where e-learning courses were just being introduced. At that time, the study was guided by a range of different literature exploring students' and teachers' experiences and perceptions of using different forms of technology in teaching and learning. The research was initially being supervised by Professor Gráinne Conole, who has research interests in the use, integration and evaluation of ICT and e-learning and its impact on organisational change. She has also conducted and presented, with other researchers in the field, a number of joint research papers on students' experiences of technology. So there was a considerable discussion at the time on how best to explore the perceptions of both new and experienced users of the LMS at SU in Saudi Arabia.

As illustrated earlier, this study was guided by a range of different literature and looked at students' perceptions from different perspectives. Sharpe et al. (2005) conducted a comprehensive literature review of studies focusing on students' experiences of e-learning, much of which put more emphasis on users' perceptions and experiences of course design and the evaluation of technology. Sharpe et al. (2005) highlight a number of themes emerging from the comprehensive range of studies they reviewed. They present three emerging aspects that need to be considered concerning students' experiences of e-learning. The first aspect highlights the emotional experiences of users vis-à-vis the pros and cons of e-learning. The second aspect is time management, which concerns both teachers and students. The third aspect highlighted in Sharpe et al.'s (2005) study is e-learning skills. They state that it is not only IT skills that students require to use technology more effectively. To this end they highlight a number of other skills, including communication skills to interact with online tutors. It is also indicated

that the skills of students are also influenced by the pedagogy, learner differences, gender, cultural, learner preferences and so on.

Another report highlighting students' experiences and attitudes to technology was presented by Kirkwood and Price (2005), who state that students' attitudes towards technology not only change the personal learning needs of the user but influence the changing needs of society. The Joint Information Systems Committee (JISC), through their e-learning programme, funded two parallel projects to explore learners' experiences of e-learning. The aims of those projects were to boost the development of e-learning environments and promote the effective design of e-learning tools. Those projects were presented in two phases; Phase One, that is, The Learner Experience of e-learning, or the LEX project, was carried out by a team of experts looking at how e-learners across a wide range of age groups use different forms of technology for learning. It focuses on what characterises an effective e-learner, what beliefs and intentions effective e-learners display and what strategies effective e-learners use. The findings of the LEX project were used to formulate a conceptual framework which specified five high level categories, namely life, formal learning, technology, people and time, plus a further five dimensions surrounding such influencing factors as control, identity, feelings, relationship and abilities. The full report can be found in Creanor et al. (2006).

The second phase of JISC e-learning programme-funded projects investigated students' experiences of technologies (LXP). The LXP study team, including this thesis' joint supervisor in 2006, Professor Gráinne Conole, conducted a rich study looking at university students in different disciplines to explore how students engage with e-learning, students' perceptions of e-learning, and the strategies and tools students use in e-learning. Another aim of the study was to see how learners in an online environment adapt to e-learning along with their traditional learning activities. The methodology adopted in the LXP project consisted of an online survey used to explore the wider experiences and understanding of e-learners in their e-learning environment. Data were gathered in the form of audio logs and transcripts from interviews. A number of case studies of individuals in the same target group were selected and analysed to give a

greater depth of understanding of the e-learning activities participated in by the learners. The project findings raise a number of interesting issues with regard to e-learners and how they adopt technologies in their academic and social lives. Conole et al. (2008) argue that, although most learners are familiar with technology in their daily lives, they are not academically e-literate as they need more skills if they are to be able to use and adopt technology critically and effectively in their academic lives. The LXP project also indicates that there are significant changes to the ways in which students learn in this digital age, which e-learning providers and designers, such as academic institutions, need to take into account when applying any form of technology to the learning environment.

Modern innovations are leading universities around the globe to adopt different forms of technology. It has been observed that both teachers and students in higher and further education are increasingly accepting new forms of technology within their academic environment. Users' acceptance and experiences of these technologies have been closely observed and monitored in the course of educational research in many ways.

Theories have also been constructed over time to address the influence of technology on teachers' and students' attitudes to new forms of e-learning. Among these theories is the technology acceptance model (TAM). Dillon and Morris (1996) define the user acceptance as 'the demonstrable willingness within a user group to employ information technology for the tasks it is designed to support'. The literature on TAM presents various theoretical models and frameworks that have been integrated and modified over time and within different forms of research. The commonly cited model in TAM is the model developed by Davis (1993). This model is frequently referred to in the literature and has been modified and integrated by a number of researchers, including Nanayakkara and Whiddet (2005), Liu, Liao & Peng (2005), Masrom (2007), Yiong et al. (2008), Park (2009) and Punnoose (2012).

According to TAM, the behavioural intentions of technology users such as students or teachers are influenced by their attitudes towards technology. The guiding themes that help to identify TAM's principles, according to Liu, Liao & Peng (2005), are 'perceived ease of use', 'perceived usefulness', 'attitude toward using the system' and 'intention to

use'. However, according to Nanayakkara and Whiddet (2005), the major weakness of common TAMs is that they only focus on exploring users' perceptions of a system without considering the environment, including organisational factors, around users, and this may influence their acceptance of technology. Therefore, this study will not adopt published TAM models but will use them for reference and supporting guidance alongside other literature such as the LEX and LXP projects, and other work highlighted in this chapter in order to try to analyse some of the themes that emerge from students' and teachers' experiences of e-learning at SU in Saudi Arabia. The researcher will also use his knowledge and experience as a student and later an academic lecturer at SU in Saudi Arabia, where he lived and grew up, to develop the research questions that will try to explore the new implantation of e-learning in a traditional conservative environment.

3.6 E-learning and Educational Change

To provide an empirical basis for improving teaching and learning in higher education through the use of e-learning, this thesis adopted an intensive qualitative and quantitative research approach aiming to give a voice to the main users of e-learning at university level: university teachers and students. The purpose of this study is to look at their perceptions of e-learning courses they have taken, the challenges they faced, the positive things that attracted them to those courses and, finally, their suggestions and recommendations regarding how such e-learning courses might be improved in the future. The 'voice' in this thesis refers in particular to university teachers' and students' experiences, and their opinions became clear through their participation in the research methods employed by this study in both Phases One and Two.

Adopting e-learning courses in higher education might appear to be an innovation to some universities around the world; it is completely new even to some teachers and students. In Saudi Arabia, e-learning courses were introduced into some university environments no more than six years ago (Saudi E-learning National Centre website, 2013). This kind of adoption of technology into an environment where there is not much experience in the field may result in feelings of discomfort or anxiety similar to trying something new within educational change as a whole (Bonwell & Eison, 1991),

especially when such change has been planned and imposed externally by the organisation or by the higher or general education ministries. Therefore, an effective way to improve the quality of e-learning courses is by looking at users' perceptions and experiences, and that may lead to successful educational change.

Laurillard (2006) highlights the importance of adopting advanced technology in education and how this adoption offers great value in terms of educational change. Laurillard also states that the quality of education and learner experiences could be improved if we adopt and create an education system capable of keeping pace with the rapid growth of technology as well as its effects on the social environment. Change in universities, as highlighted by Laurillard, is an aspect of the organisation and should be directed to meet the needs of the learner in order to provide progressive and adaptive change, rather than mechanistic change (Laurillard, 2006).

Looking back to the 8th and the 9th National Development Plan of Saudi Arabia referred to in Chapter 2, there is a focus by government on enhancing IT in general education and in higher education. That requires establishing policies and strategies to encourage the integration of information technologies across schools, colleges, universities, curriculum and practices. This will change the pedagogical practices of teachers and students to create new ways of learning and teaching. Fullan (2007) indicates that a change in pedagogical practice depends upon factors such as the willingness of the individual (teacher/learner); the policies and practices of the organisation as a whole; and the culture within that environment.

Fullan's three aspects of change in pedagogical practices are investigated in this study through the perceptions and current usage of e-learning from both teachers' and learners' perspectives. Mixed methods were used to collect both quantitative and qualitative data across two phases at two different times. (Phase One in 2008 and Phase Two in 2013). The results of the quantitative and qualitative analysis are presented in Chapter Five. The findings of this research summarise the current use of e-learning in each phase and what possible changes took place during Phase One and during Phase Two, and what further changes could be made to improve the future of teaching and learning in higher education through the use of e-learning in Saudi Arabia. One of the

most significant results of undertaking such a study is that the kind of change across time represents how the organisation has moved from the domain of research to the domain of action.

According to Hargreaves et al. (2010), it is now, more than at any point in the past, the time to devise a new ways of educational change to overcome the new problems encountered in the learning and teaching environment. These should be based on what we have learnt from the past.

This thesis has found that the continuous improvements that the southern university in Saudi Arabia has achieved in past years has, indeed, helped to overcome a number of such challenging instances facing the e-learning environment.

Chapter 4 Research Methodology

4.1 Introduction

An essential principle when designing any research is to select the appropriate methodology. It is not an easy task and must be done thoughtfully and logically, because failure to select effective and appropriate research methods may well lead to unrealistic and improbable outcomes. This chapter describes the research methods used to determine teachers' and students' perceptions of the southern university (SU) in Saudi Arabia, noting the online courses they have taken and the ways in which users felt they could be improved. This research also has two phases: Phase One, was the main ground of this research when the researcher explored students' and teachers' experiences of e-learning at SU in 2008. Once those data had been gathered the research was interrupted by a number of illnesses and social issues. The experts at Southampton Education School, after considering the nature of the study, time matters and the long illness that interrupted this research, suggested that it would be worth revisiting SU in 2013 to examine the then current use of e-learning using all or some of the methods used in Phase One in 2008. The researcher with a limitation on time managed to revisit SU in November 2013. This return visit in 2013 is denoted in this research as Phase Two. The researcher used the original questionnaire to gather information from students and managed to do an online interview with two current teachers who were delivered courses at that time. Both phase were analysed and then joint outcomes are presented in the discussion chapter.

This chapter identifies the research questions and the research methodology; it also describes the design of the research and the selection of the sample population. Attention is paid to data collection, data analysis, validity and reliability and triangulation techniques that are used to cross-validate the data. Finally, a number of ethical issues are reviewed.

4.2 Research Questions

The purpose of this study was to determine teachers' and students' experiences of using e-learning at SU in Saudi Arabia. As such, the aim of the study is to discover the current experiences of teachers and students in an online environment. The study focuses on three major questions:

- What was/is the current use of e-learning by the teachers and students of SU in 2008 and in 2013?
- What are the teachers' and students' perceptions of the use of e-learning in their teaching and learning?
- What are the teachers' and students' perceptions of the ways that e-learning courses could be improved in their organisation in the future?

This study examines two different types of e-learning users (teachers and students). The research questions were framed to answer questions related to each type of user. The study first focuses on teachers' use of e-learning and the way that they deliver it, the factors that motivate teachers to use e-learning tools, the challenges that teachers face while using e-learning, their perceptions regarding the online course materials that they use or have used, their experiences of interactions with students, and their suggestions of ways in which e-learning courses could be improved in the future. Second, the study focuses on students' use of e-learning and the ways in which they learn, the factors that motivate them to use e-learning tools, the challenges that they face while using e-learning, their perceptions regarding online course materials, their perceptions of their level of learning and achievement in an online environment, their experiences of interactions with teachers or other students enrolled on their course, and finally their thoughts regarding ways in which e-learning courses could be improved in the future.

4.3 Research Design

This research adopts both qualitative and quantitative approaches, which means that, in each case, it takes into account whether the research instruments fit the research questions, the research problem and the rationale. To best achieve this, a pilot study was

conducted as this was very useful and important to check the quality of the methods. This was done in consultation with a PhD supervisor and two specialists in the School of Education who worked temporarily as second supervisors for this research. The aim was to determine who was best positioned to help answer the research questions by allowing data collection from a number of sources. Additionally, there was significant academic consideration given to the methods selected to ensure appropriate methods were used, because every piece of research should cover each element that may affect what emerges from the data analysis and incorporate it into the conclusion(s). Finally, and before designing the research, the researcher had to answer the following questions: Who is the target community? Where is the target community? When will the data be collected? How much time will the interviews, focus groups, weekly reflective diaries and questionnaires take?

4.3.1 Qualitative and quantitative approaches

Qualitative researchers, such as Lankshear and Knobel (2003), state that, in order to understand the world, one should focus on the context, which involves taking into account the history and language of the participants during a particular event and/or other events occurring concurrently. A qualitative approach is typically employed when the researcher has already defined the issues that he/she intends to explore and when one of the main aims of the research is to understand human behaviour from a participant's own frame of reference (McQueen & Knussen, 1999). Richardson (1996) indicated that qualitative researchers usually seek to understand the experiences, feelings and views of the subjects they study rather than imposing a framework of their own which might misrepresent the participants' ideas. Qualitative research, as described by Johnson and Christensen (2004), is based on qualitative data and tends to follow an inductive mode as its scientific method. Henn et al. (2006) state that a qualitative approach is normally employed in real life settings to understand how people experience the world around them, attempting to study action and speech as it naturally occurs. Thus, a qualitative approach was believed to be one of the most appropriate methods for this study, as the researcher was interested in investigating the perceptions of SU teachers and students who had taken or were taking online courses.

In contrast, quantitative researchers, such as Oppenheim (1994), assume that the world can be measured and that numbers can accurately capture the probability of the truth about something. Quantitative research, as defined by Hammersley (1993: 37), refers to 'the adoption of the natural science experiment as the model for scientific research, its key feature being quantitative measurement of the phenomena studied'. Babbie (1998) states that quantitative research is 'the numerical representation and manipulation of observations for the purpose of describing and explaining the phenomena that those observations reflect' (p.366), while Cohen et al. (2003) indicates that quantitative research is defined as a form of social research that employs empirical methods and empirical statements. Cohen defines an empirical statement as a descriptive statement about what is the case in the 'real world' rather than what 'ought' to be the case. Another definition of quantitative research is offered by Creswell (2003). He states that quantitative research is a term that explains phenomena by collecting numerical data that are analysed by the use of mathematical-based methods. This type of research, as Hittleman and Simon (2002) claim, is characterised by the use of statistical analysis.

One of the fundamental reasons for using quantitative methods is to determine whether members of one population share common characteristics. It is also meant to inform certain elements of research that are used for general descriptions and statistical analysis. Quantitative research is appropriate for measuring both attitudes and behaviours and can be used to determine relationships between people and things (Chappell, 2000).

McCullough (1997) highlights some of the advantages of using quantitative research. Those advantages are as follows. First, the results obtained are statistically reliable. This means quantitative research can reliably determine if one idea, concept, thought, belief and so on is better than the alternatives. Second, if the sample is large enough, the results can be generalised to the overall population, that is, the proportion of respondents answering a certain way is similar to the proportion of the total population that would have answered in that way if they all had been asked (McCullough, 1997; Johnson & Christiansen, 2004). A third advantage of using quantitative methods is that they are well suited to addressing the 'Who?', 'What?', 'When?' and 'Where?' aspects of consumer behaviour (McCullough, 1997). Quantitative multivariate methods have the

advantage of allowing researchers to measure and control the variables (McCullough, 1997; Nardi, 2006).

In this research, both quantitative and qualitative methods were used to formulate a large picture of teachers' and students' perceptions about the e-learning courses that they had chosen to take in relation to their knowledge of educational technology and experiences with online learning.

4.3.2 Mixed methods research

A mixed methodology was used to conduct this research project. Mixed methods research allows for the use of theoretical and/or technical aspects involving both qualitative and quantitative approaches to answer the research questions (Creswell, 2003; Johnson & Christensen, 2004; Todd et al., 2004; Mertens & McLaughlin, 2004). Creswell and Plano Clark (2007) offer a clear definition of mixed methods research, describing it as:

> a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and mixture of qualitative and quantitative approaches in many phases in the research process. As a method, it focuses on collecting, analysing, and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach alone. (p.5)

Greene et al. (1989) present five purposes for adopting mixed methods research. The first purpose is triangulation; researchers who use mixed methods research normally seek convergence and corroboration of their findings from different methods that study the same phenomenon. The second purpose is complementarity, by which the researcher seeks the elaboration, illustration, enhancement and clarification of findings from one method with results from another method. The third purpose of using mixed methods research is development; researchers in some mixed methods research use the findings from one method to help inform and develop another method. Initiation is another reason for adopting a mixed methodology in some research projects; it can help to discover paradoxes and contradictions and thus lead to a reframing of the research question. The final purpose of using a mixed methodology is expansion; a researcher

might use this type of research to extend the breadth and variety of the research by using different methods for different research components. Every mixed methods research project may be classified as having one or more of these five purposes. This thesis, for example, seeks to use mixed methods research to triangulate the results derived from the data that were gathered through student questionnaires with those from focus groups and link them with data gathered from teachers' interviews and weekly reflective diaries. The focus group reports also help to illustrate, enhance and clarify the results of the student questionnaires. This thesis, by using a mixed methodology, aims to conduct a number of enquiries, in a number of formats and targeting different e-learning users, in order to have a clearer understanding of the current use of e-learning and teaching at SU and the ways in which they could be improved.

The value of using mixed methods research is that through the analysis of both types of research data, rich and complex interactions can be observed and examined from multiple perceptions and perspectives within a single study (Creswell, 2003; Johnson & Christensen, 2004; Mertens & McLaughlin, 2004). Mertens states that 'researchers choose mixed methods designs in order to gain a broader perspective and deeper understanding of different levels of the systems and interactions than could be obtained through a single method of research' (p.111). The use of mixed methods research helps to gain a deeper understanding of the situation under investigation, and the two types of research methods can be woven together to provide a better understanding of and fuller answers to the research questions. Johnson and Onwuegbuzie (2004) state this clearly when they indicate that the goal of mixed methods research is not to replace either of these approaches, but rather to use the strengths of an additional method to overcome the weaknesses in another method by using both techniques. Moreover, Tashakkori and Teddlie (2003) address a number of benefits and values of using a mixed methodology. One of these is the possibility of answering research questions that other methods cannot. It provides an opportunity to present a greater diversity of perceptions. Using mixed methods research can help to neutralise the bias that might result from using one method exclusively (Todd et al., 2004)

However, although some educational researchers have highly recommended using this type of research, as indicated previously, there remain some disadvantages. One such disadvantage is the need for an in-depth understanding of both types of research and their respective purposes, meanings and roles. This requires a knowledgeable researcher with a good breadth of understanding of research methods. Moreover, a mixed methodology might be more expensive and time-consuming. It may also be difficult to interpret conflicting results (Johnson & Onwuegbuzie, 2004). Benz and Newman (2003) points out another difficulty with mixed methods research, i.e. some differences in terminology that are synonymous with each type of methodology. For example, the term 'sample' has a different meaning for quantitative and qualitative research. It means, in the quantitative paradigm, having a representative collection of cases that are selected from a large population, while in the qualitative sense, sampling means having a collection of cases that illuminate an aspect of social life.

There are two major types of mixed methods research: mixed-model designs (the researcher uses both qualitative and quantitative approaches within or across stages of the research process), and mixed-method designs (the inclusion of a qualitative phase and a quantitative phase in the study, so they are conducted either concurrently or sequentially). The mixed-model method involves six mixed-model designs. These models are shown in Figure 4-1. These six designs are called across-stage mixed-model designs because the mixing takes place across the stages of the research process. The difference between this type and mixed methods research is that the mixed-method design has a qualitative paradigm, which includes a qualitative objective, qualitative data and qualitative data analysis, while a quantitative paradigm includes a quantitative objective, quantitative data and quantitative data analysis. Each of the paradigms remains intact and separate from the other. However, they are conducted as part of a large overall study (Johnson & Onwuegbuzie, 2004; Johnson & Christensen, 2004).

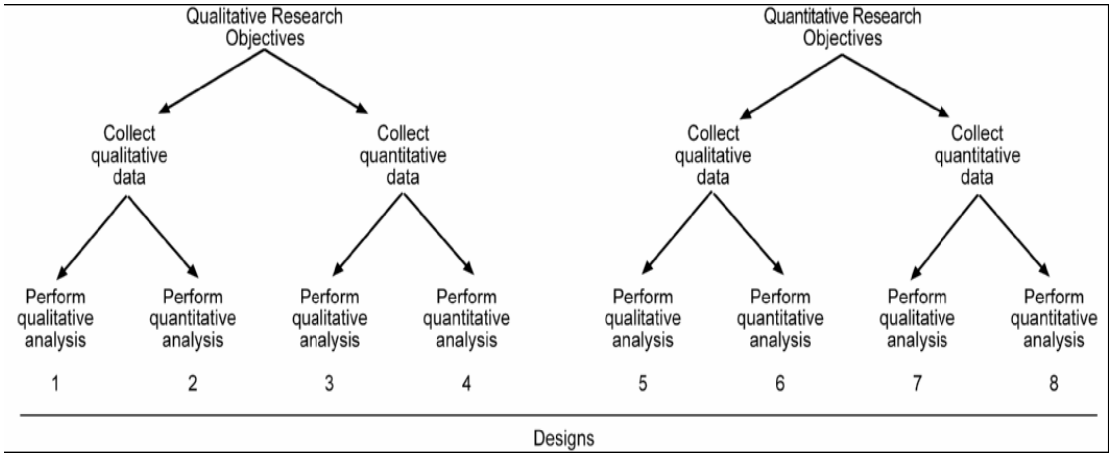

Figure 4-1: Mono-method and mixed-model designs. Designs 1 and 8 at the outer edges are the mono-method designs. The mixed-model designs are Designs 2, 3, 4, 5, 6 and 7 (Johnson & Christensen 2004, p.416)

Mixed-method designs (Figure 4-2) are classified according to two major dimensions: first, the time orientation of the qualitative and quantitative phases (i.e. concurrent versus sequential) and, second, paradigm emphasis, that is, equal status versus dominant status (Johnson & Onwuegbuzie, 2004). This thesis research project focuses on the *equal-status concurrent design* (QUAL + QUAN). In this study in Phase One, the researcher investigated students' perceptions using two different methods (questionnaires and focus groups), the aim being to cross-validate or corroborate the findings of the two methods. Creswell (2003) classifies this model under a different title, calling it a 'Current Triangulation Strategy'.

Time Order Decision		Concurrent	Sequential
Paradigm Emphasis Decision	Equal Status	QUAL + QUAN*	QUAL → QUAN QUAN → QUAL
	Dominant Status	QUAL + quan	QUAL → quan qual → QUAN
		QUAN + qual	QUAN→ qual quan → QUAL

Figure 4-2: Mixed methods design matrix

Mixed-methods research designs are shown in the four cells: 'qual' stands for qualitative, 'quan' stands for quantitative, '+' stands for concurrent, '→' stands for sequential, capital letters denote higher priority or weight, and lower case letters denote lower priority or weight. A * denotes the research design used in this study (redrawn from Johnson & Christensen 2004, p.418).

It is important at this stage to note that the research investigated teachers' and students' perceptions about e-learning courses that they had chosen to take. The researcher used post-teaching face-to-face interviews and weekly reflective diaries to examine teachers' perceptions. He also used a questionnaire and focus groups to investigate students' perceptions. There are currently two teachers at SU who deliver e-learning lessons, so interviews were the most appropriate method to elicit their perceptions in detail. Because the sample of students was naturally much larger, a mixed method approach was a useful technique to gain a broader perspective and a deeper understanding of the diversity of their perceptions.

Figure 4-3 is a model that the researcher designed to illustrate the research methodology used and the route of the current research in Phase One.

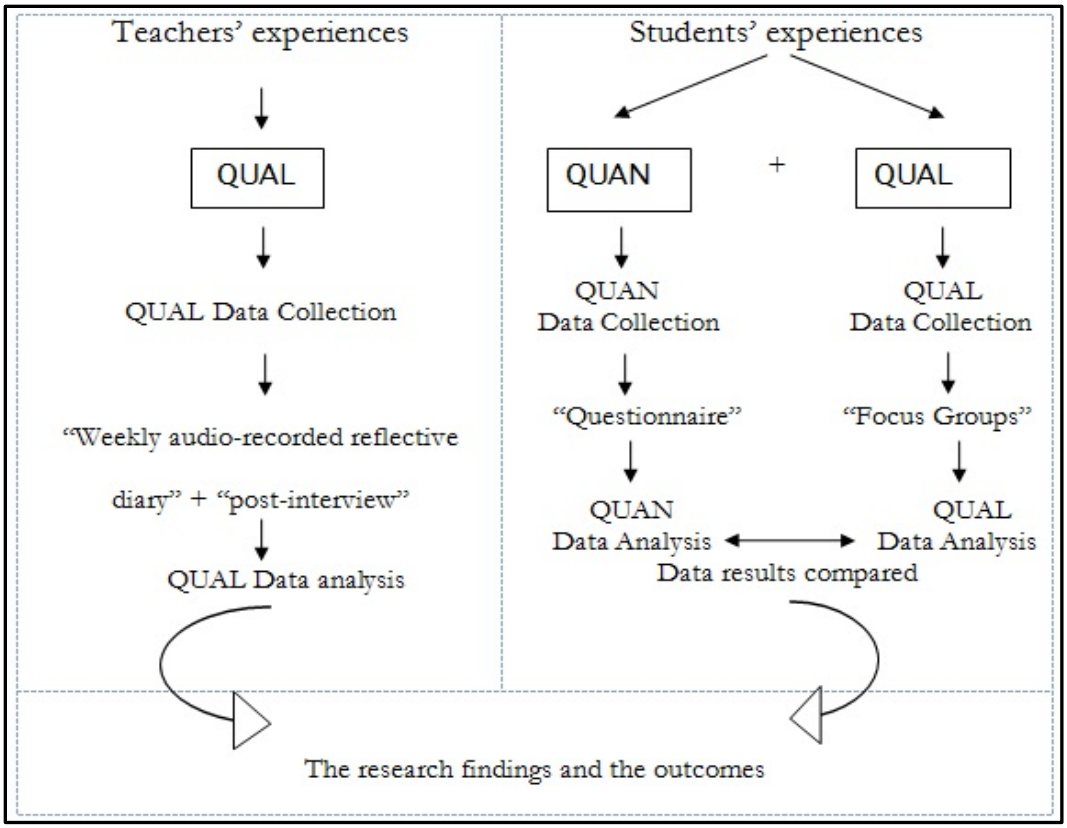

Figure 4-3: Route of the current research model (Phase One)

The outcomes of this model helped to determine the interview questions that were presented to the teachers who were interviewed in Phase Two.

4.4 Description of Population and Sample Frame

The population and sample for this study focused on one university in the southwest of Saudi Arabia. For ethical considerations, the researcher, as highlighted in Chapter 1, refers to this university by the name 'Southern University' (SU). This name does not give any direct clue as to the real name of the university as there are more than four universities in the southern part of Saudi Arabia. The study was conducted during the second semester of the academic year 2008 (Phase One), with a return visit in 2013 (Phase Two). SU was chosen as the research site for this study because it is one of the 14 universities in Saudi Arabia involved in implementing e-learning techniques and has introduced a number of e-learning courses. The researcher also selected this university

because he is one of the full-time lecturers there and was awarded a scholarship from the same university to undertake his PhD project in the field of e-learning in order to improve the current use of e-learning at SU. The study population includes the two online teachers who moderate the two online units delivered via the e-learning centre at SU. The study population (in Phase One) includes a total of 484 undergraduate students registered on the Salam 114 e-learning-delivered unit, and a total number of 279 undergraduate students registered on the Arab 202 e-learning-delivered unit. According to an up-to-date document that the researcher received from the university at that time, 763 students took these units in the second semester of 2008. All students at SU have to register for this unit once during their undergraduate academic degree.

In Phase Two the study population includes a total of 522 undergraduate students registered on the Salam 114 e-learning-delivered unit, and a total of 314 undergraduate students registered on the Arab 202 e-learning-delivered unit; 836 students took these units in the second semester of 2013.

Sampling of the students

The target population of this study, from which the student sample was drawn, consisted of all students who were registered on the two e-learning courses during the second semester of 2008 for Phase One, and all students who were registered for the same units in the first semester of 2013–14 for Phase Two. In Phase One, the researcher targeted the total number of the students taking these units using two different data collection methods: a questionnaire was offered to 763 students, the total number of students taking those units online, in the period between 1 May 2008 and 1 July 2008. As it was a challenge to reach all the students, first the teachers were asked for their permission to send the questionnaire to the LMS platform. Students were then asked to print out the questionnaire, fill it out and send it back to the teacher of the unit or to the researcher at his postal or email address. The researcher also visited the students doing other face-to-face units during the working day and asked those students doing e-learning courses to fill out the questionnaire and hand it back or send it by email or post. The researcher received a total of 228 completed questionnaires by email, post or by hand.

The focus group was the other data collection method selected (in Phase One) that targeted students' perceptions and experiences. The researcher in this part of the study asked the teachers to provide lists of the students' names and numbers in the ten groups that they taught so that the researcher could select three different student numbers from each group. This produced a list of 30 names. Names were randomly selected to produce a list of at least 18 students who would participate in the three focus groups. If for any reason a student did not want to be involved, the researcher could randomly select another participant from this list to take their place. Three focus groups appointments were arranged and sessions took place at the conference room in the Alsalam Hotel in Abha city in Saudi Arabia. They lasted between an hour and a half to two hours in the first, third and fourth weeks of June 2008. Eight students participated in the first focus group, six in the second focus group, and finally seven in the third focus group. The overall number of students who participated in both data collection methods was 249 students, representing 32.6 per cent of the total student population.

In Phase Two, the total number of registered students was 863. Because of the limitation of time, after securing access to the students authorised by the university, the researcher arranged to collect the data with the help of three volunteer lecturers at the university who work in the College of Medicine, College of Science and College of Medical Science. They managed to collect 235 questionnaires from students who had registered on the two online units mentioned earlier. The researcher did not seek access to other students who had registered in other colleges for two reasons: first, the appointed lecturers nominated by the e-learning centre who work in those colleges were busy with mid-term exams. Second, 235 respondents were nearly equal to the number required to match the number of students who responded in Phase One.

Sampling of the teachers

As described earlier in this chapter, only two teachers were delivering registered e-learning courses at SU in 2008 (Phase One). Both teachers kindly participated in the two types of qualitative data collection that were conducted to take advantage of teachers' experiences of e-learning/e-teaching. They also provided three weekly recorded diaries, ranging from five to ten minutes each, to make a total of six recorded diaries.

In Phase Two, online interviews were conducted with those e-learning teachers. The online interviews were an appropriate method at the time. The limitations of time and travel arrangements made the online interviews appropriate replacements for personal face-to-face interviews.

4.5 Data Collection Procedure and Instruments

4.5.2 Procedure

In Phase One, the data collection took place at SU, in the southern part of Saudi Arabia, from 1 May 2008 to 30 July 2008. As described earlier, the four research instruments that were implemented were post-interviews, weekly recorded reflective diaries, questionnaires and focus groups. The former two methods mainly targeted teachers' experiences, while the latter two targeted students' experiences. The following table illustrates the timeline of the data collection procedure during the fieldwork:

Table 4-1: Timeline of the data collection procedure (Phase One)

Week	Student questionnaires	Student focus groups	Teacher interviews	Teachers' weekly audio diaries
04 – 11 May	Fieldwork preparation and communication			
12 – 18 May	Distributing Qs			
19 – 25 May	Distributing Qs			
26 May – 01 June	Distributing Qs	1st focus group		weekly diary
02 – 08 June	Distributing Qs			weekly diary
09 – 15 June	Distributing Qs	2nd focus group	1st interview	weekly diary
16 – 22 June		3rd focus group	2nd interview	
30 July 2008	Back to the UK			

In Phase Two, questionnaires were distributed by the volunteer lecturers at SU between 13 November 2013 and 7 December 2013. Meanwhile, the two online interviews were conducted on the 13 and 14 December 2013.

4.5.3 Interviews

An interview method for data collection was adopted as this would provide rich, descriptive and in-depth information from participants with experience in the topic being researched. Interviews are appropriate for identifying behaviours, experiences, opinions, feelings, beliefs, knowledge and background to achieve an in-depth and well-rounded understanding of the area under investigation (Mason, 2002). An interview is also a good way of collecting data to measure the variables of interest. Nachmias and Nachmias (1996) state that 'the interview is a face-to-face interpersonal role situation designed to elicit answers pertinent to the research hypotheses' (p.232), while Cohen et al. (2003) state that an interview style enables participants to discuss their interpretations and perceptions of the world they live in, that is, their world view.

Smith, Harre and Van Langenhove (1999) note that interviews can be structured, semi-structured or unstructured. A standardised structured interview comprises a number of pre-defined questions to be asked of all participants in the same order. It is considered effective as it saves time and makes data analysis easier. However, researchers rarely use scheduled or structured interviews as they are contrary to the objectives of qualitative research and might restrict informants' responses (Smith, Harre & Van Langenhove, 1999).

According to McQueen and Knussen (1999), semi-structured interviews are the most commonly used method in qualitative research. This technique typically starts with a few general questions in the broad area of study. There is usually an agenda or set of questions on an interview schedule. However, 'the interview will be guided by the schedule rather than be indicated by it' (p.12). Semi-structured interviews allow the researcher to follow the interests and thoughts of informants. They are considered to generate the richest data, particularly if the interviewer is inexperienced (Smith, Harre & Van Langenhove, 1999).

Semi-structured interviews allow the researcher and respondents much more flexibility than other methods (e.g. structured interviews, questionnaires or surveys) (Smith, Harre & Van Langenhove, 1999). The interviewer can pursue issues of particular interest as they emerge in the interview and encourage participants to provide more information.

Participants have the chance to express their views and describe their experiences, thus being free to provide information that may be of great importance (Smith, Harre & Van Langenhove, 1999). In this research, where the intention is to explore perceptions, experiences, understandings and interpretations, semi-structured interviews seem to be a most appropriate method to use in the qualitative part of the study.

The interview method, as a technique for data collection, is one of the most common and powerful ways for researchers in the social and psychological sciences to try to understand the workings of the human mind, because interviewing involves interaction, and the social and psychological sciences are essentially studies of interactions (Hoinville & Jowell, 1978; Nachmias & Nachmias, 1996; Fontana & Frey, 1998; Cohen et al., 2003). Interviewing has many advantages; for example, it allows flexibility in the questioning process. The interview context is controlled, which means that the researcher can ensure that the respondents answer the questions in an appropriate sequence, whereas in postal questionnaires they may not do so. Also, the interviewer can probe the interviewee for supplementary information or more detail. In addition, the interviewer can include longer, open-ended questions. Cohen et al. (2003) suggest that interviews also have a higher response rate than other methods, because respondents are more committed and motivated. The interview, however, also has disadvantages (Nachmias & Nachmias, 1996; Cohen et al., 2003). The cost of conducting interviews is slightly higher than that of postal surveys. Furthermore, interviewer bias may occur and it is difficult to exert reasonable control over every aspect of the encounter.

For this research, two semi-structured interviews were conducted at the end of term in the academic year 2008. Two teachers at SU participated in this research and were asked a number of questions that investigated their perceptions and experiences of the e-learning courses they were delivering. Each participant was interviewed individually.

A key aim was to find suitable surroundings in which to conduct the interviews, and it was a top priority to make the respondents comfortable. The two interviews (one with each teacher) took place in the conference room in the Al-salam Hotel in Abha city, and each interviewee was welcomed with afternoon tea. The researcher was careful neither to direct the respondents' answers nor to persuade them to give any specific answers

(Cohen et al., 2007). For each candidate, the researcher began with a suitable warm-up question for each individual participant on a topic familiar to him or her.

The researcher informed the interviewee about the purpose of the research and the approximate duration of the interview and, most importantly, emphasised that their contributions would remain confidential. At the end, the researcher concluded each interview by thanking the respondents for their time, effort and support, highlighting that these were much appreciated.

4.5.4 Weekly recorded diaries

The researcher felt it was important, during term time, for the teachers to record their experiences in their own words and in their own time. It was decided to use weekly audio recorded reflective diaries to provide more information for this study about the teachers' experiences. It was both valid and important to explore this method during the pilot study. After the focus group pilot study, the feedback and results confirmed the importance of including this data collection method as the teachers might record some information that might not be covered in the interviews at the end of term. Jordan (2000) comments on the usefulness of audio diaries as an instrument for capturing such periods of transition in life. In addition, Glaze (2002) states that such diaries offer the opportunity to keep a record of one's thoughts, feelings and experiences so that one can learn from them and also share what one has learnt with others.

In this research, in Phase One, once each week during term time the teachers were asked to record, if possible, an audio tape about their weekly experiences of teaching online. The issue of what could be included in the recordings was addressed in an open-ended request that asked them to record their opinions and experiences about the advantages and challenges they might have faced during the week. They were also free to add any other comments that they wanted to include. Thus, at the end of term they each provided the researcher with three reflective diaries; these proved to be very useful when analysed later on.

4.5.5 Focus groups

In keeping with the qualitative approach that shapes part of this study, three focus groups, each with six to eight students, were conducted to strengthen, illustrate, enhance, validate, support and clarify the results of the students' questionnaires that shape the quantitative part of this study. The focus groups were intended to elicit a deeper understanding of the advantages and disadvantages of the current use of e-learning for undergraduate students in order to learn more about students' and teachers' experiences of e-learning.

In recent years, the focus group has become an interesting methodological tool made available to academic researchers (Parker & Tritter, 2006). Morgan (1998) defines a focus group as a 'group interview where a moderator guides the interview while a small group discusses the topics that the interviewer raises. What the participants in the group say during their discussion are the essential data in focus groups' (p.1). Fundamentally, focus groups are a way of listening to people and learning from them. They are low-cost and quick, as noted by Morgan (1998); they can be run on a small budget and quite quickly, if the moderators are sufficiently professional and expert. Krueger and Casey (2000) present five characteristics or features relating to the inclusion of focus groups; they comprise (1) people (2) with certain characteristics and (3) who provide qualitative data (4) in a focused discussion (5) to help understand the topic of interest. Another value of focus groups is highlighted by Parker and Tritter (2006), who indicate that the increasing popularity of this type of research amongst social researchers is due to the fact that they are often perceived as more cost-effective than traditional methods. In addition, they are adaptable to a variety of research approaches and designs.

Although using focus groups for data collection was expected to provide a number of benefits to this study, the technique has some disadvantages. Conducting focus groups is a more complicated process than is immediately apparent, due to the number of elements that need to be considered besides simply moderating the groups; these include selecting appropriate participants, ensuring they will attend, and that their contribution and participation will be useful (Morgan, 1998). Morgan also highlights how it is difficult to conduct this type of research on sensitive topics such as sexual behaviour, abuse and so

on. Therefore, for preference, a focus group needs a professional who knows how to moderate a group discussion and how best to involve all participants.

The optimal size of a focus group is six to eight participants (Krueger and Casey, 2000; Bloor et al., 2001). However, Pugsley (1996) and Greenbaum (1998) report that focus groups can range in size from three to 14 participants. What distinguishes focus groups from any other form of interview is the use of group discussion. In this research, in the focus groups, the researcher acted as a moderator. He started by welcoming the group members, then initiated small-talk about subjects other than the research topic in order to create a relaxed and friendly atmosphere, before introducing the main topic. Parker and Tritter (2006) highlight an important point that some researchers misunderstand, which is the essential difference between group interviews and focus groups. They indicate that focus groups are sometimes viewed as being synonymous with group interviews (as Morgan's (1998) definition highlights earlier in this section). Yet the main difference between these two research techniques is the role of the researcher and his or her relationship to the participants. In a group interview, the researcher plays an investigative role, asking questions and controlling the dynamics of the group discussion, and sometimes he or she might participate in a dialogue with a specific participant. The dynamics of the discussion and the role of the researcher in a focus group are somewhat different. The researcher plays the role of moderator who facilitates and moderates the discussion between the group members, rather than between him or her and the participants.

In this research, focus groups were selected as a qualitative data method that would help to explore a greater understanding of students' experiences of e-learning. As indicated earlier, the researcher used lists of student names and numbers provided by the teachers to produce a shortlist of 30 names, from which 18 at least were randomly selected to participate in three focus groups. Those three focus groups involved eight, six and seven students, respectively.

Students attending each focus group meeting were welcomed with refreshments (food and drink) and, as mentioned previously, the venue was one of the luxury hotels in the city. Each student was rewarded with an 8 Gb USB memory stick. The venue was

equipped with different types of audio recording; the students gave their permission to be recorded and signed the consent form attached to their student information sheet (see Appendix B). Providing this level of service was done in an attempt by the researcher to encourage the students to participate in the focus group, and it was successful. As mentioned previously, two students in the second focus group were visually impaired, and it was an excellent opportunity to discuss their learning needs and explore their experiences of learning online.

4.5.6 Questionnaire and the qualitative world

Having identified the framework for the research, it was necessary to decide upon or choose an appropriate strategy for data collection. There are two main types of quantitative research; the first type is experimental research with random and non-random designs that are used to test the impact of a treatment. The second type of quantitative approach is surveys, including cross-sectional and longitudinal studies showing trends, attitudes or opinions (Cresswell, 2003). In this PhD project, the researcher intended to investigate students' perceptions and opinions about the e-learning courses that they had experienced and the way that they learn in an online environment. So, the researcher used a survey method as a way of collecting quantitative data. The research aim was to investigate students' opinions and experiences, and a large number of students were targeted. The survey was an appropriate method to cover that number of students and their experiences.

A survey method is basically a descriptive study that attempts to identify, diagnose and draw out information about the characteristics, opinions, beliefs, behaviours, attitudes or values of the particular sample of people being studied by asking them a number of similar questions (Abercrombie, Hill &Turner, 1994) designed to elicit information about the research topic. The role of the researcher is to gather information relating to the variables and, based on this, to investigate the patterns of relationships between the variables highlighted by the responses presented at the time the questions are asked (Salant & Dillman, 1994). Researchers may choose a survey technique to ask a sample of the population that has been chosen for the study for their perceptions relating to a particular problem and its likely solution. A survey may also be used to assess the

quality of a product, tool, computer software or marketing services, or to investigate the influence of introducing new policies or programmes (Salant & Dillman, 1994). One of the main benefits of using this technique is the role it plays in measuring public perceptions regarding an issue and its ability to reach a large population that could not be surveyed directly (Sarantakos, 2005). Given the limited time and the number of students under investigation in this study, this persuaded the researcher to select this type of research to answer the research questions.

According to Greenfield (1996), this type of research has a number of limitations. One of these is the possibility of a low level of control over the data collection situation, with potential difficulties in establishing a pattern for deducing cause and/or effect, and relationships, and the fact that respondents may hesitate to answer questions frankly, as these might be related to sensitive issues. This may cause a potential systematic measurement error. Another drawback of survey techniques is that people are often reluctant to respond diligently to a questionnaire.

Surveys, as a way of data collection, come in a number of formats. Information may be gathered through oral or written questioning. An oral questionnaire might take the form of interviewing people individually or in groups, and a written questionnaire could be conducted through a questionnaires distributed to the respondents by mail, email or the Internet, or handed to the respondents personally, either by the researcher or an assistant. The following section gives a brief description of the questionnaire design.

The study relied on the collection of quantitative data from the online students via structured questionnaires. The aim of the research was to target all students who had registered as online users for the Salam114 unit or Arab 202 unit in the second semester of the 2008 academic year (Phase One). The same questionnaire was also distributed to different students who attended those courses in the first semester of 2013 (Phase Two). The first step of the development process was the creation and implementation of a pilot study to develop an appropriate questionnaire based on a review of the literature. The questionnaire consisted of four major sections: first, general and demographic information; second, e-learning background and individual use; third, students' perceptions about the current use of e-learning and the factors that influence that use;

and finally, individuals' perceptions of ways to improve the use of e-learning in the future. More details about the questionnaire's main questions and sub-questions are included at the end of this chapter, where the researcher presents the research aims, questions and methods of data analysis.

Questionnaires are described by Walker (1985) as being easy to administer, quick to fill in and easily quantifiable, thus allowing comparisons to be made between individuals and groups (p.48). Robson (2002) and Sarantakos (2005) state that one of the main advantages of using a questionnaire is that they can be completed and returned in about the same time as it takes to complete a single interview. It may also provide a significant time saving if the questionnaire is well designed and the coding and data analysis are prepared in advance.

Robson (2002) highlights the main disadvantages of using questionnaires: the data can be superficial and it is quite difficult to verify the seriousness or honesty of the responses. Another disadvantage comes in the care required to design appropriate questions; a failure to design questions accurately will force respondents to give inaccurate answers. Therefore, there is a need to construct a questionnaire with careful attention being paid to the wording, meaning and goals, along with clear instructions (Robson, 2002; Sarantakos, 2005).

The content of the questionnaire used for this study was considered carefully, and it went through several stages of design. First, as part of the preparation, previous studies in the field of e-learning and students' and teachers' experiences of using learning management systems were examined to see whether there were any questions that could be adopted as a guide when constructing a new questionnaire (e.g. Conole et al., 2006; Creanor et al., 2006). Second, several questions were formulated, more than the number required in fact, considering all the important issues in the design of questionnaires. Third, a personal critique was carried out to ensure the logic of the questionnaire. Fourth, experts in the field from Southampton Education School at Southampton University and three experts who lecture at three universities in Saudi Arabia were approached for their suggestions and opinions. The study presents these steps in greater detail in the piloting section of this chapter.

4.5.7 Methodological triangulation

As mentioned previously, this study adopted four instruments, namely questionnaires, focus groups, interviews and weekly reflective diaries in Phase One, and a student questionnaire and teacher interviews in Phase Two. The purpose of using a variety of methods is to illustrate the extent to which methodological triangulation can potentially strengthen both the reliability and validity of the study. It also helps to address and confirm emerging findings (Nomnian, 2008). Cohen et al. (2000) define methodological triangulation as the use of two or more methods of data collection to study the same phenomenon. Therefore, using more than one method is strongly recommended when conducting mixed methods research. In this research, methodological triangulation helps to explain more fully the students' and teachers' experiences gathered as qualitative and quantitative data and subsequently analysed. This is done in two ways: first, employing different instruments helps in obtaining more knowledge and information which cannot be gathered as fully when using a single method, and second, employing different instruments leads to the acquisition of more information about the same topic.

The interview questions, focus group questions and questionnaire survey were derived partly from the theoretical categories established in the literature review and partially from the experts' knowledge and advice, as described earlier in this research. However, when discussing experiences, more themes and categories were identified from the analysis of the students' and teachers' experiences.

4.5.8 Piloting

Pilot studies are regarded as one of the fundamental processes when testing a research methodology. Corbetta (2003) claims that a pilot study is a crucial element for any study, before the main data collection takes place. Balnaves and Caputi (2001) also state that a pilot study constitutes a preliminary test of research instruments and helps to identify the problems and benefits associated with implementation. Furthermore, Sarantakos (2005) indicates that piloting in research acts as a pre-test to help researchers to solve any problems in their methodological design and thus can help to prevent similar problems that might arise in the main data collection. Therefore, it is very important to test the study instruments in this study: questionnaires, focus groups,

interviews and weekly recorded reflective diaries. The aim of the pilot study in this research was to prepare for the main data collection through which students and teachers at SU would be investigated.

After identifying and designing the study instruments, questionnaires, interviews, focus groups and weekly recorded reflective diaries, the researcher started the process of piloting these instruments. As mentioned previously, the first step was designing the instruments with the help of the literature alongside continuous feedback from two supervisors at Southampton Education School, where the researcher was studying.

Once a draft of the questionnaire, interview and focus group questions had been finalised, the researcher sent those drafts to three experts in the field of e-learning who were working in Saudi universities. They were visiting the UK in February 2008 to attend a professional development training programme. The researcher asked them for their views on the questions' design and the differences in academic culture between the Kingdom of Saudi Arabia and the United Kingdom.

The researcher explained earlier that there are cultural, pedagogical and technical problems in Saudi universities and that these might be different from the UK environment. So, the experts' feedback helped to reshape and reformulate the existing, questions and new questions relating to the Saudi academic environment were added. After the researcher had received their feedback, he arranged a focus group meeting with them and he invited them to visit his workplace at Southampton Education School. The purpose of this focus group was to open up a discussion to elicit their comments about the research instruments. It took place on 12 February 2008 and lasted around 45 to 60 minutes.

Fortunately, the pilot focus group and written feedback were supportive of the ideas and purpose of this study, so it was possible to utilise the experts' recommendations to improve the quality of the research instruments. As for the weekly recorded reflective diaries, no questions were required since the point of these methods was to give the teachers the chance to reflect on themselves and their weekly experiences of teaching online, so they were free to use their own words in their own time. The experts in the

pilot focus group were supportive of the ideas they saw but suggested including an open-ended question for the teachers to act as a guide to what they were expected to talk about and what their diaries might include, for instance any positive opinions about their experiences, the challenges they faced and other ideas that might help to describe their experiences in as much detail as possible.

Once the draft of the questionnaire had been finalised, and after the pilot focus group, the questionnaire was sent via email to the head of the e-learning centre in SU for distribution to the 15 students taking an e-learning course at the end of the first semester of 2008. This sample was not part of the population of the main study; rather, the pilot study was applied to similar students taking similar e-learning units with the same teachers but at a different time. Bryman (2008) states that a pilot study should not be used with participants who might become members of the sample for the main study.

The aim of distributing the questionnaire to a number of students and experts beforehand was to maximise the opportunity for testing the validity and reliability of the questionnaire. In the piloting stage all participants were asked to write their feedback about the questionnaire freely on the front and back pages of the pilot instrument paper draft. Fortuitously, they provided very useful feedback, for example on avoiding abbreviations and unknown terminology such as ‘interface’, ‘open database’ and so forth.

4.5.9 Issues of validity and reliability

Once the questionnaire had been developed, it was validated in different stages alongside the interview and focus group questions. As described earlier with regard to the pilot study, the instruments were submitted to a panel of three experts in the field of e-learning. They were asked to judge the items for their adequacy to demonstrate the students’ and teachers’ level of comfort with using an LMS in their learning and teaching. They were also asked to assess five questions regarding the validation of survey instruments, as suggested by Betts (1998), listed below:

1. Clarity of the direction and questions.

2. Appropriateness of the variables that correspond with a Likert scale.

3. Continuity across sections and questions.

4. Time required to complete the questionnaire.

5. Any further thoughts or variables relating to the study or the removal of some existing ones.

Based on the first stage of validation, five questions were rewritten, some because of difficult terminology; three items were deleted; and five items were added in accordance with the suggestions for improvement in Part Three of the questionnaire. The focus group questions were formulated to match the questionnaire questions and sub-questions. Thus there is a degree of similarity and inter-relationship between those instruments.

The second stage of validation of the instruments was to translate the three instruments into Arabic, because this is the mother language of the main targeted participants. The researcher translated them into Arabic and they were reviewed by a PhD student studying Applied Linguistics at the University of Southampton whose mother language is Arabic. The purpose of this process was to ensure the accuracy of the translation into Arabic. A few changes were made after the review and incorporate into the updated Arabic drafts of the instruments. The pilot focus group panel meeting with the three Saudi experts was the third stage that involved a fruitful discussion of the updated versions of the instrument drafts.

As discussed previously, to check the reliability of the questionnaire 15 questionnaires were sent to the head of the e-learning centre in SU for distribution to students taking an e-learning course in the first semester of 2008. The main factors of reliability are concerned with stability, consistency and accuracy (Gorard, 2001; Sarantakos, 2005). The statistical reliability of the questionnaire was assessed using Cronbach's alpha coefficient of internal consistency. Cronbach's alpha was used because it verifies the appropriate type of reliability when an instrument has large range of possible answers

for each item. Those analyses produced an alpha value coefficient of 0.95 for the entire questionnaire. According to Muijs (2004), the results for this type of questionnaire have a very high value for the alpha coefficient.

Researchers conducting qualitative research assess the credibility of their interviews by judging their transparency, consistency, coherence and communicability (Rubin & Rubin, 1995). To judge transparency, the interviewer has to record all the interviews carefully, besides taking written notes. This allows others to read the notes or play back the recordings. The researcher in this study recorded all the interviews and focus group meetings, and provided a transcript for each.

Rubin and Rubin (1995) state that the consistency and coherence of interviews can be tested by allowing the interviewees to comment on ideas and responses that might appear to be inconsistent. As regards communicability, the researcher should ensure that participants express thoughts about their own experiences, rather than presenting the experiences of others. Rubin and Rubin (1995) also state that the validity of interviews can be ensured by preparing extensive background information to help formulate specific and detailed information for inclusion in the interview questions.

4.6 Ethical Issues

To protect the identity of participants, this study does not reveal the names of the university, teachers or students. The abbreviation ‘SU’ is used to represent the university where the data were gathered. In order to obtain permission to undertake this study, a number of meetings with supervisors were held to reach agreement on the final draft of the questionnaires and research questions, after which the necessary legal procedures were gone through to guarantee that the ethical issues involved in this research and its safety and legality would be adhered to (see Appendix D). The researcher also contacted his sponsor to cover the cost of the journey and the additional costs related to conducting the data collection.

Another ethical issue considered in this study was the principle of voluntary participation, which means that participants should not be forced to respond or

participate against their will (De Vaus, 2002). The participants in this study were advised on the consent forms relating to data collection that they had the right to withdraw from the project at any time and at any stage during this project without penalty. In Appendices A, B and C the researcher includes copies of the information sheet and consent forms giving participants guidelines about the subject under investigation, their right to participate or withdraw, their right to ask any questions and their right to remain anonymous. Such consent forms are most important when conducting research. Bryman (2008) identifies the advantage of such a form as giving participants a chance to be informed of the nature of the research and their rights during the study.

4.7 Data Analysis

This study was conducted using mixed methods research involving qualitative and quantitative analysis. These two types of methods are analysed separately to take account of the differences between them. The study instruments include student questionnaires with closed-ended and open-ended questions, student focus groups, teachers' semi-structured interviews and teachers' weekly recorded reflective diaries.

The closed-ended questions were analysed using a statistical software programme, the Statistical Package for the Social Sciences (SPSS). The SPSS programme is said to be one of the most reliable statistical programmes available to those seeking to obtain accurate answers, as numerous researchers have indicated (e.g. Pallant, 2005).

The questionnaires' analysis went through different stages. It started with creating a data file, then defining the variables; this was followed by entering data into the system, modifying the data file, enhancing the quality of data by cleaning up data which had errors, correcting errors in the data file, and finally selecting appropriate statistical analysis deemed appropriate to answer the research questions.

The study adopts the use of descriptive statistics in order, for instance, to establish the current use of e-learning by students at SU. Moreover, the study combines tabulations and descriptive statistics to generate simple arithmetic means of students' perceptions of

the use of e-learning in their learning activities. It is imperative to note that students' perceptions of their use of e-learning are grouped by themes and that each theme has different items to measure it. This item classification under various themes was guided by theory and empirical studies (see Nanayakkara & Whiddet, 2005; Liu, Liao & Peng., 2005; Masrom, 2007; Yiong et al., 2008; Park, 2009; Punnoose, 2012). Further, as indicated earlier, quantitative analysis was used alongside qualitative tools such as focus groups and interviews to offer support to each other.

The questionnaire also contained some free responses, or what is known as open-ended questions. Answers to those types of qualitative questions alongside the focus group questions, interview questions and weekly reflective diaries were analysed through thematic analysis. Thematic analysis, according to Braun and Clarke (2006, pp.77–101), is 'a method for identifying, analysing and reporting patterns (themes) within data. It minimally organises and describes your data set in (rich) detail'. Major themes were identified, extracted, categorised and quantified. Quite a number of studies in e-learning have adopted thematic analysis techniques (e.g. Miers et al. 2007; Mitchell et al., 2007). Mitchell et al. (2007) adopted thematic analysis for the qualitative data and descriptive analyses for quantitative data. They also used two instruments, a questionnaire and focus groups, similar to those used in this study.

The qualitative interviewing (focus group interviews, weekly reflective diaries and individual interviews) was based on the assumption that the perceptions of others are meaningful, knowable and able to be made explicit (Patton, 2000). The interview topics and themes were narrowly focused to assist the researcher in analysing individual and group responses through transcripts, note-taking, tapes and memory, to detect and create themes, codes, perceptions and useful information. The information that was gathered illuminated trends, opinions, thoughts, ideas and facts that might provide better answers to my study questions.

Chapter 5 Analysis and Presentation of Results

5.1 Introduction

The aim of this research was to gather information regarding teachers' and students' experiences of e-learning in one of the southern universities of Saudi Arabia. The study was conducted in two phases. Phase One was conducted in the second semester of the academic year 2008, using four data collection techniques. A questionnaire and three focus groups targeted students' experiences. Two teachers were interviewed at the end of the semester and each kept weekly audio reflective diaries that would help to build a greater understanding of users' experiences of e-learning at that time. Phase Two was conducted in the first semester of the academic year 2013–14. The main aim of this phase was to revisit the perceptions generated earlier in Phase One, and to come up with a better understanding of the patterns emerging in the perceptions and current uses of e-learning across time. This chapter aims to analyse the responses of the students and teachers in those two phases and to discuss the outcomes.

The procedure of data analysis in this chapter is presented in two phases, corresponding to the two phases in which the study was conducted. Phase One analyses the participants' responses. The students' responses are analysed through their completed questionnaires and following the research questions and themes developing. The focus groups were analysed jointly with the questionnaire questions, because of the similarities in the questions. Any newly emerging themes in the answers to the open-ended questions or given in the focus groups are highlighted at the end of the analysis of this phase. Teachers' responses are analysed through their answers to interview questions. Themes emerging from analysing the questions were jointly analysed and supported by comments from the weekly audio reflective diaries. The reflective diaries were designed to be open to allow the teachers to present any emerging issues during e-learning term time.

Phase Two data are analysed by a procedure similar to the analysis of those from Phase One. The outcomes and results of both phases are jointly considered in the discussion chapter.

The analyses of the two phases also used a technique for categorising transcriptions into codes. There are two phases and different methods. In Phase One, codes are determined by the type of data methods, for instance Q for questionnaire, V for interview, F for focus group and R for weekly reflective diaries. Two methods were used in both Phase One and Phase Two, so the code for those methods, in brackets, is followed by A for Phase One and B for Phase Two, plus the participant's appointed number. Three focus groups were conducted so, after a focus group code, F, a group code follows, giving FA for the first focus group, FB for the second focus group and FC for the third focus group, followed by the student's appointed number. There were three weekly reflective diaries for each teacher, so after the weekly reflective diaries code, R, the teacher's number follows, then each reflective record is supplemented by A for the first record, B for the second one and C for the third. The reason for using such codes and numbers is to ensure anonymity and to compare and contrast effectively within phases and across inter-group participants. Those codes were developed by the researcher and no individuals are known by anyone other than the researcher himself.

5.2 Phase One (2008): Analysis and Results

5.2.1 Students' responses

Respondents' profiles

Part One of the questionnaire gathered information about each respondent's age, the college they attend, the e-learning course unit they are enrolled on, whether they have taken a training programme in e-learning, their access to computers and e-learning facilities, and their level of competence in computer usage.

The study obtained questionnaire responses from 228 students, and there were 21 students in the focus groups. Questionnaire responses were selected from students in the colleges of science (27.2%), medicine (7%), medical science (18.4%) and others

(47.4%). The majority (59.6%) of the students involved in the study were aged between 20 and 22. A few were aged between 18 and 20 (11.4%) and between 24 and 26 (3.5%). Students in the focus groups were mostly from the colleges of science, medicine and medical science, and the majority of them were aged 20 to 22. Further, the respondents were distributed amongst various e-learning subject units. For example, 39% had enrolled on '114 Salam', while 41% were enrolled on '202 Arab'. A smaller percentage (25%) was enrolled on both units. Students in the first and the second focus groups were enrolled on '114 Salam', and the third group comprised students enrolled on '202 Arab'. The majority of the learners (72.8%) reported having had no training in ICT or e-learning compared to only 27.2% that reported having had such training. Of those that had had some training in ICT and e-learning, the majority 72.6% accessed that training through a course, while 6% accessed it through a workshop or both workshop and course. It was clearly observed while analysing the focus group data that the majority of participants reported not having had any training in ICT, especially at the university. Student FB2 said:

> I was struggling throughout the course as I do have limited skills in using the computer. Why do they introduce us to e-learning when we do not have the ABC of ICT?

But, another student in the group argued that what was most needed was sufficient training in using the LMS. These arguments were supported by other students at FA who indicated that they knew how to use computers but were not e-literate. Further, questionnaire participants who had had training indicated that the training took place at school (13%), university (12%), with a private organisation (12%) or at another place (2%). Learners gave various reasons for the training that they had undertaken. For example, whereas the majority (60%) of those that had had training indicated that the purpose of their training was to find out how to use a personal computer, other students, 33% and 6%, indicated that the purpose of their training was for e-learning or other unspecified purposes, respectively.

With regard to the experience of learners in using computers, the Internet, email and the LMS, the results indicate that the learners had varying experiences. For example Table 5-1 indicates that the majority (42%) of students consider their general level of computer

experience to be good, while 32% and 13% consider themselves to be very good or a novice, respectively.

Table 5-1: General level of computer experience

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Very good	72	31.6	31.6	31.6
	Good	95	41.7	41.7	73.2
	Satisfactory	32	14.0	14.0	87.3
	Novice	29	12.7	12.7	100.0
	Total	228	100.0	100.0	

When asked about their experience of using the Internet, the majority (37%) indicated that they had good experience, compared to 34% and 14% who indicated that they were very good or a novice, respectively (5.2).

Table 5-2: Experience of using the Internet

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Very good	77	33.8	33.8	33.8
	Good	85	37.3	37.3	71.1
	Satisfactory	34	14.9	14.9	86.0
	Novice	32	14.0	14.0	100.0
	Total	228	100.0	100.0	

The results also indicate that the majority of the learners were still novices when it comes to using email. Only 23% regarded themselves as very good at using email while 20% and 17% indicated that they had good and satisfactory experiences of using email, respectively (see Table 5-3).

Table 5-3: Experience of using email

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Very good	52	22.8	22.8	22.8
	Good	46	20.2	20.2	43.0
	Satisfactory	38	16.7	16.7	59.6
	Novice	92	40.4	40.4	100.0
	Total	228	100.0	100.0	

The study also sought to establish learners' experience of using an LMS, and it was indicated that the majority (39%) had novice-level experience. Only 13% regarded themselves as having very good experience while 27% indicated that they had good experience, and 21% indicated satisfactory experience of using an LMS (see Table 5-4)

Table 5-4: Experience of using an LMS

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Very good	30	13.1	13.1	13.1
	Good	61	26.8	26.8	39.9
	Satisfactory	48	21.1	21.1	61.0
	Novice	89	39.0	39.0	100.0
	Total	228	100.0	100.0	

With regard to the experience of focus group participants of using computers, the Internet, email and an LMS, it was clearly observed that the majority of students were at a moderate level of using computers for their own personal use, but they had a low to satisfactory level of using an LMS.

When students were asked about whether they had access to a computer facility, the majority (85%) indicated that they had a computer at home. It should also be noted that almost half of the respondents also had access to a computer at the university (54%). Similarly, just over half (50.4%) of the learners also indicated that they had access to a computer elsewhere, besides home or university. With regard to having access to the

Internet, 72% of the students indicated that they had access to the Internet at home. On the other hand, the majority (64%) of learners indicated that they did not have access to the Internet at university. Also, 60% of the learners indicated that they had access to the Internet elsewhere, besides home or university.

Qualitative analysis of the focus group data found similar kinds of experience and access arrangements. Students in FC discussed the low level of their ICT skills by indicating that the new implementation of the LMS and the rapid growth of Internet use would mean their ICT skills would improve with time.

Participant FC4 said:

> I normally access the Internet at an Internet café. I and my friend meet up there to explore the Internet. I occasionally access the LMS there but I do not think that is the right place to access academic Web pages.

It is interesting to note that most of the participants in the focus groups reported that they visit an Internet café from time to time. It is a place where they can access the Internet, meet friends and access the LMS at the same time.

Finally, the students were asked about how often they used a computer, and the results are as indicated in Table 5-5 below.

Table 5-5: How often do you use a computer?

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Almost everyday	51	22.4	22.4	22.4
	A few times each week	114	50.0	50.0	72.4
	Between once a week and once a month	55	24.1	24.1	96.5
	Never	8	3.5	3.5	100.0
	Total	228	100.0	100.0	

The table indicates that the majority (50%) of learners use a computer a few times each week, while 22% use it almost every day. Only 3.5% reported not having used a computer. One of the students in focus group FA reported that he had limited electricity and telephone services at home, as he lives in a rural village. The idea of accessing the

Internet there is a dream. This might explain why 3.5% of students reported not having used a computer.

Research Question 1: What is the current use of e-learning by the teachers and students of SU?

The first research question for this study seeks to highlight the use of e-learning by teachers and students. This was accomplished through various questions that were put to the learners (see Question 9, divided into items 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8 and 9.10 in the student questionnaire). Those questions were supported by the outcomes of the qualitative analysis of answers to Question 7 in the focus group questions. Overall, according to the analysis of the questionnaire, students indicated that in their e-learning courses, they have: used the LMS to access information that they needed for their courses, used the resources available on the LMS to develop their understanding of the subject, used email to contact their lecturer, used email to communicate with students on the same unit, used the discussion forum, used the Web to find alternate sources, used the LMS to do a learning task, used the LMS to have live chats with the lecturer, and used LMS tools such as the calendar and study organiser. Nonetheless, the rates of usage and purpose vary significantly, as seen in the detailed results presented below.

Responses to Question 9.1 indicate that some students use e-learning to access information that they need for their courses. For example, as seen from Table 5-6, 35% of the learners regularly used e-learning to access information that they need for their courses while majority of the students 39% occasionally used it for the same purpose and 27% never used it for this purpose.

Table 5-6: Using the LMS to access information needed for the course

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Regularly	79	34.6	34.6	34.6
	Occasionally	88	38.6	38.6	73.2
	Never	61	26.8	26.8	100.0
	Total	228	100.0	100.0	

Qualitative analysis of the data from focus group FB presented very good arguments between the students with regard to accessing information needed for their course. One of the students (FB5) said:

> What I have to do is to log into the LMS and watch the recorded lecturer that the teacher recorded that week, that is it! It is not very interesting, but I have to log in to see it as system access is required and monitored to pass the course.

Another student (FB3) in the same group said:

> I like to discuss things with the teachers with regard to the course, but I could not because of the type of delivery via a recorded lecture. It is like watching YouTube but with no watcher comments.

On the other hand, one of the students in the group raised an issue that most participants agreed with, that watching a recorded lecture is enough to obtain sufficient information to pass the course.

The responses to item 9.2 indicate that some students use e-learning to develop their understanding of their respective subjects. As seen from Table 5-7, approximately 14.5% and 37% reported having regularly and occasionally used the resources available on the LMS to develop their subject knowledge, respectively. Nonetheless, the majority of them (47%) indicated that they had never used the resources available on the LMS to develop their understanding of the subject.

Table 5-7: Have used the resources available on the LMS to develop their understanding of the subject

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Regularly	33	14.5	14.5	14.5
	Occasionally	88	38.6	38.6	53.1
	Never	107	46.9	46.9	100.0
	Total	228	100.0	100.0	

On the other hand, the responses to item 9.3 indicate that some students had used e-mail to contact their lecturer. In Table 8, 9% and 14.5% have regularly and occasionally used email to contact their lecturer, respectively. Nonetheless, the majority (77%) of the learners had never used email to contact their lecturer. That was clearly observed from

the analysis of the qualitative part of the focus groups. Some of the students said they did not know that they could contact the teacher via the system. Others stated that they did not need to do so. A few students reported using email to contact the teacher to ask about exam results or so on, but had had no response.

Table 5-8: Have used email to contact the lecturer

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Regularly	20	8.8	8.8	8.8
	Occasionally	33	14.5	14.5	23.2
	Never	175	76.8	76.8	100.0
	Total	228	100.0	100.0	

Further, the responses to item 9.4 indicate that some students, 5.7% and 15.4%, regularly or occasionally used email to communicate with a student doing the same academic unit, respectively. However, the majority (79%) never used it for this purpose (see Table 5-9).

Table 5-9: Have used email to communicate a student doing the same unit

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Regularly	13	5.7	5.7	5.7
	Occasionally	35	15.4	15.4	21.1
	Never	180	78.9	78.9	100.0
	Total	228	100.0	100.0	

According to the responses to item 5.10, some students, 5.3% and 18.4%, had used the discussion forum. On the other hand, the majority of them (76.3%) had never used it for this purpose (see Table 5-10).

Table 5-10: Have used the discussion forum

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Regularly	12	5.3	5.3	5.3
	Occasionally	42	18.4	18.4	23.7
	Never	174	76.3	76.3	100.0
	Total	228	100.0	100.0	

The focus group participants discussed the two recent items presented in Tables 5.9 and 5.10 when they were asked focus group Question 7 concerning participants talking about their experiences of using online communication tools. The majority indicated that they never used the discussion forum and never used any tools relating to students, that is, students' online communication tools.

The responses to item 9.6 (in Table 5-11) indicate that some students used the Web to find alternative sources. For example, whereas the majority (65%) indicated that they never used the Web for this purpose, 8% and 27% indicated that they had regularly and occasionally used the Web for this purpose, respectively.

Table 5-11: Have used the Web to find alternative sources

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Regularly	19	8.3	8.3	8.3
	Occasionally	61	26.8	26.8	35.1
	Never	148	64.9	64.9	100.0
	Total	228	100.0	100.0	

In addition, those that responded to item 9.7 indicated that they had regularly (3.5%) and occasionally (15.8%) used the LMS to do a learning task, respectively. Nonetheless, the majority (80.7%) reported having never used the LMS for this purpose (see Table 5-12).

Table 5-12: Have used the LMS to do a learning task

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Regularly	8	3.5	3.5	3.5
	Occasionally	36	15.8	15.8	19.3
	Never	184	80.7	80.7	100.0
	Total	228	100.0	100.0	

Fewer students indicated that they had used the LMS to have live chats with the lecturer or fellow students. For example, only 3.5.3% and 8.8% reported having regularly and occasionally used the LMS to have live chats with their lecturer, respectively. On the other hand, less than 1% and only 7.5% indicated having regularly and occasionally used the LMS to chat with other students, respectively (see Tables 5.13 and 5.14).

Table 5-13: Have used the LMS to have live chat with the lecturer

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Regularly	12	5.3	5.3	5.3
	Occasionally	20	8.8	8.8	14.0
	Never	196	86.0	86.0	100.0
	Total	228	100.0	100.0	

.

Table 5-14: Have used the LMS to have live chat with other students

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Occasionally	17	7.5	7.5	7.5
	Never	210	92.1	92.1	99.6
	Regularly	1	.4	.4	100.0
	Total	228	100.0	100.0	

This is exactly what most of the students reported in the focus group: they indicated that they never used live chat. Only two students in the focus group (FA) reported having live chats with the teacher and each other and these were students with special needs, as they are visually impaired. It is interesting to note that they were highly attached to using most of the LMS tools as these support their learning.

Finally, as seen in Table 5-15, very few students had either regularly or occasionally used the LMS management tools, such as the calendar, note and study organiser. For example, only 6.6% and 28.5% of the learners reported having regularly and occasionally used the LMS management tools, respectively. The majority (65%) said they had never used this platform for such purposes.

Table 5-15: Have used the LMS management tools (e.g. calendar, note, study organiser)

		Frequency	Per cent	Valid per cent	Cumulative per cent
Valid	Regularly	15	6.6	6.6	6.6
	Occasionally	65	28.5	28.5	35.1
	Never	148	64.9	64.9	100
	Total	228	100.0	100.0	

Research Question 2: What are the teachers' and students' perceptions of their use of e-learning in teaching and learning?

Students' perceptions of the use of e-learning were measured via their answers to Question 10, which has 46 items (10.1–10.46). This was also supported by qualitative analysis of the answers to focus group questions (numbers 8, 9, 10, 11, 12 and 13). All the items from 10.1 to 10.46 were found to be reliable in measuring students' perceptions, as seen from the Cronbach alpha coefficient value of 0.876, above the generally accepted convention of 0.7 (Nunnally, 1978).

From the user acceptance frameworks for e-learning suggested by Davis (1993), Nannayakkara (2005), Masrom (2007), Park (2009) and Punnoose (2012), the 46 items were grouped into six e-learning perception themes, including: Perceived usefulness, Perceived ease of use, Attitudes towards using e-learning, Intention to use e-learning, Perceived efficiency and Environment surrounding the respondent. Moreover, the creation of these themes was guided by the work of Conole et al. (2006), in their work on students' experiences of e-learning. To this end, the items were grouped as follows:

Table 5-16: Item classification under themes

Theme	Items measuring the theme
Perceived ease of use	The aim and objectives of the course were clear
	I know exactly what I need to do in each section
	The content was at an appropriate level
	The course content was well-structured
	The materials and resources were sensibly structured
	It was easy to find help regarding course information online
	The appearance (graphics, layout) was clear and helpful
	I found reading comments on the computer screen difficult
	The material was easy to understand
	The LMS is easy to use
	I found it easier to communicate in the LMS environment than in traditional classes
Perceived usefulness	The course succeeds in promoting online communication between students
	By using e-learning, students can go over the material as many times as they want
	I felt the learning outcomes of this course were met
	My computer skills do not help me to cope with these types of courses
	The online activities were useful
	Using the LMS increased my interest in the subject
	Face-to-face contact with my tutor cannot be replaced by an online meeting
	I can achieve what I want to learn by using e-learning courses
	I think that the LMS has contributed positively to my learning
	The LMS has helped me to become more independent as a learner
	The LMS is most useful for revision help before the assessment period
	The LMS discussion forum will encourage students to learn from each other
	In e-learning courses, students are in better contact with tutor than traditional classes
	The course succeeds in promoting online communication between students
Attitudes towards using e-learning	I dislike e-learning because the time that I spend is greater than by traditional methods
	I dislike using the LMS
	I am really satisfied with the responses of the tutors to my study enquiries
	The material was enjoyable
	I think this type of learning will be used more and more in the future
Intention to use e-learning	I would like to see more of these courses in the future
	I would prefer to have the materials available on CD
	I prefer to have photocopies rather than read materials on the LMS
	This course saved me money travelling to attend face-to-face sessions

Perceived efficiency	There is not enough time to familiarise myself with the LMS
	I needed a lot of help to use the system
Supportive environment	The induction programme is very important
	I found the induction programme was well organised
	The teachers are familiar with the LMS tools
	I have been well prepared to take the e-learning course
	I am not allowed to use the Internet at home because of its cultural side-effects
	It is not easy for the community that I live in to move and change to the e-learning age
	There is a lack of computing services and support at the university
	I needed a lot of help to use the system
	The induction programme is very important
	I found the induction programme was well-organised.

Descriptive measures of students' perceptions of the use of e-learning in their programmes

1. Perceived ease of use

Table 5-17: Descriptions of responses to perceived ease of use

Items	Mean	Std. error
The aim and objectives of the course were clear	3.1	.083
I know exactly what I need to do in each section	3.2	.078
The content was at an appropriate level	3.3	.074
The course content was well-structured	3.2	.078
The materials and resources were sensibly structured	2.5	.078
It was easy to find help regarding course information online	3.0	.078
The appearance (graphics, layout) was clear and helpful	3.4	.087
I found reading comments on the computer screen difficult (reverse item)	2.6	.086
The material was easy to understand	3.2	.075
The LMS is easy to use	3.2	.079
I found it easier to communicate in the LMS environment than in traditional classes	2.7	.087
Mean	3.04	0.080

Notes:

1. All the above items were measured on a Likert scale of 1–5 (strongly disagree=1, disagree=2, neutral=3, agree=4, strongly agree=5).
2. For the overall mean, a mean in the range of 1.0–2.9 is taken to be at a low level on the perception scale, 3.0–3.9=a moderate level on the perception scale, 4.0–5.0=a high level on the perception scale (see Liu et al., 2008).

The descriptive statistics for the responses to the learners' perceptions with regard to 'Ease of Use' indicate a mean score of 3.04 on the perception scale. This falls therefore into the range of moderate level. It can be said that learners moderately perceive e-learning as easy to use in their learning programmes. Specifically, they indicate that this is because the aims and objectives of the courses are moderately clear (mean=3.1), that they moderately know exactly what they need to do in each section (mean=3.2), that the content is moderately at an appropriate level (mean=3.0), the graphics and layout were moderately clear and helpful (mean=3.4), the materials were moderately easy to understand (mean=3.2) and the LMS was moderately easy to use (mean=3.2). On the other hand, learners' perceptions with regard to the way materials and resources were structured are low (mean=2.5). Similarly, learners believe that reading comments on the computer screen is difficult (mean=2.6), while they do not believe that it is easier to communicate in the LMS environment relative to traditional classes (mean=2.7). These outcomes are relatively close to the outcomes of the qualitative analysis of the focus group data. The majority of students indicated that the objectives of the course were clear. They pointed out while discussing this item that both units cover the same subject and it is related to fields that they are familiar with. However, the majority of the students indicated that the content, structure and related course material were not at an appropriate level. Student FA4 said:

> What we got in the LMS is only a recorded lecture, nothing else. We knew generally what the objective of the course is. However, it is not well recorded and there is no possibility to raise questions and get an answer at the time.

According to FC3, with regard to familiarity with the course, students found it easy at the end of term to access the content and watch the recorded lecture. That was what the

students were required to do, and it was easy for them to familiarise themselves with that, but is that enough?

2. Perceived usefulness of e-learning

Table 5-18: Descriptions of responses to Perceived usefulness of e-learning

Items	Mean	Std. Error
The course succeeds in promoting online communication between students	2.9	.08
By using e-learning, students go over the material as many times as they want	3.4	.09
I felt the learning outcomes of this course were met	3.1	.08
My computer skills don't help me to cope with these courses (reverse item)	2.8	.09
The online activities were useful	2.6	.08
Using the LMS increased my interest in the subject	2.7	.08
Face-to-face contact with my tutor cannot be replaced by an online meeting (reverse item)	3.4	.09
The LMS is most useful for revision help before the assessment period	3.4	.08
The LMS has helped me to become more independent as a learner	3.6	.08
I think the LMS has contributed positively to my learning	3.1	.08
I achieve what I want to learn by using e-learning courses	3.0	.08
The LMS discussion forum will encourage students to learn from each other	3.2	.07
In e-learning, students are in better contact with tutor than traditional classes	2.8	.08
E-learning enables students to go beyond information they might get in traditional classes	2.8	.09
Mean	3.1	.08

The results from Table 5-18 indicate that students' perceptions of the 'Usefulness' of e-learning are moderate (mean=3.1). Specifically, learners believe e-learning is moderately useful to their learning, given that it helps them to go over materials as many times as they wish (mean=3.4), they feel it meets the learning outcomes of their courses (mean=3.1), it helps them to revise before assessment (mean=3.4) and it helps them to become more independent as learners (mean=3.4). Moreover, they believe that it has moderately contributed (positively) to their learning (mean=3.1) and helped them to

achieve what they want (mean=3.0), including moderately encouraging them to learn from fellow students (mean=3.2).

However, learners do not perceive e-learning to be useful in promoting online communication between them (mean=2.9), neither do they think e-learning online activities are useful (mean=2.6). Further, learners indicate that the LMS has not increased their interest in the subject (mean=2.7), neither do they believe that e-learning activities can ever replace face-to-face contact with tutors. In addition, learners do not believe that e-learning courses enable students to go beyond the information that they might obtain from traditional classes (mean=2.8), or that e-learning courses provide more contact with their tutor than traditional classes (mean=2.8).

Item	Mean	Std. error
The material was enjoyable	3.0	.08
I dislike using the LMS (reverse item)	2.8	.08
I am really satisfied with the responses of the tutors to my study enquiries	3.1	.08
I dislike the e-learning courses, because the time that I spend on learning is greater than that spent learning by traditional methods. (reverse item)	2.7	.09
Mean	2.9	.08

Table 5-19: Descriptive statistics for attitudes to help by students using e-learning

It is clearly observed from qualitative analysis of the focus group data on this theme that students do like the idea of the LMS in providing repeated access to content or downloads of it. There is a kind of personal learning independency that they do not obtain in traditional classes; however, some students were quite unsure about being away all the time in a distant place with none of the contact with the teacher they are used to in traditional classes.

3. Attitudes towards using e-learning

The students demonstrated negative or lower attitudes to using e-learning, with an overall mean of 2.9. This is reflected in their responses indicating that they dislike e-

learning courses because the time spent on them is greater than that spent on traditional methods (mean of reverse item=2.7). Moreover, they indicate their dislike of using the LMS (mean of reverse item=2.8). Nonetheless, the learners demonstrated moderately positive attitudes in their level of satisfaction with the responses of tutors to their enquiries (mean=3.1). Further, they indicated that the material was enjoyable (mean=3.0). Concerning attitudes towards e-learning, there was an argument between the students in the focus groups. The majority of the students agreed that what motivates them to use e-learning is free access time, personal and independent learning, improving their ICT skills and offering a new way of learning. However, some negative attitudes were reported and these emerged clearly. For example, some complained about low Internet speeds, a lack of technical support, limited time for accessing the Internet at the university, students' workstations not being easily accessible in terms of the hours they are available, as these are mostly while they are attending lectures, the time needed to access and download recorded lectures, and the lack of communication with the teacher and with others on e-learning courses.

In the FA group, highly positive attitudes were noticeable along with enjoyment of the discussion from the two visually impaired students. They reported a number of positive things about e-learning; the ease of use of the system was especially indicated and the freedom of being independent of the need for someone to take you or direct you to the classroom or lecture theatre. They said that the LMS offers more than that if the course is delivered and LMS tools are 'activated' effectively (FA5, FA6).

4. Intention to use e-learning

Table 5-20: Descriptive statistics on the perceptions of students' intentions to use e-learning

Item	Mean	Std. Error
I would prefer to have the materials available on CD.	3.7	.088
I think this type of learning will be used more and more in the future.	4.0	.079
I would like to see more of these courses in the future.	3.3	.092
I prefer to have photocopies rather than read materials on the LMS.	3.2	.089

Mean	3.6	.087

The results in Table 5-20 indicate that learners have moderate intentions to use e-learning in their learning activities (mean=3.6). The means of the individual items that make up this theme are in the range of 3.2 to 4.0. This implies that learners would prefer to have materials available on CD, possibly for future use; they believe that this type of learning will be used more and more in the future and would like to see more of these courses in the future. Moreover, they indicate a desire to have photocopies rather than have to read materials on the LMS, which is an implied need for always having reference materials for future use. There were fewer students in the focus groups who disliked the idea of e-learning or the implementation of the LMS. Most negative points were reported as a desire to improve e-learning in the future. One of the students (FB6) said:

> I am very pleased to join this group discussion. It is unusual for our voices as students to be heard. I am here to report my feelings about the implementation of the LMS. As a student, I would love to enrol on more courses in the future and I hope that the disadvantages I have reported will be resolved in the forthcoming course.

5. Perceptions of the efficiency of e-learning

Perceptions of efficiency were obtained by asking two questions. One was about cost-effectiveness and the second was about the time aspect. From Table 5-21, it is indicated that more than half of the students (52.2%) were in agreement that e-learning has actually saved them the cost of travelling to attend face-to-face sessions. This is a positive perception regarding the efficiency of e-learning.

Table 5-21: Perceptions of the cost-effectiveness of e-learning

'This course saved me the cost of travelling to attend face-to-face sessions'					
		Frequency	**Per cent**	**Valid per cent**	**Cumulative per cent**
Valid	Strongly Disagree	34	14.9	14.9	14.9
	Disagree	30	13.2	13.2	28.1
	Neutral	45	19.7	19.7	47.8

	Agree	63	27.6	27.6	75.4
	Strongly Agree	56	24.6	24.6	100.0
	Total	228	100.0	100.0	

On the other hand, almost half of the learners (49.1%) were in agreement with the suggestion that there was not enough time to familiarise themselves with the LMS. Therefore, from the perspective of time, learners perceived e-learning practices to be inefficient as it requires more time (see Table 5-22).

Table 5-22: Learners' perceptions of the time dimension and the efficiency of e-learning

'There is insufficient time to familiarise myself with the LMS'					
		Frequency	**Per cent**	**Valid per cent**	**Cumulative per cent**
Valid	Strongly Disagree	16	7.0	7.0	7.0
	Disagree	35	15.4	15.4	22.4
	Neutral	65	28.5	28.5	50.9
	Agree	65	28.5	28.5	79.4
	Strongly Disagree	47	20.6	20.6	100.0
	Total	228	100.0	100.0	

6. Perceptions of the existence of a supportive environment

Table 5-23: Learners' perceptions of the existence of a supportive environment for e-learning

Item	**Mean**	**Std. Error**
I needed a lot of help to use the system	3.7	.084
The induction programme is very important	3.8	.081
I found the induction programme was well organised	3.0	.081
It is easy to access the Internet at home	3.3	.096
It is easy to access the Internet at the university	3.2	.086
There is a lack of computing services and support at the university (reverse item)	3.4	.083
I have been well prepared to take the e-learning course	2.8	.085
The teachers are familiar with the LMS tools	3.0	.077

Mean	3.30	.084

The students perceived the existing environment, both at home and university, to be moderately supportive of their e-learning needs (mean=3.3). Above all, they recognised the need for support in order to be able to use the system (mean=3.7). Such feelings are also reflected in the learners' perceptions of the importance of induction programmes. From Table 5-21, the learners believe that induction courses for using e-learning are important (mean=3.8) and that in their experience they are moderately well organised (mean=3.0). The recent mean were moderately well in the questionnaires, the students responses in the focus group were mostly negative. They indicate that the induction programme was unhelpful for some and not enough for others with little IT experience and low IT skills. According to them, they only had a guidance letter on how to register and access the LMS. Moreover, the questionnaire statistics indicate a moderately supportive environment for e-learning at home and university. For instance, they indicate some ease of access to the Internet both at home (mean=3.3) and university (mean=3.2). Further, they do not believe that there is lack of computing services or support at the university (mean of reverse item=3.4). However, some students reported in the focus group that the university support was at a low and barely acceptable level as they experienced low Internet speeds on some workstations sometimes and there was no one available at times to help with technical problems, such as computer viruses and so on. They indicated that their teachers were familiar with the LMS tools (mean=3.0). Nonetheless, the learners' perceptions of how well prepared they are to enrol on e-learning courses is low (mean=2.8).

This study also sought to establish their perceptions of whether the speed of the Internet inhibited them from using e-learning (see Table 5-24).

Table 5-24: Learners' perceptions of a supportive environment with regard to the Internet speed

'The low internet speed inhibits students from using the e-learning course'					
		Frequency	**Per cent**	**Valid per cent**	**Cumulative per cent**
Valid	Strongly Disagree	26	11.4	11.4	11.4
	Disagree	36	15.8	15.8	27.2
	Neutral	47	20.6	20.6	47.8
	Agree	53	23.2	23.2	71.1
	Strongly agree	66	28.9	28.9	100.0
	Total	228	100.0	100.0	

From Table 5-24, learners are in agreement with the perception that the slow Internet inhibits them from using the e-learning course (52.1%). On the other hand, 27.2% do not perceive this to be an impediment to them using e-learning. The slow Internet speed was one of the major themes raised in the focus groups. Most of the students agreed that there was a lack of Internet speed both outside and inside the university and that made it difficult to access or download recorded lectures in a reasonable time.

Further, the study sought to establish (still under the theme of environmental support) whether the community and culture were supportive of learners using e-learning. As seen in Table 5-25, the majority of the learners (56.6%) do not believe that they are not allowed to use the Internet at home because of its cultural side-effects. However, some (27%) do believe that because of the perceived cultural side-effects associated with e-learning, they are not allowed to use the Internet at home. Some of the students in the focus group openly discussed this theme while others remained silent. Three of the students in two different groups reported that their family refused to get Internet access at home. One of them said clearly:

> I would love to have the Internet at home, but my parents refuse. They think it will negatively effective their children's behaviour as it is open to the wider world which presents different cultures and different behaviours.

Table 5-25: Learners' perceptions of a supportive environment for e-learning with regard to culture

'I am not allowed to use the Internet at home because of its cultural side-effects'					
		Frequency	**Per cent**	**Valid Per cent**	**Cumulative Per cent**
Valid	Strongly Disagree	60	26.3	26.3	26.3
	Disagree	69	30.3	30.3	56.6
	Neutral	38	16.7	16.7	73.2
	Agree	34	14.9	14.9	88.2
	Strongly Agree	27	11.8	11.8	100.0
	Total	228	100.0	100.0	

With regard to whether the community (as part of the supportive environment) could move and change easily to the e-learning age, learners had the following perceptions:

Table 5-26: Learners' perceptions of a supportive environment for e-learning with regard to the likelihood of community change

'It is not easy for the community that I live in to move and change easily to the e-learning age'					
		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	Strongly Disagree	34	14.9	14.9	14.9
	Disagree	37	16.2	16.2	31.1
	Neutral	54	23.7	23.7	54.8
	Agree	66	28.9	28.9	83.8
	Strongly Disagree	37	16.2	16.2	100.0
	Total	228	100.0	100.0	

.

From Table 5-26, the majority of learners (45.1%) are in agreement that the community is likely to be compliant to the e-learning age and hence will be supportive of their e-learning activities. On the other hand, some learners (31.1%) believe that it may not be easy for the community that they live in to move with the times and change to the e-learning age.

Research Question 3: What are learners' perceptions of the improvements to e-learning required at their university?

Table 5-27: Percentage distribution of learner responses concerning the perceived improvements required to e-learning

I think e-learning courses could be improved at this university and other universities (that have similar components, culture and background) in the future by:	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %
Training students to use e-learning tools, resources and software effectively before the course	8.8	12.3	9.6	35.5	33.8
Pre-training and hiring professional teachers and tutors who can deliver e-learning effectively	4.4	12.7	11.8	42.5	28.5
Ongoing improvements to a continuous training programme that provides both teachers and students with updated information in this field	3.1	12.3	13.6	39.5	31.6
Using updated software that helps to present course content in an attractive format	3.1	9.6	13.6	31.1	42.5
Improving computing services and technical support	4.0	11.0	17.5	31.7	35.7
Disseminating an e-learning culture to a wider audience outside the university, including parents and the community	3.9	11.0	19.3	39.9	25.9
Using different kinds of e-learning activities	3.9	11.8	14.5	41.7	28.1
Providing e-learning assessment	3.5	12.3	14.9	40.4	28.9
Using the LMS platform and tools effectively	3.1	11.0	15.4	36.8	33.8
Focusing on designing and structuring the course to meet curriculum needs.	4.4	12.3	11.0	34.6	37.7

From Table 5-27, students believe that courses can be improved at their university and other universities if there is prior training of students in the use of e-learning tools, resources and software (69.3% agree with this recommendation). It is also believed that e-learning would be better if e-learning tutors and teachers were trained in delivering e-

learning content effectively (71% agree with this recommendation), continuous training for both teachers and students was provided to keep them abreast with the field (71% agree with this recommendation), updated software was used that helps to present e-learning content in an attractive format (74% agree with this recommendation) and if all computer services and technical support were improved (67.4% agree with this recommendation). Further, 66% of learners agreed with the recommendation that disseminating an e-learning culture to a wider audience outside the university, including parents and the community, would improve the e-learning courses at the university. Moreover, others indicated that using different kinds of e-learning activities (70% of the learners agree), providing e-learning assessment (69.3% of learners agree) and using the LMS platform and tools effectively (71% agree) would all help to improve e-learning courses in their university. Finally, 72% of the learners would agree with a recommendation compelling e-learning course providers to focus on designing and structuring e-learning courses to meet the curriculum needs of learners. These points were strongly supported by qualitative analysis of the focus groups' participant data. The participants suggested and agreed with most of the recommendations presented by others in the same group. What could be added from the qualitative responses is a need to improve the service to assist students with special needs, to present live lectures instead of recorded ones and to activate online communication tools.

5.2.2 Teachers' responses

Two teachers at SU delivered the only two available online units at the time of the researcher's visit in 2008. The study's main aim was to explore the then current use of e-learning at SU from the perspectives and experiences of university teachers and students. The teachers were interviewed at the end of term, that is, the end of the second semester of 2008. Both teachers were asked to record a series of weekly audio reflective diaries during term time. At the time of the interviews, the teachers submitted six weekly reflective diaries (three diaries per person). The aim of keeping such diaries was to help to record issues emerging during the delivery of online units during term time.

The interview questions were developed to answer the research questions. Those research questions form another data method used to address students' experiences. The

analysis of these qualitative data is conducted by analysing the teachers' responses to the interview questions. The emerging themes in each question are coded and highlighted. The outcomes of the weekly audio reflective diaries are used as and when needed to support the analysis of the interviews. Those emerging themes are considered further, along with other analysis outcomes, in the discussion chapter. For ethical reasons, the teachers of the two online units remain anonymous to the reader at all times. Codes are assigned to represent those two teachers in this research. The '114 Salam' teacher was coded as VA1, the other teacher who delivered the '202 Arab' online unit was coded as VA2.

Respondents' profiles

Questions 1–5 were to gather information regarding the background of the two teachers. When they were asked about their general level of computer experience, use of the Internet, email and management systems, they expressed satisfaction with their experiences of all of those items. VA2 reported that it was the first time for him to deliver an online course, so there was much to be learnt in order to use the LMS effectively, he said. Both teachers were introduced to the courses without proper training being provided by the university, they stated. They indicated that most of their IT skills had come through their personal efforts and interest in technology. So, one of the important things that they highlighted here was the lack of professional training to deliver online courses.

Both teachers normally used their university office to record their online units. One of the disadvantages of working in offices is that they are standard rooms and more facilities were required to record these online units.

In response to the time required to deliver those courses and related activities, both teachers indicated that they spent considerable time in planning, designing and delivering online courses. The VA2 teacher highlighted this issue many times during the interview and referred to the fact that he was new to e-teaching experience. The number of students who registered for those courses was quite high. According to VA1:

> it is very difficult to respond to individual questions as you have other face-to-face courses to deliver.

Both teachers delivered their online courses by recording lectures weekly, either in their office or sometimes when they recorded lectures that they delivered face-to-face to other students on similar subjects, uploading them to the LMS. They used email sometimes to send information about the subject to the student email list, but they did not use other communication formats such as discussion forums or live chat, as they were always busy with other academic tasks.

The second part of the interview questions aimed to explore teachers' experiences of delivering online units. Those included: how they plan before teaching; the factors that motivate them to use e-learning tools; the disadvantages that may inhibit them from using e-learning; their perceptions regarding online course materials, content and instruction; and their experience of interaction with other teachers or students enrolled on the course.

Both teachers indicated a positive attitude towards e-learning and e-teaching. Among the advantages that they reported were the ease of use, improvements in their IT skills, new teaching and learning skills and so on. However those positive attitudes were marred by a number of disadvantages that they recorded along with the hope that those disadvantages would be rectified in the future. Some of these disadvantages were highlighted earlier, others reported here are the lack of training, both pre-service and in service, the lack of university help and support, slow Internet speeds, the implementation of a new LMS without proper training for students or teachers, the lack of student interaction in online activities, the extra workload, as the university treats online units as face-to-face units although the time needed to prepare online units is much greater.

In term of delivering online courses, VA1 stated that he only records lectures and uploads them to the system, and he uses email from time to time to answer students' enquiries or post information to mailing lists. The other teachers were engaged in the same kind of online deliveries; he says he created a number of discussion forums that were later discontinued as there was not much interaction from students.

The most common and repeatedly emerging themes that the teachers reported in their reflective diaries and during the interviews were the technical problems and lack of

university IT support. VA2 addressed a very important matter that he thought would need more attention in the future, which is the transformation of the traditional face-to-face environment to an online environment. Students, for example, were still waiting to receive more help and support from teachers while an e-learning environment should be mainly student-centred, he indicated.

In response to Part Three of the questionnaire, both teachers highlighted a number changes that needed to be seen in the future, including:

1. Teachers' professional development.
2. Pre- and in-service training.
3. Reducing the workload of online teachers.
4. Improving Internet speeds.
5. Establishing an effective IT support centre.
6. Providing an intensive induction programme for students.
7. Introducing e-learning to a wider community. This will help the larger community to accept this new way of learning.
8. Rectifying the lack of resources
9. Involving teachers in designing the content and structure of e-learning courses.
10. Rectifying the lack of online guidance information that should be available to help students to know more about online courses.
11. Teachers' salaries do not take account of the time they spend on e-learning courses.
12. The numbers of students registering for online units is quite high, so it can be quite difficult for e-learning teachers to deal with those numbers.

The outcomes of this qualitative analysis are considered in greater detail in the discussion chapter.

5.3 Phase Two (2013)

5.3.1 Students' responses

Respondents' profiles

Phase Two of this study was conducted in 2013. This was intended to investigate changing patterns in the perceptions of learners and teachers towards e-learning over time. It should be noted that, while this part of the study took place in the same university as the first phase (Phase One in 2008), the students and teachers who participated were all different from those in Phase One. In other words, these are two independent groups studied at two different times.

In this phase, there were 235 respondents, just as in Phase One. Part One of the questionnaire gathered information about respondents' age, the college they attended, the e-learning course unit they were enrolled on, whether they had taken training programmes in e-learning, their access to computers and e-learning facilities and their level of competence vis-à-vis computer usage.

The study obtained responses from 235 students. Students were selected from the colleges of science (40%), medicine (30.2%) and medical science (29.8%). The majority (54.5%) of the students involved in the study were aged between 20 and 22. A few were aged between 18 and 20 (2.1%) and between 24 and 26 (1.3%). Further, the respondents were distributed amongst various e-learning subject units. For example, 35.7% were enrolled on '114 Salam', while 48.5% were enrolled on '202 Arab'. A smaller percentage (15.7%) was enrolled on both units.

All the learners who responded reported having had some training in ICT or e-learning. The majority (76.6%) had accessed training through a course while 11.9% had accessed training through a workshop, with 11.5% having attended both a workshop and a course. Further, the learners indicated that the training took place at school (65.1%), university (31.9%) or at a private organisations (3%). Learners gave various purposes for attending the training they undertook. For example, whereas the majority (71.5%) of those that had training indicated that the purpose of their training was to learn how to use a personal computer, other students, 23.4% and 5.1%, indicated that the purpose of the

training was for e-learning or other unspecified purposes, respectively. The study also wanted to establish the experience of the learners in using computers, the Internet, email and the LMS; the results indicate that the learners had varying levels of experience. The results are indicated in Table 5-28, below.

Table 5-28: Learners' responses concerning their experience of using computers, email, the Internet and the LMS.

How would you describe your:	**Very good %**	**Good %**	**Satisfactory %**	**Novice %**
General level of computer experience?	0.0	17.4	78.7	3.9
Use of the Internet?	0.0	13.2	75.3	11.5
Use of email?	0.0	11.5	69.8	18.7
Use of the LMS?	0.0	40.4	57.0	2.6

From Table 5-28, the majority of learners (78.7%) consider their experiential competence in using computers to be satisfactory, compared to 17.4% and 3.9% who indicated that they are good or novices, respectively. Similarly, with regards to using the Internet, the majority (75.3%) feel they have satisfactory competence compared to 13.2% and 11.5% who indicated that their levels are good and novice, respectively. Further, the majority of the learners, 69.8% and 57%, regard themselves as having satisfactory experience using email and the LMS. Moreover, a few of them, 18.7% and 2.6%, regard themselves as novices with regard to using email and the LMS platform.

Further, in trying to better understand the status of different learners as regards having access to a computer, a question was posed to that effect.

Table 5-29: Learners' responses to having access to a computer

I can access a computer:	**Yes %**	**No %**
At home	92.8	7.2
At the university	96.6	3.4
Elsewhere	74.5	25.5

Table 5-29 indicates that the majority of learners have access to a computer at home (92.8%), at the university (96.6%) or elsewhere, besides their home or university (74.5%).

This study also aimed to profile learners with regards to having access to the Internet. As seen in Table 5-30, the majority of the learners have access to the Internet at home (83.8%), at the university (96.6%) or elsewhere, besides their home or university (78.7%).

Table 5-30: Learners' responses with regard to having access to the Internet

I can access the Internet:	**Yes %**	**No %**
At home	83.8	16.2
At the university	96.6	3.4
Elsewhere	78.7	21.3

The study was interested in profiling learners by their frequency of using computers. From Table 5-31, the majority of learners (95.7%) use a computer almost every day, while a few of them (4.3%) use one a few times each week.

Table 5-31: Learners' responses to how frequently they use a computer

'How often do you use a computer?'				
		Frequency	**Valid per cent**	**Cumulative per cent**
Valid	Almost every day	225	95.7	95.7
	A few times each week	10	4.3	100.0
	Between once a week and once a month	0	0	
	Never	0	0	
	Total	235	100.0	

After understanding the profiles and characteristics of the respondents, this study progresses to answering the first research question.

Research Question 1: What is the current use of e-learning by the teachers and students of SU?

In trying to establish the current use of e-learning by students, various items were generated, each requiring a response from the learners. Below are the results.

Table 5-32: Learners' responses concerning their current use of e-learning

In the e-learning course:	Regularly %	Occasionally %	Never %
I have used the LMS to access information I need for the course.	43.8	56.2	0
I have used the resources available on the LMS to develop my understanding of the subject.	17.9	68.1	14
I have used email to contact the lecturer	1.3	60	38.7
I have used email to communicate with a student on the same unit.	8.5	67.7	23.8
I have used the discussion forum	0.9	31.5	67.7
I have used the Web to find alternative sources of information.	11.1	22.1	66.8
I have used the LMS to do a learning task.	12.3	69.8	17.9
I have used the LMS to live chat with the lecturer.	0.0	10.2	89.8
I have used the LMS to live chat with other students.	0.0	13.6	86.4
I have used the LMS management tools (e.g. calendar, note, study organiser etc.).	7.2	74.9	17.9

From Table 5-32 it can be seen that the students indicated that they use e-learning for various purposes, including accessing information needed for their course, using the resources available on the LMS to develop their understanding of the subject, using email to contact the lecturer and communicate with students on the unit, using the discussion forum, using the Web to find alternative sources of information, using the LMS to do learning tasks, using the LMS to live chat with the lecturer or fellow students, and using LMS management tools (e.g. calendar, note, study organiser etc.).

Nonetheless, it is imperative to note that the rate of use varied across different uses of e-learning. For example, the majority of the learners occasionally used different e-learning platforms to access information for their course (56.2%), develop their understanding of the subject (68.1%), contact the lecturer (60%), communicate with students on the same unit (67.7%), perform learning tasks (69.8%), and manage their daily operations using tools such as calendar, notes and study organiser (74.9%). On the other hand, the majority of the learners indicate that they have never used e-learning platforms to discuss something in a forum (67.7%), find alternative sources of information (66.8%), live chat with the lecturer (89.8%) or live chat with fellow students (86.4%).

Research Question 2: What are the teachers' and students' perceptions of their use of e-learning in teaching and learning?

The same questions that were used in Phase One of this study were applied to this research question, too. For all 46 items Cronbach's alpha is 0.8, indicating that the items are highly reliable in measuring the underlying construct. A similar framework used earlier to classify items under different perception themes in Phase One was adopted here (see Masrom, 2007; Nannayakkara, 2005; Park, 2009; Davis, 1993; Punnoose, 2012; Conole et al., 2006). See Table 5-16 for a detailed item classification under the different themes.

Descriptive measures of students' perceptions of the use of e-learning in their learning programmes.

1- Perceived ease of use

Table 5-33: Descriptions of learners' responses to perceived ease of use

Items	Mean	Std. Error
The aims and objectives of the course are clear	3.2	.039
I know exactly what I need to do in each section	3.3	.035
The content is at an appropriate level	3.3	.039
The course content is well-structured	3.1	.047
The materials and resources are sensibly structured	2.7	.047
It was easy to find help with course information online	3.1	.041

The appearance (graphics, layout) is clear and helpful	3.5	.044
I find reading comments on the computer screen difficult (reverse item)	2.8	.053
The material is easy to understand	3.8	.053
The LMS is easy to use	2.9	.049
I find it easier to communicate in the LMS environment than in traditional classes	3.9	.049
Mean	3.3	.045

Notes: For the overall mean, a mean in the range of 1.0–2.9 is taken to be a low level on the perception scale, 3.0–3.9 is a moderate level, 4.0–5.0 is at a high level (see Liu et al., 2008).

From the descriptive statistics for the responses concerning learners' perceptions with regard to 'Ease of Use', the overall mean score of 3.3 on the perception scale falls within the range of moderate. This therefore means that learners moderately perceive e-learning as easy to use in their learning programmes. Specifically, they indicate that this is because the aims and objectives of the course are moderately clear (mean=3.2), that they moderately know exactly what they need to do in each section (mean=3.3), that the content is moderately at an appropriate level (mean=3.3), that the course content is moderately well-structured (mean=3.1), that it is moderately easy to find help regarding course information online (mean=3.1), that the graphics and layout are moderately clear and helpful (mean=3.5), that the materials are moderately easy to understand (mean=3.2) and that it is fairly easy to communicate in the LMS environment compared with traditional classes (mean=3.9). On the other hand, learners' perceptions with regard to how materials and resources are structured are poor (mean=2.7). Similarly, learners believe that reading comments on a computer screen is difficult (mean of reverse item=2.8) and they do not believe that it is easier to use the LMS (mean=2.9)

2- Perceived Usefulness of e-learning

Table 5-34: Descriptions of learners' responses to perceived usefulness of e-learning

Items	Mean	Std. Error
The course succeeds in promoting online communication between students	3.0	.048
By using e-learning, students can go over material as often as they want	4.0	.052
I feel the learning outcomes of this course will be met	3.3	.045
My computer skills do not help me to cope with these types of courses (reverse item)	2.6	.048
The online activities are useful	3.1	.042
Using the LMS increases my interest in the subject	3.4	.045
Face-to-face contact with my tutor cannot be replaced by an online meeting	3.8	.054
The LMS is most useful for revision help before the assessment period	3.8	.047
The LMS has helped me to become more independent as a learner	4.2	.036
I think that the LMS has positively contributed to my learning	3.2	.045
I can achieve what I want to learn by using e-learning courses	3.2	.039
The LMS discussion forum encourages students to learn from each other	3.7	.045
Through e-learning courses, students are more in contact with their tutor than in traditional classes	3.0	.057
E-learning courses enable students to go beyond the information they might get in traditional classes	3.1	.064
Mean	3.4	.048

With regard to the perceived usefulness of e-learning, learners demonstrate that it is moderately useful (mean=3.4). Specifically, learners perceive e-learning as being moderately useful to their learning, given that it promotes online communication between students (mean=3.0), they feel it meets the learning outcomes of their courses (mean=3.3), the online learning activities are useful (mean=3.1), it increases their interest in the subject (mean=3.4) and it helps them to revise before assessment

(mean=3.8) and to achieve what they want to learn (mean=3.2). Moreover, they believe that it has moderately contributed (positively) to their learning (mean=3.2) and has helped them to contact their tutor more than in traditional classes (mean=3.0), including moderately encouraging them to learn from fellow students (mean=3.7) and to go beyond the information they might get in traditional classes (mean=3.1). Learners also believe that face-to-face contact can be replaced by an online meeting (mean of reverse item=3.8).

Most importantly, learners regard e-learning to be highly important from two aspects (all means=>4). They regard e-learning highly as it allows students to go over the material as many times as they want (mean=4.0) and helps them to become more independent learners (mean=4.2). Nonetheless, learners do not think that their computer skills are useful enough to help them cope with this different type of learning.

3- Attitudes towards using e-learning

Attitudes such as enjoyment, likes and dislikes and levels of satisfaction were explored. From Table 5-35, the majority of learners (64.2%) agree with the proposition that e-learning materials are enjoyable. Only 10.6% indicate otherwise, while 25.1% are undecided. As to whether learners like the LMS platform, the majority (48.5%) indicate that they like it compared to 16.7% who dislike it (see Table 35). Further, the majority of respondents were undecided whether they were satisfied with the responses of the tutors to their study queries. Nonetheless, some (26.8%) agree that they are very satisfied with their tutors' responses to their study enquiries. On the other hand, the majority of learners (46%) are neutral when it comes to indicating whether they dislike e-learning courses because the time spent on learning is greater than that spent on traditional methods. Only 18.7% agree with such an attitude, while 35.4% disagree.

Table 5-35: Learners' attitudes towards the use of e-learning

Attitude	Strongly Disagree %	Disagree%	Neutral%	Agree%	Strongly Agree%
The material is enjoyable	0.0	10.6	25.1	57.4	6.8
I dislike using the LMS	0.4	48.1	34.9	16.6	0
I am really satisfied with the response of the tutors to my study enquiries	6.8	12.8	53.6	25.5	1.3
I dislike e-learning courses because the time that I spent on learning is greater than that spent on learning by traditional methods	4.3	31.1	46	18.7	0

4- Intention to use e-learning

Table 5-36: Descriptive statistics for the perceptions of students' intention to use e-learning

Item	Mean	Std. Error
I would prefer to have the materials available on CD	3.0	.074
I think this type of learning will be used more and more in the future	4.4	.050
I would like to see more of these courses in the future	4.0	.050
I prefer to have photocopies rather than to read materials on the LMS	2.5	.046
Mean	3.5	.055

The results in Table 5-36 indicate that learners have a moderate intention to use e-learning in their learning activities (mean=3.5). The means of individual items (apart from one) that make up this theme are in the range of 3.0 to 4.4. This implies that learners would prefer to have materials available on CD for possible future use, they strongly believe that this type of learning will be used more and more in the future (mean=4.4) and they would like to see more of these courses in the future (mean=4.0). Moreover, they indicate no intention to use photocopies rather than to read materials on the LMS, which is an implied preference for using the LMS rather than having photocopies.

5- Perceptions of the efficiency of e-learning

Perceptions of efficiency were obtained via two questions about cost-effectiveness and time. From Table 5-37, the majority of learners (88.5%) are in agreement that e-learning actually saves them travelling to face-to-face sessions. This is a positive perception of the efficiency of e-learning. On the other hand, the majority (47.7%) are in agreement that there is not enough time to familiarise themselves with the LMS. Therefore, learners perceive that e-learning practices are less efficient, as they require more time.

Table 5-37: Learners' perceptions of the efficiency of e-learning

Attitude	**Strongly Disagree %**	**Disagree%**	**Neutral%**	**Agree%**	**Strongly Agree%**
This course saves me the cost of travelling to attend face-to-face sessions.	0.0	1.3	10.2	46.8	41.7
Not enough time to familiarise myself with LMS	1.3	5.1	46.0	40.9	6.8

6- Perceptions of the existence of a supportive environment

Table 5-38: Learners' perceptions of the existence of a supportive environment for e-learning

Item	**Mean**	**Std. Error**
At first, I needed a lot of help to use the system.	3.8	.042
An induction programme is very important.	4.2	.039
I found the induction programme was well-organised.	3.2	.051
The teachers are familiar with the LMS tools.	3.2	.031
It is easy to access the Internet at home.	3.6	.054
It is easy to access the Internet at the university.	4.0	.054
There is a lack of computing services and support at the university (reverse item).	3.1	.063
I have been well prepared to take the e-learning course.	3.3	.047
Mean	3.6	.048

The students perceive the existing environment both at home and at the university to be moderately supportive of their e-learning needs (mean=3.6). Above all, they acknowledge the need for support in order to be able to use the system (mean=3.8). Such feelings are also reflected in the learners' perceptions of the importance of an induction programme. From Table 38, the learners believe that induction courses for using e-learning are very important (mean=4.2) and that their induction course was moderately well-organised (mean=3.2). Moreover, they indicate a supportive environment for e-learning at home and university. For instance, they indicate easy access to the Internet both at home (mean=3.6) and at university (mean=4.0). Further, they do not believe that there is a lack of computing services and support at the university (mean of reverse item=3.1), and they indicate that their teachers are familiar with the LMS tools (mean=3.2). Moreover, the learners' perceptions of how well prepared they are to do e-learning courses is moderate (mean=3.3).

Still under the supportive environment theme, this study also sought to establish learners' perceptions of whether or not the speed of the Internet inhibited them from using e-learning (see Table 5-39).

Table 5-39: Learners' perceptions of a supportive environment with regard to Internet speed

'Low Internet speed inhibit students from using e-learning courses'					
		Frequency	**Per cent**	**Valid per cent**	**Cumulative per cent**
Valid	Strongly disagree	5	2.1	2.1	2.1
	Disagree	9	3.8	3.8	6.0
	Neutral	61	26.0	26.0	31.9
	Agree	132	56.2	56.2	88.1
	Strongly agree	28	11.9	11.9	100.0
	Total	235	100.0	100.0	

The majority of the learners (68%) agree that the low speed of the Internet inhibits them from using e-learning courses. Very few (5.8%) disagree with that a slow Internet speed is an impediment to using e-learning courses.

Further, the study wanted to determine (still under the theme of environmental support) whether the community and culture were supportive of learners using e-learning. As seen from Table 5-40, the majority of learners (56.6%) do not believe that the perceived cultural side-effects of e-learning in any way prohibit them from using e-learning. Nonetheless, some (6.8%) believe that because of the perceived cultural side-effects associated with e-learning, they are not allowed to use the Internet at home. As to whether the community (as part of a supportive environment) can move and change easily to an e-learning age, the majority of learners, 50%, are neutral about this, while 30% believe that their communities will indeed be able to move and change easily to the e-learning age. Nonetheless, 20% of learners are sceptical about this idea.

Table 5-40: Learners' perceptions of a supportive environment for e-learning with regard to their culture and the community they live in.

Item	**Strongly Disagree %**	**Disagree%**	**Neutral%**	**Agree%**	**Strongly Agree%**
I am not allowed to use the Internet at home because of its supposed cultural side-effects	28.1	28.5	36.6	6.8	0.0
It is not easy for the community that I live in to move and change easily to the e-learning age	6.4	13.6	50.0	30.0	0.0

Research Question 3: What are learners' perceptions of the improvements to e-learning required at their university?

Table 5-41: Percentage distribution of learners' responses to perceived improvements needed for e-learning

I think e-learning courses could be improved in this university and other universities (that have similar components, culture and background), in the future by:	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %
Training students to use e-learning tools, resources and software effectively before the course	0	0	21.7	60.4	17.9
Pre-training and hiring professional teachers and tutors who can deliver e-learning effectively	0	0	12.8	75.7	11.5
Ongoing improvements to a continuous training programme that provides both teachers and students with updated information in this field	0	0	8.1	56.2	35.7
Using updated software that helps to present course content in an attractive format	0	0	3.0	55.3	41.7
Improving the university's computing services and technical support	0	0	2.1	67.7	30.2
Disseminating e-learning culture to a wider audience outside the university, including parents and the community	1.7	1.3	22.1	45.1	29.8
Using different kinds of e-learning activities	0	0	17.4	46.8	35.7
Providing e-learning assessment	0	0	3.4	64.3	32.3
Using the LMS platform tools effectively	0	0	2.6	51.1	46.4
Focusing on designing and structuring the course to meet curriculum needs.	0	0	1.7	44.7	53.6

From Table 5-41, it can been seen that students believe that courses could be improved at their university and other universities if there was prior training of students in the use of e-learning tools, resources and software (78.3% agree with this recommendation). They also believe that e-learning would be better if e-learning tutors and teachers were pre-trained in delivering e-learning content effectively (87.2% agree with this recommendation), continuous training for both teachers and students was provided to

keep them abreast of developments in the field (92% agree with this recommendation), updated software was used that helps to present e-learning content in an attractive format (97% agree with this recommendation) and all computer services and technical support were improved (98% agree with this recommendation). Furthermore, 75% of learners agree with a recommendation to disseminate e-learning culture to a wider audience outside the university, including parents and the community. Moreover, others indicate that using different kinds of e-learning activities (82.5% of learners agree), providing e-learning assessment (96.6% of learners agree), and using the LMS platform tools effectively (97.4% agree) would all help to improve e-learning courses at their university. Finally, 98.3% of the learners agree with a recommendation that would compel e-learning course providers to focus on designing and structuring e-learning courses to meet the curriculum needs of learners.

5.3.2 Teachers' responses

Phase Two of this study aimed to revisit SU in Saudi Arabia to update the answers to the research questions about the current use of e-learning in that university. After analysing the Phase One data, the researcher honed the interview questions to include some highlights from the outcomes of Phase One. This was done to explore whether those kinds of issues were improved, resolved or still problematic.

Because of the limitations of time affecting the course of this research, the researcher interviewed two of the online teachers at SU via Skype (an online service that allows users to communicate with others by voice, webcam and messaging over the Internet). Those interviews were analysed by following the interview questions and responses in general and highlighting emerging themes in particular. Codes were assigned to the teachers in this research. The '114 Salam' teacher was coded as VB1, and the other teacher delivering the '202 Arab' online unit was coded as VB2.

Respondents' profiles

Questions 1–5 were asked to explore the teachers' background in e-learning. Both teachers described themselves as highly skilled IT users. They went through long-term IT training before becoming lecturers at the university. They indicated their use of the LMS as 'satisfactory' and were happy to attend online training courses provided by the

e-learning centre. They reported no problems with regard to Internet speeds or the technical support team. They explained that the e-learning science centre provided by the university could deliver online lectures designed to the high standard required for e-learning technology.

The only real concern that they raised was the time needed to deliver their courses effectually. They also teach face-to-face classes but say that the time they spend delivering online courses is double.

VB1 reported that he uses different forms of e-teaching including live online lectures, discussion forms, assignments, online tasks and activities. He stated that the only downside was students' poor engagement in online discussions. This point was reported by the other teacher and is discussed with disadvantages at the end of this chapter.

VB2 described his use of the same type of e-learning delivery methods and reported that he uses online conferencing tools to set up online live focus group meetings.

In responding to Part Two, both teachers were asked by the E-learning Centre at SU to send student feedback forms at the end of each semester; they claimed that the student feedback was highly satisfactory, which indicates according to VB2 that the objectives of the unit were being met.

The motivational factors towards e-teaching, according to VB1, are ease of use, ease of access, IT-supported training programmes and the implementation of new technology. VB2 indicated that e-teaching opens the door for teachers to reach a wider community. At the beginning of this semester, VB2 reported that he delivered two hours of lectures to students at another university via video-conferencing.

Reported disadvantages were limited, compared to Phase One. One of the challenges that they faced was the time needed to design and deliver online courses. If courses include online activities, it means they need to spend even more time to monitor and respond to students who participate. Another disadvantage that both teachers raised is the number of students registered on the course. These are core courses that every student must take at least once in his or her academic life at the university, so every

semester they are presented with more than 700 students on those units alone. Another disadvantage is that SU does not authorise and activate e-assessments at the end of the semester. The huge number of students registered on e-courses will sit paper exams and the assessment has to be done mainly by the unit teachers.

One of the themes generated by analysing these interviews was the environmental impact. According to VB2,

> If you want to teach online here at SU, you will get all kinds of support. You will find the right platform, the right IT support, the right in-series training. That is the kind of environment that motivates teachers to teach online.

The issue of online communication was a matter that both teachers are interested in. VB1 indicated that the way he motivates his students to participate in online discussions is by allowing them to participate in any online communication task that they want, even if it is created by them, if it relates to the subject. Students are much happier when they can choose what they do (VB1).

Culture and change were important themes reported in the interviews. VB1 indicated that the community now is different to five years ago; online communication tools have helped to link youth to technology and become part of it. VB2 reported that students were exchanging some of the unit's resources through their Twitter accounts.

When analysing Part Three, both teachers indicated that most of the challenges reported in the past were either resolved or no longer major problems, especially those related to technical problems or university IT support. The issues with regard to time were discussed earlier and salaries was not something they were interested in talking about. VB2 said, 'We receive lots of training for free at this university, that cost is not deducted from my salary.'

Chapter 6 Discussion

6.1 Introduction

This chapter will discuss the results presented in Chapter 5 with a view to highlighting the meanings and implications of those results and locating these findings with the literature reviewed to establish how theory supports the findings and the emerging knowledge. The discussion follows the order of research questions. It is imperative to note here that, while this study is in two phases, it is not my intention to conduct direct comparisons between these two phases, given that different people were involved in them and hence the differences that may be apparent may not suggest an improving or deteriorating situation in any way. This needs to be noted from the beginning. Nonetheless, some comparisons may be necessary when it comes to changes in particular perceptions, values or responses between the two phases. Again, I must clearly state here that such comparisons are mainly value-laden and are not in themselves statistical tests that allude to any generations.

6.2 Current Use of E-learning by Teachers and Students at SU

The study findings highlight the various functions to which e-learning has been applied in Saudi Arabia. In Phase One, it is seen that the majority of learners indicated that they were using e-learning courses to access information required for their course units. Similar responses were given in Phase Two. This implies that many students use e-learning to try to search for more information to complete their course units. According to Salmon (2004), e-learning resources provide a good source of information, not only for research but for students in higher academic institutions. To illustrate, given the technological shifts taking place globally, academic institutions find it easier and more convenient to upload course units onto e-learning platforms for easier student access. However, it is imperative to note that, in Phase One, close to 30% of the learners indicated never using the LMS for accessing information needed for their course. This percentage dropped to zero in Phase Two. This suggests that universities have been continuously uploading course unit information onto e-learning platforms since the first

phase, to the extent that it is no longer a student choice but an imperative to access information from such platforms.

In addition, in Phase One the majority of learners indicated that they used available resources on the LMS to develop their understanding of their respective subjects. This status was maintained in Phase Two, with a higher percentage of learners agreeing to this particular use. This implies a shift in the way learning is taking place. Prior to technological advancements, the teacher was the knowledge provider and learners looked up to him or her for all their subject requirements. This finding indicates that that is no longer always the case. Learners are now using e-resources to supplement what the tutors provide in class. Nonetheless, it is imperative to note that it is not yet a complete shift, given that some students in both phases indicated that they never used the LMS to help in their understanding of the subject. Actually, this percentage dropped significantly in Phase Two. This could point to an increasing uptake of e-learning as an alternative to adding to traditional class content. Moreover, it could be the case that, whereas learners may wish to use e-learning for their subject understanding, they lack the support they need in terms of training or access. To illustrate, in Phase One 73% of learners had reportedly never undergone any training programme for e-learning; this was also the case with the two online lecturers in Phase One, who indicated that they had no proper training. So this could be an issue that might at times curtail learners from using platforms to supplement their subjects. But it could also be the case that there are few postings going place onto the e-learning platforms that are subject-specific and would necessitate learners using them to supplement their subject understanding.

Further, it emerged from the findings that some students used email to communicate with both their lecturers and fellow students. Nonetheless, it is imperative to note that there are some variations when it comes to using email for communicating with lecturers and fellow students over time. The results from Phase One indicate that the majority of learners (76.8%) never used email to contact a lecturer, nor did they use it to communicate with fellow students on the same academic unit (78.9%). This trend reverse over time and in Phase Two more students were contacting lecturers and fellow students using email. This trend suggests a few things. Foremost, it could be the case

that the participants in Phase One either had limited access to the Internet and computing services or it could be a reflection of the effect of cultural values.

The literature has strongly indicated that most LMSs are designed with online communication tools such as the discussion forum that may enhance students' and teachers' interactions. This does not seem to be the case in this study for either Phase One or Phase Two. To illustrate, whereas a few students (23.7% in Phase One and 32.4% in Phase Two) indicated using the discussion forum, the majority never did. This could have many explanations. Above all, it could mean that the students had yet to be trained in the use of such a facility or they did not have a sufficient training as highlighted by many students in the focus groups; or it could also be the case that teachers did not introduce the learners to an online discussion forum task.

In responding to the question seeking to determine whether learners used the Web to find alternative sources, the majority maintained that they never used the Web in that way. The same applies to the second phase. This could be viewed as contradicting the earlier indication from learners that they used the LMS to develop their understanding of the subject. Given that the LMS is on the Web, it might be expected that the earlier responses of learners about using the LMS would match those for using the Web in Phase Two, but this proved not to be the case. This could be due to learners not realising that the LMS platform is on the Web, perceiving the LMS and the Web to be two completely independent entities. Nonetheless, a few students (35.1% in Phase One and 33.2% in Phase Two) indicated using the Web to find alternative sources of information for their courses. This implies that use of the Web as an alternative source has not changed rapidly over time.

Other uses of e-learning reported by learners include use of the LMS to perform a learning task. In Phase One, a small number (19.3%) used the LMS to perform a learning task compared to 82.1% who reported having used the LMS to perform a learning task in Phase Two. This crudely points to an increasing trend in learners adopting the LMS to do their academic tasks. This is consistent with the findings of Alqahtani's (2010) study that that there was an increasingly upward trend among learners in Saudi Arabia using an LMS to perform academic tasks. Furthermore, the

findings indicate varying uses of the LMS. To illustrate, whereas some learners use it to perform a learning task, a few indicated using it for live chat with a lecturer or fellow students. However, it is imperative to note that, in both phases, a very small number were using it for chatting; indeed, the majority reported never having used the LMS for chatting, across both phases. This possibly highlights the learners' perception that this platform is more for academic purposes than for live chatting.

Finally, the learners indicated that they did use the e-learning LMS tools, such as calendar, note and study organiser, among others. However, in the first phase a smaller percentage (35.1%) indicated using it for this purpose. This number is somewhat higher in Phase Two (82.1%). A possible explanation for this is that most of the LMSs are now provided with a student portal and learning space, so students can use those facilities for their personal use.

6.3 Teachers' and Students' Perceptions of the Use of E-learning in their Teaching and Learning

As indicated earlier in the presentation chapter, teachers' and students' perceptions of the use of e-learning where grouped into six themes. This process was driven by theory (see Nannayakkara, 2005: Park, 2009; Davis, 1993; Punnoose, 2012; Conole, 2006). The six themes include perceived ease of use, perceived usefulness, attitudes towards e-learning, intention to use e-learning, perceived efficiency of e-learning and a supportive environment.

Perceived ease of use

The findings for both phases indicate that learners moderately perceive e-learning as easy to use. The mean score for the second phase (mean=3.3) is slightly higher than for the first phase (mean=3.04), which could be an indicator of an increasingly positive perception by learners that e-learning is easy to use. A similar trend is reflected in some of the individual items that comprise this theme. For example, in Phase One learners found communicating in the LMS environment difficult compared to traditional classes. This was reversed in the second phase, as most of them indicated that they actually found it easier to communicate in the LMS environment than in traditional classes.

Nonetheless, learners in both phases indicated that the materials and resources were not sensibly structured, which may relate to better e-teaching skills being required by e-moderators (Salmon, 2004).

Perceived usefulness of e-learning

On this theme, the aggregate mean score for Phase Two is 3.4, indicating that learners regard the different aspects of e-learning as useful. This mean score is slightly higher than that of Phase One (mean=3.1). This is also reflected within the individual items that constitute this theme. For example, whereas in Phase One learners indicated that e-learning was not useful with regard to online communication between students, online activities, creating interest in the subject, increasing the contact with tutors and enabling students go beyond the information they get in traditional classes, these perceptions became positive in the second phase. That might relate to the more effective implementation of e-learning courses nowadays due to rising quality standards. Moreover, between Phases One and Two, some usefulness perceptions did indeed improve and went from a lower mean score to a higher mean score. For example, in Phase One learners perceived e-learning as being moderately useful with regard to the fact that it enables students to go over the same material many times. This perception changed in Phase Two from 'moderately useful to very useful. Second, the learners in Phase One indicated that e-learning was moderately useful with regard to making learners independent. This perception too changed in Phase Two from moderately useful to very useful.

Attitudes towards using e-learning

In Phase One, learners on average had negative attitudes towards the use of e-learning (overall mean score=2.9). For example, they indicated that they disliked using the LMS and also disliked e-learning courses because the time spent on e-learning is greater than that spent on traditional methods. There are only two items in this theme towards which learners were positive. Their attitude towards e-learning materials is positive and they also have a positive attitude with respect to their level of satisfaction with the responses from their tutors to their study enquiries.

Nonetheless, there seems to be a shift in attitudes in Phase Two. For example, more than half of the learners found e-learning materials enjoyable, and the majority of learners like the LMS platform. There was some indecisiveness when it came to sharing their attitudes about the level of satisfaction derived from the responses that their tutors provide in answer to academic enquiries. This is because the majority chose to remain neutral about it, yet in Phase One they indicated moderate satisfaction. Further, in Phase Two, the learners decided to remain neutral when asked whether or not they disliked e-learning courses because the time spent on such type of learning is greater than that spent on traditional methods.

According to the e-learning technology acceptance models, attitudes are formed from the perceptions that users have about the use of e-learning technologies (see Nannayakkara, 2005; Park, 2009; Davis, 1993; Punnoose, 2012). This implies that the attitudes held by learners in both phases seem to be linked with the perceptions that they held at the time. To illustrate, the negative attitudes held by learners towards using e-learning in Phase One can be said to coincide with some of the negative perceptions of ease of use and usefulness. For example, the fact that in Phase One learners perceived e-learning materials and resources as not being sensible structures, and also found reading comments on a computer screen difficult, coupled with the difficulties they faced in communicating in the LMS environment, could be pointers to the kind of attitudes they finally held about the use of e-learning. However, given that the perceptions improved in Phase Two, so did the attitudes, reinforcing the assumption of e-learning technology models that perceptions shape the attitudes held by users of e-learning. Moreover, some studies have empirically tested these relationships and come up with similar findings. Masrom (2007), in his study in Brunei of a technology acceptance model on: Perceived ease of use, Perceived usefulness, Attitude toward using e-learning and Behavioral intention to use e-learning, found significant relationships between perceived ease of use, perceived usefulness and attitudes towards the use of e-learning. Similar results were reported by Park (2009) in his study in South Korea.

Intention to use e-learning

Learners reported having a moderate intention to use e-learning in their learning activities. This was the same in both phases (Phase One mean=.36; Phase Two mean=3.5). These results emerged from learners' responses implying the need to use e-learning in the future. For example, learners believed that e-learning will be highly useful in the future and they should like to see more e-learning courses becoming available. These findings could be associated with the positive perceptions that students have of e-learning. Park (2009) indicates that positive perceptions of ease of use and the usefulness of e-learning are most likely to lead to stronger behavioural intentions to use e-learning platforms. To this end, the fact that in Phases One and Two learners had positive perceptions (even if only moderate), it would be expected that these would influence their intentions to use e-learning. Nonetheless, one interesting finding of this study is the fact that learners' attitudes have no influence on their intention to use e-learning. As seen earlier, learners in both phases reported some negative attitudes towards e-learning and it would therefore be expected that such attitudes would translate into less intention to use e-learning. But their intention to use e-learning is unwavering, albeit their attitudes are somewhat negative. This particular finding contradicts the findings of Park (2009) and Masrom (2007) who indicated a strong positive association between user attitudes and intentions to use e-learning.

Perceptions of the efficiency of e-learning

Efficiency was investigated in two dimensions, time and cost (see Conole et al., 2006). In Phase One the majority of learners (52.2%) indicated that e-learning was quite efficient in terms of saving them the cost of travelling to attend face-to-face sessions. In Phase Two this increased further, with 88.5% of learners indicating that e-learning was efficient in terms of saving them money. These findings resonate well with the arguments of Clark and Mayer (2011), who indicate that e-learning is increasingly being taken up by various institutions and other users, given its ability to cut down on costs in terms of both time and money. Nonetheless, e-learning can only remain efficient in terms of cost in places where learners are in widely dispersed geographical locations.

In terms of time, the majority of learners believe that e-learning is not efficient, given that there is not enough time for them to familiarise themselves with the LMS. The same feeling was manifested in Phase Two. This is in total contradiction to the findings of Conole et al. (2006) where students indicated that e-learning was indeed efficient in the time dimension, given that it helped them to manage their time more effectively and that its flexibility allowed them to work from home where necessary and to catch up with any lectures they had missed. The contradiction in the findings between this study and those of Conole could be attributable to differences in the way the questions were asked.

Learners' perceptions of the existence of a supportive environment.

In both phases, learners acknowledged the importance of having a supportive environment for e-learning. Moreover, they indicated that they generally had such a supportive environment for e-learning. Nonetheless, in Phase One most of the learners did not believe that they had been well enough prepared to take an e-learning course. In Phase Two, the learners' positive perceptions of their support environment were partly based on the fact that they have been given an induction programme that they found helpful and well-organised, they had easy access to the Internet both at home and at university, and their tutors were very familiar with the LMS tools, enabling them to be well prepared. These findings are supported by the earlier findings of Yiong et al. (2008), who in their study in Malaysia, found that institutional support and most especially tutor support were said to dominate learners' perceptions of there being a supportive e-learning environment. For example, Yiong et al.'s study learners indicated a supportive environment as one in which instructors: have sound knowledge of Internet technologies; are friendly and approachable; are easily contacted; explain how to use the website at the beginning of the semester; encourage student interaction; provide sufficient learning resources online; solve emerging problems efficiently; provide fast feedback to queries in the discussion forum; are enthusiastic in teaching and explaining via the Web; reply to email queries rapidly; and do not intervene unless students ask for the correct answers (p.546).

The perspective of a supportive environment also includes the ability of the home and the community to support e-learning. To this end, responses to home support indicate

that learners have support at home, given that they are allowed to access the Internet regardless of the associated cultural side-effects of e-learning. This finding is a reflection of the acceptance of e-learning in Saudi culture. Nonetheless, the fact that learners are sceptical about whether or not their communities will learn to move and change easily to the e-learning age is an indicator of the persistence of conservatism in the community. This is reinforced by the arguments raised by Al-Kahtani et al. (2006), who point to the fact that some Saudi communities still regard the Internet as a tool that may lead to erosion of their culture and faith.

6.4 Improvements Required to E-learning Courses at SU

In both phases, learners demonstrate the need to improve e-learning in Saudi universities. To this end, students agreed with there being a need for prior training of students in the use of e-learning tools, resources and software. This recommendation could be associated with the fact that, mostly in Phase One, many learners indicated that they had not received any formal training in the use of e-learning platforms. A similar recommendation has been echoed by other studies. For example, according to Masrom, (2007) e-learning could be greatly improved if learners were trained not only in how to use e-learning platforms but in how technology can actually improve the efficiency and effectiveness of the learning process.

Second, the learners commented that e-learning would be made better if e-learning tutors and teachers were trained in delivering e-learning content effectively. This implies that not only do students need training in e-learning processes, but also teachers. This is mainly because not all teachers have the knowledge and skills required to use e-learning platforms effectively. These views are also echoed in Creanor et al.'s (2006) study. For example, Conole et al. (2006) report one of student's recollections as follows:

> They still feel like they're completely divorced from each other [online and face-to-face work] because often the tutors don't know anything about the online projects, erm, so you can't really discuss them and they're really different issues that come up. (p.15)

Learners also called for continuous training for both teachers and students in order to keep each group abreast of developments in the field. This is a reflection of the changing topography of e-learning associated with continuous technological advances.

Further, learners are of the view that updated software needs to be used to help present e-learning content in an attractive format. This is indeed a reinforcement of the learners' perceptions of ease of use where they indicated that they like e-learning in which the graphics and layout are clear and helpful. In addition, the learners recommended improving computer services and technical support and stated there was a need to disseminate e-learning culture to a wider audience outside the university, including parents and the community.

Other recommendations include using different kinds of e-learning activities, providing e-learning assessment, using the LMS platform tools effectively and compelling e-learning course providers to focus on designing and structuring e-learning courses to meet the curriculum needs of learners.

The above observations demonstrate the changing needs of students with regard to e-learning. Moreover, they point to the changing practices of students engaged in e-learning. To illustrate, Conole et al. (2006) highlight that, given the changing nature of the way learners are interfacing with e-learning platforms, more innovations and proactive coping strategies have to be devised by e-learning providers. Specifically, Conole et al. contend that in view of the pervasive and utilitarian use of e-learning by students there is a need for strategies such as annotation and adaptation of materials to meet students' individual needs. Further, Conole et al. argue that since students are starting to appreciate the use of e-learning in both their academic and daily lives (eg. MSN chat, Skype, Amazon, eBay, etc.) given changing expectations in terms of the support that learners demand, e-learning providers need to devote themselves to the task. To this end, according to Conole et al. (2006), there is need for comprehensive strategies in terms of training to help tutors shift from lower to higher levels of Bloom's taxonomy necessary to make sense of learners' complex technological needs in an enriched learning environment.

Chapter 7 Conclusions and Policy Recommendations

7.1.In Conclusion

The broad intent of this study has been to explore the perceptions and current usage of e-learning from both teachers' and learners' perspective. Mixed methods were used in this study to collect quantitative and qualitative data across two phases (Phase One in 2008 and Phase Two in 2013) for analysis and interpretation in order to answer research questions. The target population of this study, from which the student sample was drawn, for Phase One consisted of all students registered on two e-learning courses during the second semester of 2008, and for Phase Two all students registered for the same units in the first semester of 2013–14. In addition, the two teachers delivering registered e-learning courses at SU in 2008 (Phase One) kindly participated in two rounds of qualitative data collection conducted to take advantage of their experiences of e-learning/e-teaching. They also provided three weekly recorded diaries, ranging from five to ten minutes each, making a total of six recorded diaries. In Phase Two, online interviews were conducted with two different e-learning teachers; the limitations of time and distance made online interviews an appropriate substitute for personal face-to-face sessions.

The quantitative and qualitative analysis results are presented in Chapter 5. This chapter briefly summarises the findings and draws some final conclusions based on the integration of the quantitative and qualitative results, addressing the contributions and implications of this study, and making suggestions for future studies on how to improve teaching and learning in Saudi Arabian higher education through the use of e-learning.

The empirical findings of the study in relation to the research questions indicate that:

i. Currently, e-learning at SU is being used for various purposes by students and teachers. Overall, students indicate that in their e-learning courses they have:
   - used the LMS to access information they need for their courses;
   - used the resources available on the LMS to develop their understanding of the subject; used email to contact their lecturers

- used email to communicate with students doing the same unit
- used the discussion forum; used the Web to find alternative sources of information
- used the LMS to do learning tasks
- used the LMS to live chat with the lecturer
- used LMS tools such as calendar and study organiser.

These uses of e-learning were also hinted at in the first phase of this study.

ii. Learners perceive e-learning to be easy to use, useful and efficient, and they intend to use it even more in future. Moreover, they perceive the environment that they live and study in to be supportive. These perceptions cut across the two phases, although with variations in the mean scores. Nonetheless, learners reported mixed attitudes towards using e-learning; some were positive while others were negative. This trend was manifested in both phases.

iii. Given the above perceptions, in both phases students stressed the need for initial and continuous training, for both teachers and students. They also recommended more support to make e-learning accessible at home and at the university. Moreover, they suggested a differentiation of e-learning activities, proper planning and a better layout of e-learning content, and most importantly a design of e-learning courses to meet their course and individual needs.

7.1.1. Comparisons and contrasts in the key findings of the two phases

It is imperative to note that the design of this study is not conducive to making comparisons or contrasts to track change in perceptions towards e-learning for university study over time; while the phases took place at the same university, different respondents participated in each of the two phases. Nonetheless, given that the respondents had much in common, as observed in their profiles, moreover that the questions and the instruments used in data generation were the same or similar in each phase, it would be fair to attempt a simulation of some comparisons with the intent of highlighting patterns in the findings, including identifiable differences, that cut across the two independent groups.

With regard to the usage of e-learning, there is little difference between the first and second phases. Both groups reported accessing the information they needed for their courses as

their most regular use of the LMS. As well as this access to information, both groups similarly reported using LMS resources to develop an understanding of subjects. Using the LMS for live chat with lecturers or fellow students and the discussion forums were the least popular applications for either of the two groups, yet unlike the reported access of information there was more usage recorded in Phase Two, seen in the absence of 'Never' from the observations category of each usage in the questionnaire, unlike in Phase One.

With regard to the second question (Perceptions on the use of e-learning in teaching and learning), in all but two themes students of both phases differed little in terms of their perceptions. The dissimilarities are that students in Phase Two had more positive attitudes towards using e-learning, indicating that they enjoyed it more and liked the platform. Students in this latter phase also found e-learning to be more cost effective, with a very high proportion of Phase Two students (89%) indicating that it saved them the cost of regular travel for face-to-face sessions, compared to only 52.2 per cent in Phase One perceiving this benefit.

Regarding the list of suggestions for improving the organisation of e-learning, the key finding is that both groups ranked 'Focusing on aligning the design and structure of the course to meet curriculum needs' as of paramount importance, and with a far higher proportion of students in the later phase perceiving this need (Phase One=72%, Phase Two=98.3%). Similarly, both groups ranked 'Disseminating an e-learning culture to a wider audience outside the university, including parents and the community' as the least important in the list of suggestions.

It is imperative to note that, whilst there is some variation in the proportion of each group that agreed or disagreed with suggested improvements, the key finding is that both groups' results lie in the agreement zone for all the suggested improvements. This includes the belief that courses could be improved at SU, were there prior training of students in up-to-date e-learning tools, resources and software. It is also believed that e-learning would be better, were e-learning tutors and teachers trained in delivering e-learning content effectively, and were continuous training for both teachers and students provided to keep them abreast with the field, and updated software used to help to present e-learning content in an attractive format. Furthermore, there was strong agreement with the suggestion to

disseminate an e-learning culture to a wider audience outside the university, including parents and the community. Other recommendations indicated the perceived importance of using different kinds of e-learning activities, providing e-learning assessment and using the LMS platform and tools effectively to improve e-learning courses in the university.

Teachers' responses

Greater differences were revealed in the responses of the teachers in the two phases. Notably, teachers in the first phase were less skilled in IT and computer usage than those in the latter, as indicated by their profiles and reflected in their answers to questions. Phase Two teachers reported more use and engagement with e-learning through innovations such as online conferencing and online focus groups not mentioned by Phase One teachers. Moreover, Phase Two teachers indicated greater support for IT that also enabled ease of use of the programme relative to their Phase One counterparts. Nonetheless, most of the challenges to the programme cut across the two phases, including lack of online interaction with students, limited time available for designing and delivering the material, and heavy workloads. Phase One teachers seemed to have a longer list of suggestions for improvements than Phase Two, while the latter were more critical of certain aspects, such as those relating to their level of pay in view of the workload, given the poor level of student engagement and motivation to use the online discussion forum.

It can therefore be concluded that e-learning is being put to both academic and personal use at SU in Saudi Arabia. The academic use includes access to course information, developing in-depth subject understanding, raising queries with tutors, discussion forums and searching for alternative sources of information. Personal use includes live chat with fellow students and the calendar function. Further, it can be concluded that learners generally perceive as positive their use of e-learning for their course. This is reinforced by their perception that e-learning is easy to use, useful and efficient, and they intend to use it even more in future. To this end, given the importance that learners attach to e-learning, they believe it would be better if there was:

- prior training of students in the use of e-learning tools,
- pre-trained in delivering e-learning content more effectively for e-learning tutors and teachers
- continuous training for both teachers and students to keep them abreast with developments in the field
- improvement to all computer services and technical support
- Dissemination of an e-learning culture to a wider audience outside the university, including parents and the community.

7.2 Policy Recommendations

i. Based on the current use of e-learning in the SU

As seen from responses to the usage of e-learning, students indicated a variety of uses for e-learning in both their academic and personal life. This implies that e-learning is likely to become a key medium for learning in most Saudi universities. Moreover, with the increasing national budgetary allocation to ICT, it is imperative that universities and learning institutions position themselves through better policies and strategies to provide better e-learning opportunities to learners. For example, universities must continue to seek ways to improve e-learning through robust research and collaboration with the intention of devising better e-learning applications, more advanced than the usual that learners indicate they are already employing. This will require more investment in reliable and robust ICT hardware and software applications, and human resources necessary to cope with the increasing need for e-learning in Saudi Arabia.

ii. Based on the perceptions of learners and teachers

The positive perceptions that learners indicated in both phases should not be taken for granted by providers of e-learning. We have seen that these perceptions shape attitudes and intentions to usage, so more effort should be directed towards amplifying users' voice in decisions taken by e-learning providers. To illustrate, learners need to be listened to and their views and perceptions taken into account in all e-learning design processes. This is to

ensure that whatever is being provided is customised to learners' interests. Moreover, these findings about the attitudes of users to e-learning also highlight users' expectations, making it incumbent on providers to devise strategies to manage these expectations effectively.

iii. Based on the learners and teachers' recommendations, it is imperative to note that learners and teachers have underscored the need to provide training, appropriate hardware and software, and a supportive environment. Moreover, they wish to see the e-learning curriculum being strongly supportive of their learning needs. E-learning providers need to take these suggestions seriously, as they involve constant improvements that are beneficial not only to users but the universities.

7.3 Limitations of the Current Research and Recommendations for Future Study

First and foremost, being a mixed methods study, this research has all the weaknesses associated with such a design. Second, the study is confined to a single university, perhaps limiting the extent of the generalisation of findings made here; they may be case-specific. This is reinforced by the fact that different universities provide different e-learning courses in terms of the resources available, hence surveying various cases would have been the better option if one of the study aims was the generalisation of results. Third, this study has only considered male students in view of the cultural constraints on the researcher if he had intended to research female learners in Saudi Arabia. Nonetheless, it would be sensible to establish whether there might be gender differences in both the use and perception of e-learning. Whilst this study has tried to examine the current usage of e-learning in Saudi Arabia, it did not attempt to investigate the quality of what is being provided and used. To this end, I would strongly recommend future researchers to consider aspects of the quality of e-learning courses on offer at universities across Saudi Arabia.

The researcher was fortunate to meet two visually challenged students among the sample groups. They agreed to participate and to present their perception of their experiences of e-learning, indicating that e-learning was most helpful in considering their special needs, and

wanting the service to be improved in future and mainly designed to meet those who have various special needs. Further research targeting this group is highly recommended, in the interests of achieving outcomes for the students besides the researcher.

Finally, as illustrated earlier, this study was developed in two phases. Phase One was conducted in 2008 and then analysed. At that time, e-learning was beginning to be introduced at SU and the main form of e-learning was through an LMS. Due to family problems and long-term illness, the researcher decided withdraw from the study. On resumption, much seemed to have changed and the researcher was advised to revisit the research in order to address current use of e-learning in a second phase. It was never the research intention to conduct direct comparisons between these two phases, given that different people were involved and thus any differences that may be apparent in the findings may not in any way suggest an improving or deteriorating situation. Nonetheless, comparisons might be necessary regarding change in particular perceptions, values or responses over time. By clarifying this area, research would highlight how this type of study across time addresses continuous improvement and educational change in practice. Conducting this type of research in a designed longitudinal research models or through cross-sectional studies would help to present more accurate comparison outcomes and present educational change across time in more detail, enhancing future continuous improvement.

References and Bibliography

Abalhassan, K.M. (2007). *Higher Education in Saudi Arabia*. Center for Publication & Translation. Riyadh: Ministry of Higher Education.

Abercrombie, N., Hill, S. & Turner, B. S. (1994). *The Penguin Dictionary of Sociology* (3rd edn). London: Penguin, 1994.

Al-Amoudi. (2005). Development of teaching at King Fahd University of petroleum and minerals using e-learning. King Abdul-Aziz University, Workshop on the effective use of technology.

Alamthal Team (2005). *Alamthal for improving E-learning and Distance learning in Saudi Arabia*. Riyadh: Saudi Arabia Ministry of Higher Education (in Arabic).

Albalawi, M.S. (2007). Critical factors related to the implementation of web-based instruction by the higher education faculties at three universities in the Kingdom of Saudi Arabia. Doctor of Education thesis, University of West Florida.

Al-Dosari, H. (2011). Faculty members and students perceptions of e-learning in the English Department: A project evaluation. *Journal of Social Sciences, 7*(3), 391–407.

Alebaikan, R. A. (2010). Perceptions of blended learning in Saudi universities, Doctor of Philosophy thesis. University of Exeter.

Alebaikan, R. & Troudi, S. (2010). Blended learning in Saudi universities: Challenges and perspectives. *Research in Learning Technology*, 18(1), 49–59.

Algahtani, A. (2011). 'Evaluating the effectiveness of the e-learning experience in some universities in Saudi Arabia from male students perceptions. Doctoral thesis, University of Durham.

Al-Gurney, A. S. (1999). *Higher Education in the Kingdom of Saudi Arabia: Accomplishments and challenges*. Riyadh: King Saud University's Publication.

Al-Hejji, A. (2003). Challenges face the implementation of e-learning in the Arab universities. *Al-marefah*, 91, 63–44 (in Arabic).

Al-Lehibi, M. & Al-Ali, A. (2004). Availability of information through the electronic information sources. *Journal of King Fahd National Library*, 10(1), 1–27.

Ali, A. & Elfessi, A. 2004. Examining students' performance and attitudes towards the use of information technology in a virtual and conventional setting. *Journal of Interactive Online Learning*, 2, 1–9.

Al-Jarf, R. S. (2007). *E-integration Challenges for Rectors and Deans in Higher Education Institutions in Saudi Arabia.* Canada: ACTA.

Alkalifah, H. 2008. From e-learning management to personal learning environments. E-learning conference, May, King Faisal School, Riyadh, Saudi Arabia.

Al-Kahtani, N.K. et al. (2006). How Saudi female faculty perceive Internet technology usage and potential. *Information, Knowledge, Systems Management 5*(4), 227-243.

Allen, I.E. & Seaman, J. (2007). *Online Nation: Five years of growth in online learning.* Needham, MASS.: Sloan Consortium.

Almalki, A.M. (2011). Blended learning in higher education in Saudi Arabia: A study of Umm Al-Qura University. RMIT University. PhD thesis, King Abdulaziz University/Monash University [accessed 28/11/2014 at http://researchbank.rmit.edu.au/eserv/rmit:14613/Almalki.pdf]

Almosa, A. 2002. *Use of Computers in Education.* Riyadh: Future Education Library.

Alqahtani, A. A. (2010). The effectiveness of using e-learning, blended learning and traditional learning on students' achievement and attitudes in a course on Islamic culture: An experimental study. Thesis, Durham University.

Alqurashi, F. 2009. *E-Learning in EFL: Problems and solutions*. Makkah: Umm Al-Qura University.

Al-Salem, S. (2004). The universities libraries in the Kingdom of Saudi Arabia. *Journal of National Library of King Fahd*, 5, 5–39.

Alshmrany, S. (2012). Evaluating IT use in Saudi secondary schools, to suggest appropriate strategies for improving IT use in education. Master of Information Technology thesis, Flinders University, Adelaide, Australia.

Andrews, R. (2004). *The Impact of ICT on Literacy Education*. London: Routledge Falmer.

Arabasz, P., Pirani, J.A. & Fawcett, D. (2003). *Supporting E-learning in Higher Education*. Educause Center for Applied Research.

Ardito, C., Costabile, M., Marsico, M., Lanzilotti, R., Levialdi, S., Roselli, T. & Rossano, V. (2006). An approach to usability evaluation of e-learning applications. *Universal Access in the Information Society*, 4, 270–283.

Babbie, E. (1998). *The Practice of Social Research.* Belmont, C.A. Wadsworth.

Badge, J. L., Cann, A.J. & Scott, J. (2005). E-learning versus e-teaching: Seeing the pedagogic wood for the technological trees. *Bioscience Education E-Journal*, 5.

Balnaves, M. & Caputi, P. (2001). *Introduction to Quantitative Research Methods: An investigative approach.* London: Sage.

Barker, P. (2002). On being an online tutor. *Innovations in Education and Teaching International*, 39, 3–13.

Barnett, R. (1992). *Improving Higher Education: Total quality care*, Buckingham, England: Society for Research into Higher Education/Open University Press.

Bates, A. (2005). *Technology, E-learning and Distance Education.* Routledge Falmer.

Belawati, T. (2005). The impact of online tutorials on course completion rates and student achievement. *Learning, Media and Technology*, 30(1), 15–25.

Benz, C.R. & I. Newman (2008). *Mixed Methods Research: Exploring the interactive continuum.* Carbondale, IL: SIU Press.

Betts, K. (1998). Factors influencing faculty participation in distance education in postsecondary education in the United States: An institutional study. Dissertation Abstracts International: UMI No. 9900013.

Biggs, J.B. & P.J. Moore (1993). *The Process of Learning*. Englewood Cliffs NJ: Prentice Hall.

Bloor, M. et al. (2001). *Focus Groups in Social Research*. London: Sage.

Boeree, C.G. (1998). *Albert Bandura.* Retrieved July 2006 from: http://www.social-psychology.de/do/PT_bandura.pdf.

Bok, D. (2003). *Universities in the Marketplace: The commercialization of higher education*. Princeton University Press.

Bokahhos, K (2005). *Distance Learning: Between theory and practise.* Kuwait: Supreme Council of the Cooperation Council of the Arab States of the Gulf (in Arabic).

Bonk, C.J. & C.R. Graham (2006). *The Handbook of Blended Learning: Global perspectives, local designs.* San Francisco: Pfeiffer.

Bonwell, C.C. & Eison, J.A. (1991). Active learning: Creating excitement in the classroom. ERIC Digest. ASHE-ERIC Higher Education Reports, George Washington University.

Bosco, A. (2007). Evainu research: New virtual learning environments for educational innovation at university. *Journal of Cases on Information Technology,* 9, 49–60.

Bosom, A., et al. (2007). Excellence in virtual education: The tutor online approach. *Journal of Cases on Information Technology,* 9(2), 61–74.

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology,* 3, 77–101.

British Colombia Ministry of Education (BCME) (2000). *Education Technology Initiatives Grades 6–9 ICT integration: Supporting students, teachers, parents and administrators.* Retrieved 29 January 2007 from: http://www.bced.gov.bc.ca/technology/policyandguidelines.pdf.

Bruner, J.S. (1960). *The Process of Education* (rev. edn). Harvard University Press.

Bryman, A. (2008). *Social Research Methods* (3rd edn). Oxford University Press.

Burton, J.K. et al. (1996). Behaviorism and instructional technology. In: D.H. Jonassen (Ed.), *Handbook of Research for Educational Communications and Technology*, pp.46–73. New York: Macmillan.

Chappell, C. (2001). *The Nature of Quantitative Research* [accessed 12/5/2007 at: www.gsu.edu]

Cheney, C. (1993). Behaviorism: An overview of social science. In F.N. Magill (Ed.), *Survey of* Social Science: *Psychology Series*, pp.401-–407. Pasadena, CA: Salem.

Chinn, M.D. & Fairlie, R.W. (2006). *ICT Use in the Developing World: An Analysis of Differences in Computer and Internet Penetration.* NBPLR Working Paper 12382, National Bureau of Economic Research.

Clark, R. C. & Mayer, R. E. (2002). *E-learning and the Science of Instruction: Proven guidelines for consumers and designers of multimedia learning.* San Francisco: Pfeiffer.

Clark, R.C. & Mayer, E. (2011). *E-learning and the Science of Instruction: Proven guidelines for consumers and designers of multimedia learning*. San Francisco: Wiley.

Clarke, A. (2004). *E-learning Skills*. Basingstoke: Palgrave Macmillan.

Cohen, L., Manion, L. & Morrison, K. (2000). *Research Methods in Education* (5th edn). London: Routledge Falmer.

Cohen, L., Manion, L. & Morrison, K. (2003). *Research Methods in Education* (5th edn). London: Routledge Falmer.

Cohen, L., Manion, L. & Morrison, K. (2007). *Research Methods in Education* (6th edn). London: Routledge Falmer.

Colbran, S. & Al-Ghreimil, N. (2013). The role of information technology in supporting quality teaching and learning. In L. Smith & A. Abouammoh, *Higher Education in Saudi Arabia*, pp.151–158. Netherlands: Springer.

Conole, G. & Oliver, M. (2007). *Contemporary Perspective in E-Learning Research: Themes, methods and impact on practice.* Taylor & Francis Group.

Conole, G. et al. (2006) An in-depth case study of students' experiences of e-learning–how is learning changing. *Australian Society for Computers in Learning in Tertiary Education* (ASCILITE Conference, December, Sydney, Australia.

Conole, G. et al. (2008). 'Disruptive technologies', 'pedagogical innovation': What's new? Findings from an in-depth study of students' use and perception of technology. *Computers & Education*, 50(2), 511–524.

Conole, G., de Laat, M., Dillon, T. & Darby, J. (2006). JISC LXP Student experiences of technologies. Final report. Higher Education Funding Council for England.

Corbetta, P. (2003). *Social Research Theory, Methods, and Techniques*. London: Sage.

Creanor, L., Trinder, K., Gowan, D. & Howells, C. (2006). LEX: The Learning Experience Project. Final report of the JISC-funded LEX project. Glasgow: Glasgow Caledonian University.

Creswell, J. (2003). *Research Design: Qualitative and quantitative, and mixed methods approach*. London: Sage.

Creswell, J.W. & Plano Clark, L.V (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks, CA: Sage.

Creswell, J.W. (2003). *Research Design: Qualitative, quantitative, and mixed methods approaches* (2nd edn). London: Sage.

Cuban, L. (2001). *Oversold and Underused: Computers in the classroom*. Harvard University Press.

Davis, F.D. (1993). User acceptance of information technology: System characteristics, user perceptions and behavioral impacts. *International Journal of Man-Machine Studies*, 38, 475–487.

De Vaus, D. (2002). *Surveys in Social Research* (5th edn). London: Routledge.

Dillon, A. & Morris, M.G. (1996). User acceptance of information technology: Theories and models. *Annual Review of Information Science and Technology*, 31, 3–32.

Dimitrova, A.M. et al. (2003). Addressing learner diversity by promoting flexibility in e-learning environments. 14th International Workshop on Database and Expert Systems Applications (DEXA) Proceedings, May, Prague.

E-Learning and Training Center (2007). E-learning webpage, King Khalid University [accessed 16/3/2007 at: www.kku.edu.sa/ELearning]

Espejo, B., Mana, M. & Bato, S. (2003). Current issues and trends of internet-based education in Philippines. In Fawzi Albalooshi, *Virtual Education: Cases in learning & teaching technologies*. London: IRM Press.

Fayed, I. et al. (2013). Exploring the impact of using tablet devices in enhancing students listening and speaking skills in tertiary education. *QScience Proceedings* (12th World Conference on Mobile and Contextual Learning mLearn).

Fee, K. (2009). *Delivering E-learning: A complete strategy for design application and assessment.* London: Kogan Page.

Fontana, A. & J.H. Frey (1998). The art of science. In N. Denzin & Y. Lincoln. *Handbook of Qualitative Research*, pp.361–377. London: Sage.

Fullan, M. (2007). *The New Meaning of Educational Change.* New York: Routledge.

Glaze, J. (2002). PhD study and the use of a reflective diary: A dialogue with self. *Reflective Practice, 3*(2), 153–166.

Glenn, A. (2002). *Emergency of Technology Standards for Preservice Teacher Education* [Online]. North Central Regional Educational Laboratory [accessed 16/5/2007 at http://www.ncrel.org/tech/standard]

Gorard, S. (2001). *Quantitative Methods in Educational Research: The role of numbers made easy.* London: Continuum.

Granger, C.A., Morbey, M.L., Lotherington, H., Owston, R. & Wideman, H. (2002). Factors contributing to teachers' successful implementation of IT. *Journal of Computer Assisted Learning*, 18, 480–488.

Greenbaum, T.L. (1998). *The Handbook for Focus Group Research.* Thousand Oaks, CA: Sage.

Greene, J.C. et al. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, 11(3), 255–274.

Greenfield, T. (1996). *Research Methods: Guidance for postgraduates.* London: Arnold.

Guri-Rosenblit, S. (2005). Distance education and 'e-learning': Not the same thing. *Higher Education*, 49, 467–493.

Hammersley, M. (Ed.) (1993). *Social Research Philosophy, Politics, and Practice*. London: Sage.

Harrison, B. 1997. Hardware/software to support distance learning classes. Proceedings of the 1997 Mid-South Instructional Technology Conference, April, Murfreesboro, TN.

Haughey, M. (2002). Canadian research on information and communications technologies: A state of the field. Paper presented at the 2002 Pan-Canadian Education Research Agenda Symposium: Information Technology and Learning, Sponsored by the Canadian Education Statistics Council, April/May, Montreal, Canada.

Hargreaves, A. Liebermann, A., Fullan, M. & Hopkins, D. (2010). *Second International Handbook of Educational Change.* Dordrecht: Springer.

Henn, M., Weinstein, M. & Foard, N. (2006). *A Short Introduction to Social Research.* London: Sage.

Hittleman, D.R. & Simon, J.A. (2002). *Interpreting Educational Research: An introduction for consumers of research* (2nd edn). New York: Prentice Hall.

Hoinville, G. & Jowell, R. (1978). *Survey Research Practice*. London: Heinemann Educational.

Holmes, B. & Gardner, J. (2006). *E-learning: Concepts and practice*. London: Sage.

Hyder, K., Kwinn, A., Miazga, R. & Murray, M. (2007). *The eLearning Guild's Handbook on Synchronous e-Learning: How to design, produce, lead, and promote successful learning events, live and online*. Santa Rosa, CA: eLearning Guild.

Imamoglu, S.Z. (2007). An empirical analysis concerning the user acceptance of e-learning. *Journal of American Academy of Business,* 11, 132–137.

Iqbal, S. M. (1983). *Education System in Saudi Arabia*. Kashmir: S.M. Iqbal.

Jochems, W., Van Merrienboer, J. & Koper, R. (2004). *Integrated E-Learning: Implications for pedagogy, technology and organization*. London: Routledge Farmer.

Johnson, B. & Christensen, L.B. (2004). Educational research: Quantitative, qualitative, and mixed approaches. Boston: Allyn and Bacon.

Johnson, R.B. & Onwuegbuzie, A.J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher,* 33, 14–26.

Jonassen, D. et al. (1995). Constructivism and computer-mediated communication in distance education. *American Journal of Distance Education,* 9(2), 7–26.

Jordan, S. (2000). Educational input and patient outcomes: Exploring the gap. *Journal of Advanced Nursing,* 31(2), 461–471.

Keller, C. & Cernerud, L. (2002). Students' perceptions of e-learning in university Education. *Journal of Educational Media,* 27, 55–67.

King, M., & Coates, D. (2000). University students' expectations of teaching. *Studies in Higher Education,* 25(3), 309–323.

King Khalid University Annual Report (2011) Abha, Saudi Arabia [accessed 11/4/2011 at: www.kkk.edu.sa]

Kirkwood, A. & Price, L. (2005). Learners and learning in the twenty-first century: What do we know about students' attitudes towards and experiences of

information and communication technologies that will help us design courses? *Studies in Higher Education*, 30(3), 257–274.

Knowledge and Learning Systems Group (2000*). E-learning – A review of literature.* Knowledge and Learning Systems Group, University of Illinois [accessed 28/11/2015 at: http://www.nottingham.ac.uk/~ntzcl1/literature/elearning/elearn-litrev.pdf]

Koper, R. (2004). Learning technologies in e-learning: An integrated domain model. In W. Jochems, J. van Merrienboer & R. Koper (Eds), *Integrated E-learning*:*Implications for Pedagogy, Technology* and *Organization* (pp. 187-198). London: RoutledgeFalmer.

Krueger, R.A. & Casey, M.A. (2000). *Focus Groups: A practical guide for applied research* (3rd edn). Thousand Oaks, CA: Sage.

Lankshear, C. & Knobel, M. (2003). *New Literacies*. Maidenhead: Open University Press.

Larsen, K. & Vincent-Lancrin, S. (2005). *ICT in Tertiary Education: An assessment of the promises, realities and challenges of e-learning.* Available at: http://advancingknowledge.groups.si.umich.edu/abstracts.htm.

Laurillard, D. (2002). *Rethinking University Teaching. A conversational framework for the effective use of learning technologies* (2nd edn). London: Routledge Falmer.

Laurillard, D. (2006). E-learning in higher education. In P. Ashwin (Ed.), *Changing Higher Education: The development of learning and teaching*, pp. 71–84. Oxford: Routledge.

Lehmann, K. J. 2004. *How to Be a Great Online Teacher*. New York: Scarecrow Education.

Leonard, J. & Guha, S. (2001). Education at the crossroads: Online teaching and students' perspectives on distance learning. *Journal of Research on Technology in Education*, 34, 51–58.

Levine, A. & Sun, J.C. (2002). *Barriers to Distance Education.* Washington, DC: American Council on Education.

Lewis, C. (2002). Driving factors for e-learning: An organisational perspective. *Perspectives: Policy & Practice in Higher Education*, 6(2), 50–54.

Liu, S.-H., Liao, H. & Peng, C. (2005). Applying the technology acceptance model and flow theory to online e-learning users'acceptance behavior. *E-learning,* 4(H6), H8.

MacDonald, C. et al. (2005). Addressing the eLearning contradiction: A collaborative approach for developing a conceptual framework learning object. *Interdisciplinary Journal of E-Learning and Learning Objects,* 1*(*1), 79–98.

Maltz, L. & Deblois, P.D. (2005). Top-ten IT issues, 2005. *Educause Review*, 40, 15–16.

Martínez, R.-A., Miláns del Bosch, M., Henar Pérez Herrero, M. & Sampedro Nuño, A. (2007). Psychopedagogical components and processes in e-learning. Lessons from an unsuccessful on-line course. *Computers in Human Behavior*, 23(1), 146–161. doi:10.1016/j.chb.2004.04.002

Martínez, R.A., Miláns Del Bosch, M., Henar Pérez Herrero, M. & Sampedro Nuño, A. (2007). Psychopedagogical components and processes in e-learning. Lessons from an unsuccessful on-line course. *Computers in Human Behavior*, 23, 146–161.

Marton, F. & Booth, S. (1997). *Learning and Awareness*. Mahwah, NJ: Lawrence Erlbaum.

Mason, J. (2002). *Qualitative Researching*. London: Sage.

Masrom, M. (2007). Technology acceptance model and e-learning. In Proceedings of the 12th International Conference on Education, May, Brunei Darussalam, Universiti Brunei Darussalam, 1–10.

McCormack, C. & Jones, D. (1997). *Building a Web-Based Education System*. New York: John Wiley.

McCullough, D. (1997). *Quantitative vs Qualitative Marketing Research*. Available at: http://www.macroinc.com/articles/

McQueen, R. & Knussen, C. (1999). *Research Methods in Psychology*. Wiltshire: Prentice Hall.

Mertens, D.M. & McLaughlin, J.A. (2004). *Research and Evaluation Methods in Special Education.* Thousand Oaks, CA: Corwin.

Miers, M. et al. (2007). Online interprofessional learning: The student experience. *Journal of Interprofessional Care*, 21(5), 529–542.

Ministry of Economy and Planning, Saudi Arabia. (2012). Website. Available at: http://www.mep.gov.sa

Ministry of Higher Education (MOHE) (2010). *Plans and Initiatives of Higher Education to Achieve Excellence in Science and Technology*. Riyadh: Ministry of Higher Education, available at: http://www.mohe.gov.sa/ar/Ministry/Deputy-Ministry-for-Planning-and-Information-affairs/The-General-Administration-of-Planning/Documents/plans_to_achieve_excellence.pdf?AspxAutoDetectCookieSupport=1

Mitchell, E., Ryan, A., Carson, O. & McCain, S. (2007). An exploratory study of web-enhanced learning in undergraduate nurse education. *Journal of Clinical Nursing*, 16, 2287–96.

Moore, M.G. & Kearsley, G. (1996). *Distance Education: A systems view*. Belmont, CA: Wadsworth.

Moore, G.S., Winograd, K. & Lange, D. (2001). *You Can Teach Online*. Boston, MA: McGraw-Hill Higher Education.

Morgan, D.L. (1998). *The Focus Group Guidebook*. Thousand Oaks, CA: Sage.

Muijs, D. (2004). *Doing Quantitative Research in Education with SPSS*. London: Sage.

Nachmias, C. & Nachmias, D. (1996). *Research Methods in the Social Sciences*. New York: St. Martin's.

Nanayakkara, C. & Whiddett, R.J. (2005). A model of user acceptance of e-learning technologies: A case study of a polytechnic in New Zealand. ISTA Conference, May, Palmerston North. NZ.

Nardi, P. M. (2006). *Doing Survey Research: A guide to quantitative methods.* Boston: Pearson/Allyn & Bacon.

Newble, D. & Cannon, R.N.D. (2000). *A Handbook for Medical Teachers.* New York: Kluwer Academic.

Newland, B. et al. (2006). Academic experiences of using VLEs: Overarching lessons for preparing and supporting staff. In: J. O'Donaghue (Ed.), *Technology Supported Teaching and Learning: A staff perspective* (pp.34–50). London: Information Science Publishing.

Nomnian, S. (2008). Position in multilanguage classrooms. A case study of Thai students in British universities. Unpublished PhD thesis, Leicester University, UK.

Nunnally, Jum C. (1978). *Psychometric Theory* (2nd edn). New York: McGraw-Hill.

Oblinger, D., Barone, C.A. & Hawkins, B.L. (2001). *Distributed Education and its Challenges: An overview*. Washington, DC: American Council on Education.

O'Donoghue, J. (2006). *Technology Supported Learning and Teaching: A Staff Perspective*. London: Information Science Publishing.

Oliver, M. (2000). An introduction to the evaluation of learning technology. *Educational Technology & Society*, 3, 20–30.

Oliver, M., Conole, G., Cook, J., Ravenscroft, A. & Currier, S. (2002). Multiple perspectives and theoretical dialogue in learning technology. ASCILITE 2003 Conference, Auckland NZ.

Oppenheim, A.N. (1994). *Questionnaire Design, Interviewing and Attitude. Measurement.* London: Pinter.

Organisation for Economic Co-Operation and Development (OECD). (2005). *E-Learning in Tertiary Education: Where Do We Stand?* Paris: OECD.

Ossiannilsson, E. & Landgren, L. (2011). Quality in e-learning – A conceptual framework based on experiences from three international benchmarking projects. *Journal of Computer Assisted Learning*, 28(1), 42–51.

Oyaid, A.A. (2009). Education policy in Saudi Arabia and its relation to secondary school teachers' ICT use, perceptions, and views of the future of ICT in education. Doctor of Philosophy in Education thesis, University of Exeter, UK.

Pallant, J. (2005). *Survival Manual: A step-by-step guide to data analysis using SPSS for Windows* (3rd edn). Maidenhead: Open University Press.

Park, S. Y. (2009). An analysis of the technology acceptance model in understanding university students' behavioral intention to use e-learning. *Educational Technology & Society*, 12(3), 150–162.

Parker, A. & Tritter, J. (2006). Focus group method and methodology: Current practice and recent debate. *International Journal of Research & Method in Education*, 29(1), 23–37.

Patton, M.Q. (2000). *Qualitative Evaluation and Research Methods* (3rd edn). Newbury Park, CA: Sage.

Piaget, J. (1950). *The Psychology of Intelligence.* London: Routledge & Kegan Paul.

Porter, L.R. (2004). *Developing an Online Curriculum: Technologies and techniques.* Hersey, PA: Information Science Pub.

Pugsley, L. (1996). Focus groups, young people and sex education. In J. Pilcher & A. Coffey (Eds), *Gender and Qualitative Research* (pp.114–130). Aldershot: Averbury Press.

Punnoose, A. (2012). Determinants of intention to use e-learning based on the technology acceptance model. *Journal of Information Technology Education: Research*, 11(1), 301–337.

Reid, D. & Johnston, M. (1999). Improving teaching in higher education: Student and teacher perspectives. *Educational Studies*, 25, 269–281.

Reksten, L.E. (2000). *Using Technology to Increase Student Learning.* Thousand Oaks, CA: Sage.

Rennie, F. & Morrison, T. M. (2013). *E-learning and Social Networking Handbook: Resources for higher education*. New York: Routledge.

Richardson, J.A. & Turner, A. (2000). A large-scale 'local' evaluation of students' learning experiences using virtual learning environments. *Educational Technology and Society*, 3, 1–24.

Richardson, J.T.E. (1996). *Handbook of Qualitative Research Methods for Psychology and the Social Sciences*. Chichester, UK: WileyBlackwell.

Robson, C. (2002). *Real World Research: A Resource for Social Scientists and Practitioner-Researchers*. Chichester: Wiley.

Romero, C., Ventura, S. & García, E. (2008). Data mining in course management systems: Moodle case study and tutorial. *Computers & Education*, 51, 368–384.

Rooney, J. (2006). Blended Learning Opportunities to Enhance Educational Programming and Meetings. In: J. Curtis Bonk (Eds), *The Handbook of Blended Learning: Global perspectives, local designs.* San Francisco: Pfeiffer.

Rubin, H.J. & Rubin, S. (1995). *Qualitative Interviewing: The art of hearing data.* London: Sage.

Sahab, S. (2005). Starting e-learning program at King Abdul-Aziz University in Saudi Arabia. World Conference on Educational Multimedia, Hypermedia and Telecommunications, June, Montreal.

Salant, P. & Dillman, D.A. (1994). *How to Conduct your Own Survey*. New York: Wiley.

Salmon, G. (2004). *E-moderating: The key to teaching and learning online*, Routledge Falmer.

Sarantakos, S. (2005). *Social Research* (3rd edn). Houndmills: Palgrave Macmillan.

Savery, J.R. & Duffy, T.M. (1995). Problem based learning: An instructional model and its constructivist framework. *Educational Technology*, 35, 31–38.

Schlusmans, K., Kober, R. & Giebertz, W. (2004). Learning technology in e-learning: An integrated domain model. In W.M. Jochems & R. Kober. *Integrated E-learning*. London: Routledge Falmer.

Schroeder, A. et al. (2010). The strengths, weaknesses, opportunities and threats of using social software in higher and further education teaching and learning. *Journal of Computer Assisted Learning*, 26(3), 159–174.

Sharpe, R. et al. (2005). *Scoping Study for the Pedagogy Strand of the JISC e-Learning Programme*. Final Report, Available from: www.jisc.ac.uk/uploaded_documents/scoping%20study %20final%20report%20v 4.1.doc

Song, L. et al. (2004). Improving online learning: Student perceptions of useful and challenging characteristics. *The Internet and Higher Education 7*(1), 59–70.

Smith, J., Harre, R. & Van Langenhove, L. (1999). *Rethinking Methods in Psychology*. London: Sage.

Social Science: Psychology, pp.2304–2310. Pasadena, CA: Salem Press.Yamani, H. (2006). Electronic learning to face challenges of Saudi higher education in the light of requests of the technology age. MA thesis (in Arabic), Umm Al-Qura University, Saudi Arabia.

Squire, L.R. (1992). *Encyclopaedia of Learning and Memory*. New York: Macmillan.

Stone, L. (1998). *Overview of Mediated Instruction.* Available at: http://nursing.umaryland.edu/~tstone/nurs708/coursework/chap10.htm.

Supreme Council of the Cooperation Council of the Arab States of the Gulf. (2000). *The Closing Statement of the 21st Session* [Online]. The State of Bahrain – Manama. Available at: http://www.gcc-sg.org/eng/index0334.html?action=Sec-Show&ID=123

Supreme Council of the Cooperation Council of the Arab States of the Gulf. (2002). *The Closing Statement of the 23rd Session* [Online]. The State of Qatar – Doha. Available at: http://www.gcc-sg.org/eng/index2ba6.html?action=Sec-Show&ID=125.

Tashakkori, A. & Teddlie, C. (2003). *Mixed Methodology: Combining qualitative and quantitative approaches.* Thousand Oaks, CA: Sage.

Task Force on Higher Education and Society. (2000). Available at: http://www.tfhe.net/

Taylor, R.W. (2002). Pros and cons of online learning – A faculty perspective. *Journal of European Industrial Training*, 26, 24–37.

Todd, Z. et al. (2004). *Mixing Methods in Psychology: The integration of qualitative and quantitative methods in theory and practice.* Hove & New York: Psychology Press.

Ungerleider, C. & Burns, T. (2002). Information and communication technologies in elementary and secondary education: A state of the art review. Paper presented to the Pan Canadian Research Symposium, Montreal, April/May.

Van Der Klink, M. & Jochems, W. (2004). Management and organization of integrated e-learning. In: W. Jochems, J. Van Merriënboer & R. Koper (Eds), *Integrated E-learning: Implications for pedagogy, technology & organization*, pp.151–63. London/New York: RoutledgeFalmer.

Walker, R. (1985). *Doing Research.* London: Routledge.

Watson, D. (2006). Understanding the relationship between ICT and education means exploring innovation and change. *Education and Information Technologies,* 11, 199–216.

Wentling, T.L., Waight, C., Gallaher, J., La Fleur, J., Wang, C. & Kanfer, A. (2000). *E-Learning – A review of literature.* Available at: http://learning.ncsa.uiuc.edu/papers/elearnlit.pdf.

White, S. (1999). Using information technology for teaching and learning. In: H. Fry, S. Kettridge & S. Marshal, *A Handbook for Teaching & Learning in Higher Education*. London: Kogan Page.

Wulfert, E. (1993). Social learning theory: Albert Bandura. In F.N. Magill (Ed.), *Survey of Social Science: Psychology*, pp.2304–2310. Pasadena, CA: Salem Press.

Yiong, B., Sam, H. & Wah, T. (2008). Acceptance of e-learning among distance learners: A Malaysian perspective. Proceedings: ASCILITE Conference, Melbourne. [accessed 28/11/2014 at: http://www.ascilite.org.au/conferences/melbourne08/procs/lim.pdf]

Appendixes

Appendix A

Students' Questionnaire

Improving teaching and learning in higher education through the use of e-learning, from the perspectives of university teachers and students. Mixed methods research in one of the southern universities of Saudi Arabia.

Information Sheet

Dear Participant,

I am currently studying for a PhD (Doctor of Philosophy) at the University of Southampton, UK. My thesis focuses on improving teaching and learning in higher education, through the use of e-learning, from the perspectives of university teachers and students. Please find attached a questionnaire designed by the researcher who would be very grateful if you would kindly participate by completing the questionnaire and returning it to the researcher by mail or by hand. Highlighted below are points regarding this research questionnaire:

- This questionnaire is designed to gather information about your learning experience through the use of e-learning developed under the university's e-learning programme.
- It is anticipated that the form should take you no more than 25 minutes to complete.
- As a participant, if you agree to participate by completing this questionnaire, you will be asked to outline your learning experiences and the factors that challenge your learning in the online environment, and your suggested solutions to overcome successfully any problems you have encountered and to improve the e-learning programme in the future.
- The information gathered will be treated confidentially and will not be used to identify you personally.
- In your university, e-learning courses are mainly delivered by a Learning Management System (LMS) platform called "Blackboard", so your experience will mainly concern the use of that platform.
- I would really appreciate you participating and completing this questionnaire.
- If you have any comments or questions then please do not hesitate to email the researcher at: ialasmari@yahoo.co.uk, or you may email either of the supervisors of this student research, namely: Dr Gary Kinchin at: G.D.Kinchin@soton.ac.uk,
- or Dr Jane Seale at: j.k.seale@soton.ac.uk.

Thank you,

Ibrahim Alasmari.

PhD student

School of Education, University of Southampton, United Kingdom

Postal address:

- In Saudi Arabia: P.O. Box: 1619, Abha, Saudi Arabia.
- In the United Kingdom: 2 Quintilis Mews, Southampton, SO16 5LN, UK.

Improving teaching and learning in higher education through the use of e-learning, from the perspectives of university teachers and students. Mixed methods research in one of the southern universities of Saudi Arabia.

Student Consent Form

I have read the information sheet and had the opportunity to ask questions about the project.	YES / NO
I understand that my contribution to the project will be anonymised and my name will not be associated with my contribution in any way.	YES / NO
I have read and understood this description of the study and agree to participate in the study.	YES / NO
I understand that I have the right to withdraw from the project at any time and at any stage of this project without penalty.	YES / NO
With my signature, I confirm that I am at least 18 years of age and have received a copy of the Consent Form to keep.	YES / NO

Signed: ……Date: ……..

Name (in block letters): ……..……

Signed (Project co-ordinator):……..……

Date: ……

Name (in block letters): ……..……

Please return to Ibrahim Alasmari by post in Saudi Arabia: P.O. Box: 1619, Abha, Saudi Arabia; or by email after signing the form and scanning it to: ialasmari@yahoo.co.uk.

Student Questionnaire

PART ONE: Baseline data

- This part gathers data related to your learning background, prior knowledge and experiences and your current use of e-learning materials.
- In response to each of the following questions, please tick the appropriate answer or fill in the blank spaces.

Question 1: Please indicate the college in which you are enrolled (circle the letter that applies):

A) College of Science	B) College of Medicine
C) College of Medical Sciences	D) Other (please state its name): ……..……

Question 2: please indicate your age:

A) 18 to less than 20	B) 20 to less than 22	C) 22 to less than 24
D) 24 to less than 26	E) Greater than or equal to 26	

Question 3: What is/are the e-learning unit(s) that you are currently enrolled on?

A) 114 Salam	B) 202 Arab	C) Both

Question 4: Have you attended training programmes for ICT or e-learning? (If yes, please complete 4.1, 4.2 and 4.3)

A) Yes	B) No

4.1 If yes, what types of programmes?

A) Course	B) Workshop	C) Both	D) Other (please state its name) ……..

4.2 Where did you receive the training? (Tick all that apply)

A) School	B) University	C) Private organization
D) Other (please specify) ……..…		

4.3 What was the training for? (Tick all that apply)

A) Use of a personal computer (PC)	B) Use of e-learning
C) Other (please specify) ……..……..…	

Question 5:

How would you describe your:	Very Good	Good	Satisfactory	Novice
5.1 General level of computer experience?				
5.2 Use of the Internet?				
5.3 Use of email?				
5.4 Use of the LMS (Learning Management System)?				

Question 6:

I can access a computer:	Yes	No
6.1 At home		
6.2 At the university		
6.3 Elsewhere (please specify) …….		

Question 7:

I can access the Internet:	Yes	No
7.1 At home		
7.2 At the university		
7.3 Elsewhere (please specify) …….		

Question 8: How often do you use a computer? (Please circle the letter that best applies):

A) Almost every day	B) A few times each week
C) Between once a week and once a month	D) Never

Question 9:

In the e-learning course:	Regularly	occasionally	never
9.1 I have used the LMS to access information that I need for the course.			
9.2 I have used the resources available on the LMS to develop my understanding of the subject.			
9.3 I have used email to contact the lecturer.			
9.4 I have used email to communicate with a student in the same unit.			
9.5 I have used the discussion forum.			
9.6 I have used the Web to find alternative sources of information.			
9.7 I have used the LMS to do a learning task.			
9.8 I have used the LMS to live chat with the lecturer.			
9.9 I have used the LMS to live chat with other students.			
9.10 I have used the LMS management tools (e.g. calendar, note, study organizer etc.).			

PART TWO:

Question 10:

This part gathers data related to your perceptions of the e-learning course(s) that you have taken or are taking. These include the way that you learn, the factors that motivate you to use e-learning tools, any disadvantages that inhibit you from using e-learning, your perceptions of the online course materials, content and instruction, your assessment of your level of learning and achievement in the online environment, and your experience of interactions with teachers or other students enrolled on the course.

- For each of the following points, please tick the appropriate answer.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
10.1 The aims and objectives of the course are clear.					
10.2 I know exactly what I need to do in each section.					
10.3 The content is at an appropriate level.					
10.4 The course content is well-structured.					
10.5 The material and resources are sensibly structured.					
10.6 The course succeeds in promoting online communication between students.					
10.7 I would prefer to have the materials available on CD.					
10.8 It is easy to find help regarding the course information online.					
10.9 The appearance (graphics, layout) is clear and helpful.					

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
10.10 By using e-learning, students can go over the material as many times as they want.					
10.11 I find reading comments on the computer screen difficult.					
10.12 I need a lot of help to use the system.					
10.13 I think this type of learning will be used more and more in the future.					
10.14 I would like to see more of these courses in the future.					
10.15 The material is enjoyable.					
10.16 The material is easy to understand.					
10.17 I feel the learning outcomes of this course were met.					
10.18 This course save me the cost of travelling to attend face-to-face sessions.					
10.19 My computer skills are not enough to help me to cope with these types of courses.					
10.20 The induction programme is very important.					
10.21 I consider the induction programme was well-organised.					
10.22 The teachers are familiar with the LMS tools.					
10.23 The online activities are useful.					

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
10.24 I dislike using the LMS.					
10.25 Using the LMS increases my interest in the subject.					
10.26 I prefer to have photocopies rather than read materials on the LMS.					
10.27 The LMS is easy to use.					
10.28 Face-to-face contact with my tutor cannot be replaced by an online meeting.					
10.29 The LMS is most useful for revision help before the assessment period.					
10.30 The LMS helps me to become more independent as a learner.					
10.31 I think the LMS contributes positively to my learning.					
10.32 I achieve what I want to learn by using e-learning courses.					
10.33 I am satisfied with the responses of tutors to my study enquiries.					
10.34 I dislike e-learning courses because the time I spend on learning is greater than that spent learning by traditional methods.					
10.35 The low Internet speed inhibits me from using the e-learning course.					

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
10.36 It is easy to access the Internet at home.					
10.37 It is easy to access the Internet at the university.					
10.38 The LMS discussion forum encourages students to learn from each other.					
10.39 Through e-learning courses, students are in better contact with their tutor than in traditional classes.					
10.40 E-learning courses enable students to go beyond the information they might get in traditional classes.					
10.41 I find it easier to communicate in the LMS environment than in traditional classes.					
10.42 There is a lack of computing services and support at the university.					
10.43 There is not enough time to familiarise myself with the LMS.					
10.44 I am not allowed to use the Internet at home because of its cultural side-effects.					
10.45 It is not easy for the community that I live in to move and change easily to the e-learning age.					
10.46 I have been well prepared to take the e-learning course.					

Question 11: Other than the advantages that you may have highlighted in your answers to question number 10, what do you think are other advantages of e-learning? And would you like to expand or comment on any of your previous answers?

Question 12: Other than the challenges and disadvantages that you may have highlighted in your answers to question number 11, what do you think are other drawbacks of e-learning?

Question 13: Are there any other cultural issues related to the use of e-learning materials that you have not mentioned in response to question number 11?

PART THREE:

- This part gathers data related to your perceptions of the ways in which e-learning courses in your university could be improved in the future.
- For each of the following points, please tick the appropriate answer.

Question 14:

I think e-learning courses could be improved in this university and other universities (that have similar components, culture and background), in the future through:	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
14.1 Training students to use e-learning tools, resources and software effectively before the course.					
14.2 Pre-training and hiring professional teachers and tutors who can deliver e-learning effectively.					
14.3 Having an ongoing continuously improving training programme that provides both teachers and students with updated information in this field.					
14.4 Using up-to-date software that helps to present content in an attractive format.					
14.5 Improving the computing services and technical support.					

14.6 Disseminating e-learning culture to a wider audience outside the university, including parents and the community.					
14.7 Using different kinds of e-learning activities.					
14.8 Providing e-learning assessment.					
14.9 Using the LMS platform tools effectively.					
14.10 Focusing on designing and structuring the course to meet curriculum needs.					

Question 15:

Other than the suggestions that you may have highlighted in your answers to question number 14, do you have any additional comments, criticisms or suggestions for improving e-learning courses?

Thank you very much for taking the time to complete this questionnaire.

Appendix B

Student Focus Group Questions

Improving teaching and learning in higher education through the use of e-learning, from the perspectives of university teachers and students. Mixed methods research in one of the southern universities of Saudi Arabia.

Information Sheet

Dear Southern University student,

In an effort to improve the quality of teaching and learning in the education sector in general and in higher education in particular, many institutions in higher education have chosen to adopt e-learning for numerous reasons, such as flexibility, using mixed interactive multimedia, Internet research, low cost and so on. In the Saudi Arabian context, most universities have selected and introduced a learning management system (LMS) platform as a development of their e-learning course programmes.

As a doctoral student in the School of Education at the University of Southampton in the United Kingdom, my PhD thesis focuses on improving teaching and learning in higher education through the use of e-learning from the perspectives of university teachers and students. The aim of this study is to identify how e-learning is being implemented, the challenges teachers and students face when they use emerging technologies, and teachers' and students' suggestions for ways that e-learning courses could be improved in the future.

In keeping with the qualitative nature that shapes part of this study, three focus groups, with six to eight students in each, will be conducted to strengthen, illustrate, enhance,

validate, support and clarify the results of the student questionnaires that shape the quantitative part of this study. In this focus group, I am asking you to participate in group discussion to examine your experiences of e-learning courses. These include the way that you learn, the factors that motivate you to use e-learning tools, any disadvantages that inhibit you from using e-learning, your perceptions of online course materials, content and instruction, your assessment of your level of learning and achievement in the online environment, your experience of interaction with teachers or other students enrolled on the course, and finally your perceptions of the ways in which e-learning courses could be improved in your university the future.

. Highlighted below are points regarding this focus group:

- The questions in this focus group are designed to gather information about your learning experience through the use of e-learning as developed under the university's e-learning programme.
- It is anticipated that the focus group discussion may take around an hour and a half to complete.
- In your university, e-learning courses are mainly delivered by an LMS platform called "Blackboard", so your experience will mainly concern your use of that platform.

The focus group discussion will be recorded with a tape-recorder and transcribed so that data can be analysed. Audio-taping will ensure that no vital statements or ideas from participants are lost in transcription.

- The data obtained will be transposed into a computer file to be kept on the researcher's personal computer in a secure location, and will be destroyed after three years.
- It is believed that there are no risks associated with participation in this study.
- Each participant has the right to review, add or make any changes to all or any portion of his taped recording and written focus group transcript. If any

participant is unhappy with being recorded using an audio-recorder, the researcher will use note-taking technique instead of audio-taping.

- At the beginning of the focus group discussion, you will be given a number to identify you instead of your name, and information will be recorded according to that participant number.
- By signing the informed consent form and attending the focus group meeting, you are consenting to participate in the study. Participation is completely voluntary and as a participant you are free to leave or withdraw from the focus group meeting at any time and at any stage without any penalty.
- I very much appreciate your participation if you have agreed to be one of the focus group members.
- If you have any comments or questions then please do not hesitate to email the researcher at: ialasmari@yahoo.co.uk, or you may email either of the supervisors of this student research, namely:
- Dr Gary Kinchin at: G.D.Kinchin@soton.ac.uk,

or Dr Jane Seale at: j.k.seale@soton.ac.uk.

Still interested?

If you are still interested in participating in this part of the project, could you please complete the consent form attached, sign it and return it to the researcher. As the researcher, I will sign it and send you a copy for your own personal records.

Thank you,

Ibrahim Alasmari.

PhD student

School of Education, University of Southampton, United Kingdom

Postal address:

- In Saudi Arabia: P.O. Box 1619, Abha, Saudi Arabia.
- In the UK: 2 Quintilis Mews, Southampton, SO16 5LN

Student Consent Form

I have read the information sheet and have had the opportunity to ask questions about the project.	YES / NO
I understand that my contribution to the project will be anonymised and my name will not be associated with my contribution in any way.	YES / NO
I understand that if I choose to contribute to the project and be one of the focus group members, my participation may be taped and transcribed.	YES / NO
I understand that I will be shown any edited versions of my contributions before they are used in the researcher's thesis.	YES / NO
I understand that I have the right to "veto" the use of edited versions of my contributions in the researcher's thesis (in other words, you have the right to withdraw your contribution if you do not like how the researcher proposes to use it in his research).	YES / NO
I understand that I have the right to make any changes to the written focus group transcript.	YES / NO
I understand that I have the right to withdraw from the project at any time and at any stage during this project without any penalty.	YES / NO

Signed: ……Date: ……..

Name (in block letters): ……..……

Signed (Project co-ordinator):……..……

Date: ……

Name (in block letters): ……..……

Please return to Ibrahim Alasmari, by post, to Saudi Arabia: P.O.Box: 1619, Abha, Saudi Arabia; or by email after signing the form and scanning it to: ialasmari@yahoo.co.uk.

Improving teaching and learning in higher education through the use of e-learning from the perspectives of university teachers and students: Mixed methods research in one of the southern universities of Saudi Arabia.

Focus Group Questions

PART ONE: Baseline data

This part gathers data related to your learning background, prior knowledge and experience and your current use of e-learning materials.

Question 1: Could you please tell me a bit about yourself (your college and the e-learning unit that you enrolled on)?

Question 2: When, where and how did you access formal training programmes for ICT and e-learning skills?

Question 3 How would you describe your:

3.1 General level of computer experience?

3.2 Use of the Internet?

3.3 Use of email?

3.4 Use of LMSs (Learning Management Systems)?

Question 4: What do you think is the basic level of skill a student should have before starting to study your course?

Question 5: How confident were you with computers when you started, and how confident are you now?

Question 6: Can you tell me about when and where you access online learning? You might like to consider: the time of the day or week, and if you access it from home/ work/ or any other place(s)?

Question 7: Can you tell me about your experience of using online communication tools and the LMS for your course?

PART TWO:

This part gathers data related to your perceptions of the e-learning course(s) that you have taken. These include the way that you learn, the factors that motivate you to use e-learning tools, the disadvantages that inhibit you from using e-learning, your perceptions of online course materials, content and structure, your assessment of your level of learning and achievement in the online environment, and your experience of interactions with teachers or other students enrolled on the course.

Question 8: What are the factors that motivate you, as a student, to learn online?

Question 9: What are the disadvantages that may inhibit you from using e-learning?

Question 10: Are you familiar with the LMS that you use, and do you think that you may need more support and help?

Question 11: Talking about the online course content, structure and materials:

11.1 Do you think the aims and objectives of the course are clear?

11.2 Do you know exactly what you need to do in each section?

11.3 Is the content balanced and at an appropriate level?

11.4 IAre the course information and content well-structured?

11.5 Are the materials and resources sensibly structured?

Question 12: Regarding e-learning communication: Can you describe your experience of communication with teachers or other students enrolled on the course? What does good communication mean to you? Do you think that LMS communication tools facilitate good communication?

Question 13: E-learning courses are rather new to academic life at the university and in society as well. Do you think there are cultural issues that might challenge utilising online learning?

PART THREE:

This part gathers data related to your perceptions of the ways in which e-learning courses in your university could be improved in the future.

Question 14: What advice would you give to other students who might enrol on e-learning courses in the future?

Question 15: How would you suggest that instructors plan their lessons to take into account different levels of technical ability, different teaching styles and different online activities?

Question 16: How do you think the induction programme could better support students?

Question 17: How can the university re-shape the training programme to help students learn effectively online?

Question 18: In conversations, I have come across a number of challenges and disadvantages that might inhibit students from learning online. What do you think could be done to overcome these problems? (The moderator will list a number of disadvantages and challenges that he took in his notes during group discussions and put them on the discussion table to find solutions to these issues).

Question 19: How can the university play a part in disseminating e-learning culture in society?

Question 20: What things would you like to see in e-learning courses in the future?

Question 21: What other questions should I have asked during this focus group meeting?

Question 22: What other questions, suggestions and/or comments do you have?

Thank you very much for your time, effort and participation in this focus group discussion meeting.

Appendix C

Teachers' Interview Questions

Improving teaching and learning in higher education through the use of e-learning, from the perspectives of university teachers and students. Mixed methods research in one of the southern universities of Saudi Arabia.

Information Sheet

Dear Southern University teacher,

In an effort to improve the quality of teaching and learning in the education sector in general and in higher education in particular, many institutions in higher education have chosen to adopt e-learning for numerous reasons, such as flexibility, using mixed interactive multimedia, Internet research, low cost and so on. In the Saudi Arabian context, most universities have selected a learning management system (LMS) platform as a development of their e-learning course programmes.

As a doctoral student in the School of Education at the University of Southampton in the United Kingdom, my PhD thesis focuses on improving teaching and learning in higher education through the use of e-learning from the perspectives of university teachers and students. The aim of this study is to identify how e-learning is being implemented, the challenges teachers and students face when they use emerging technologies, and teachers' and students' suggestions of ways that e-learning courses could be improved in the future.

The researcher will use a face-to-face interview method to explore teachers' perceptions. Post-interviews will be used at the end of the e-learning course, and in addition, teachers have been asked to record an audio weekly diary at the end of each week (if possible) to highlight their perceptions regarding their e-learning course. The researcher, in this regard, would like to offer his deepest thanks to you for being an active participant in

this study and for the three weekly reflective diaries that you recorded during term time. The researcher would be very grateful if you would kindly participate in the final stage in which the researcher will ask post-interview questions highlighting two important issues:

1. Giving feedback about the e-learning courses that were introduced last term.
2. Highlighting ways in which those courses could be improved in the future.

Highlighted below are some points regarding this interview:

- These interview questions are designed to gather information about your teaching experience related to the use of e-learning developed under the university's e-learning programme.
- It is anticipated that the interview may take around an hour and a half to complete.
- In your university, e-learning courses are mainly delivered by an LMS platform called "Moodle", so your experience will mainly concern your use of that platform.
- The interview will be recorded with a tape-recorder and transcribed so that data can be analysed. Audio-taping will ensure that no vital statements or ideas from participants are lost in transcription.
- The data obtained will be transposed onto a computer file to be kept on the researcher's personal computer in a secure location, and will be destroyed after three years.
- It is anticipated that there are no risks associated with participation in this study.
- Each participant has the right to review, add and make any changes to all or any portion of the taped recordings and written interview transcripts. If any participant is unhappy with being recorded using an audio-recorder, the researcher will use a note-taking technique instead of audio-taping.

- At the beginning of the interview, you will be given a number to identify you instead of your name, and information will be recorded according to that number.
- By signing the informed consent form and attending the interview meeting, you are consenting to participate in the study. Participation is completely voluntary, and you as a participant are free to leave or withdraw from the interview meeting at any time and at any stage without any penalty.
- I very much appreciate your participation if you have agreed to answer these interview questions.
- If you have any comments or questions, then please do not hesitate to email the researcher at: ialasmari@yahoo.co.uk, or you may email the supervisors of the student's research, namely:

Dr Gary Kinchin at: G.D.Kinchin@soton.ac.uk, or

Dr Jane Seale at: j.k.seale@soton.ac.uk.

Still interested?

If you are still interested in participating in this part of the project, could you please complete the consent form attached, sign it, and return it to the researcher. As a researcher, I will sign it and send you a copy for your own personal records.

Thank you,

Ibrahim Alasmari.

PhD student

School of Education, University of Southampton, United Kingdom

Postal address:

- Saudi Arabia: P.O. Box 1619, Abha, Saudi Arabia.
- In UK: 2 Quintilis Mews, Southampton, SO16 5LN

Improving Teaching and Learning in Higher Education through the Use of E-learning, from the Perspectives of University Teachers and Students: Mixed methods research in one of the southern universities of Saudi Arabia

Teacher's Consent Form for a Post-Interview

I have read the information sheet and have had the opportunity to ask questions about the project.	YES / NO
I understand that my contribution to the project will be anonymised, and my name will not be associated with my contribution in any way.	YES / NO
I understand that if I choose to contribute to the project and be interviewed, my interview may be taped and transcribed.	YES / NO
I understand that I will be shown any edited versions of my contributions before they are used in the researcher's thesis.	YES / NO
I understand that I have the right to "veto" the use of edited versions of my contributions in the researcher's thesis (in other words, you have the right to withdraw your contribution if you do not like how the researcher proposes to use it in his research).	YES / NO
I understand that I have the right to make any changes to the written interview transcript.	YES/NO
I understand that I have the right to withdraw from the project at any time and at any stage during this project without any penalty.	YES/NO

Signed: ……Date: …….

Name (in block letters): ……..……

Signed (Project co-ordinator):……Date: ……

Name (in block letters): ……..……

Please return to Ibrahim Alasmari, by post to, Saudi Arabia: P.O. Box: 1619, Abha, Saudi Arabia; or by email after signing the form and scanning it to: ialasmari@yahoo.co.uk.

Phase One Interview Questions

PART ONE: Baseline data

- The current use of e-learning materials.

Question 1

Which e-learning unit did you teach this term?

Question 2

After completing the e-learning course this term, how would you describe your:

2.1 General level of computer experience?

2.2 Use of the Internet?

2.3 Ability to use email?

2.4 Use of the LMS (Learning Management System)?

Question 3

3.1 Where did you normally use a computer to deliver your e-learning courses?

3.2 Describe any difficulties in accessing the Internet in that place.

Question 4

In each weekly lesson, how much time did you spend to present your lecture, coordinate learning activities, and respond to students' enquiries?

Question 5

How you did you use the LMS to deliver your lessons?

PART TWO:

This part gathers data related to your perceptions of the e-learning course that you delivered. These include the way you planned to teach, the factors that motivated you to use e-learning tools, any disadvantages that may have inhibited you from using e-learning, your perceptions of online course materials, content and instruction, your

assessment of your level of teaching and achievement in an online environment, and your experience of interactions with other teachers or students enrolled on the course.

Question 6

6.1 Could you briefly describe the objectives of your online unit? Do you think these were met?

6.2 Some faculties have said that their lesson planning and teaching style had to change for online teaching. Have you found this to be the case? If yes, in what ways?

Question 7

What are the factors that motivated you, as a teacher, to deliver your course online?

Question 8

What are the disadvantages that you encountered while teaching e-learning courses?

Question 9

Are you familiar with the LMS that you used, and what types of tools in that system did you use to deliver your course?

Question 10

What are the teaching methods that you used to deliver your e-learning course?

Question 11

Could please provide examples of some of the main online activities that you used during your teaching of the e-learning course?

Question 12

How did you encourage students to learn online and participate in online activities and discussions?

Question 13

How did you communicate with students in this module?

Question 14

Could you briefly describe how you designed and organized the course content and course structure?

Question 15

E-learning courses are something new to academic life at the university and in society as well. After experience of teaching this e-learning course, do you think there are cultural issues that might challenge utilising online learning?

Question 16

Would you like to add any comments, explanations or suggestions regarding the topics of our conversation?

PART THREE:

This part looks at your vision and opinions as an experienced e-learning teacher regarding how to improve e-learning courses in the future.

Question 17

In our conversation, we have come across a number challenges and disadvantages that might inhibit teachers from teaching online. What methods do you think could be used to overcome these problems? (The moderator will list a number of disadvantages and challenges that he took in his notes during the interview discussion and put them on the discussion table to find solutions to these issues).

Question 18

Would you like to add any comments, explanations or suggestions regarding the previous question?

Question 19

What advice would you give to other teachers who might teach an e-learning course in the future?

Question 20

How would you suggest that instructors plan for lessons to take into account different levels of technical ability, different teaching styles and different online activities?

Question 20

How can the university re-shape its training programme to help students to learn effectively online?

Question 21

How can the university play a part in disseminating e-learning culture in society?

Question 22

What things would you like to see in e-learning courses in the future?

Question 23

Would you like to add any comments, explanations or suggestions regarding the topics of our conversation?

Thank you very much for your time, effort and participation in this interview.

Appendix D

University of Southampton Ethical Approval Letter

UNIVERSITY OF Southampton

Mr Ibrahim Al-Asmari
School of Education
University of Southampton
University Road
Highfield
Southampton
SO17 1BJ

30 April 2008

Dear Mr Al-Asmari

Public Liability Insurance

RGO REF - 5790 School Ethics Ref - Kinchin140408

Project Title **Improving, Teaching and Learning in Higher Education Through the Use of Learning From the Perspectives of University and Students.**

Participant Type:	No Of Participants:	Participant Age Group:	Notes:
Healthy volunteers	300	Adults	

Thank you for forwarding the completed questionnaire and attached papers.

Having taken note of the information provided, I can confirm that this project will be covered under the terms and conditions of the above policy, subject to written consent being obtained from the participating volunteers.

If there are any changes to the above details, please advise us as failure to do so may invalidate the insurance.

Yours sincerely

Mrs Ruth McFadyen
Insurance Services Manager

Tel: 023 8059 2417
email: hrm@soton.ac.uk

cc: File

Finance Department, University of Southampton, Highfield Campus, Southampton SO17 1BJ United Kingdom
Tel: +44 (0) 23 8059 5000 Fax: +44 (0) 23 8059 3195 www.southampton.ac.uk

Appendix E

Phase Two Interview Questions

Improving Teaching and Learning in Higher Education through the Use of E-Learning, from the Perspectives of University Teachers and Students: Mixed methods research in one of the southern university of Saudi Arabia

Information Sheet and Teachers Consent Form for the interview in Phase Two

Dear Southern University teacher,

In the effort to improve the quality of teaching and learning in the education sector in general and in higher education in particular, many institutions in higher education have chosen to adopt e-learning for numerous reasons, such as flexibility, using mixed interactive multimedia, Internet research, low cost and so on. In the Saudi Arabian context, most universities have selected a learning management system (LMS) platform as a development of their e-learning course programmes.

As a doctoral student in the School of Education at the University of Southampton in the United Kingdom, my PhD thesis focuses on improving teaching and learning in higher education through the use of e-learning from the perspectives of university teachers and students. The intention of this study is to identify how e-learning is being implemented, the challenges teachers and students face when they use emerging technologies, and to ask teachers and students for their suggestions for the ways in which e-learning courses could be improved in the future.

Highlighted below are some points regarding this interview:

- This interview questions are designed to gather information about your teaching experience related to the use of e-learning developed under the university's e-learning programme.
- It is anticipated that the interview may take around an hour and a half to complete.

- In your university the e-learning courses are mainly delivered by an LMS platform called “Blackboard”, so your experience will mainly concern the use of that platform.
- The interview will be recorded with a tape-recorder and will be transcribed so that data can be analysed. Audio-taping will ensure that no vital statements or ideas from participants are lost in transcription.
- The data obtained will be transposed into a computer file to be kept on the researcher’s personal computer in a secure location, and will be destroyed after three years.
- It is anticipated that there are no risks associated with participation in this study.
- Each participant has the right to review, add and make any changes to all or any portion of the taped recordings and written interview transcripts. If any participant is unhappy to be recorded with an audio-recorder, the researcher will use a note-taking technique instead of audio-tapping.
- At the beginning of the interview, you will be given a number to identify you instead of your name and information will be recorded according to that participant number.
- By signing the informed consent form and attending the interview meeting, you are consenting to participate in the study. Participation is completely voluntary and you as a participant are free to leave or withdraw from the interview meeting at any time and at any stage without any penalty.
- I really appreciate your participation if you have agreed to answer these interview questions.
- If you have any comments or questions then please do not hesitate to email the researcher at: ialasmari@yahoo.co.uk, or you may email the supervisor of this student research, namely: Dr Gary Kinchin at: G.D.Kinchin@soton.ac.uk,

Still interested?

If you are still interested in participating in this part of the project, could you please complete the consent form attached, sign it and return it to the researcher. As a researcher, I will sign it and send you a copy for your own personal records.

Thank you,

Ibrahim Alasmari.

PhD student

School of Education, University of Southampton, United Kingdom

Postal address:

- In Saudi Arabia: P.O. Box 1619, Abha, Saudi Arabia.
- In UK: 117 The Crescent, Portsmouth, PO1 3SZ

.

Improving Teaching and Learning in Higher Education through the Use of E-Learning, from the Perspectives of University Teachers and Students: Mixed methods research in one of the southern university of Saudi Arabia

Teacher's Consent Form for an Interview

I have read the information sheet and had the opportunity to ask questions about the project.	YES / NO
I understand that my contribution to the project will be anonymised and my name will not be associated with my contribution in any way.	YES / NO
I understand that if I choose to contribute to the project and be interviewed, my interview may be taped and transcribed.	YES / NO
I understand that I will be shown any edited versions of my contributions before they are used in the researcher's thesis.	YES / NO
I understand that I have the right to "veto" the use of edited versions of my contributions to the researcher's thesis (in other words, you have the right to withdraw your contribution if you do not like how the researcher proposes to use it in his research).	YES / NO
I understand that I have the right to make any changes to the written interview transcript.	YES/NO
I understand that I have the right to withdraw from the project at any time and at any stage during this project without any penalty.	YES/NO

Signed: ……..……...

Date: ……..

Name (in block letters): ……..……

Signed (Project co-ordinator):……..……

Date: ……

Name (in block letters): ……..……

Please return to Ibrahim Alasmari, by post, to Saudi Arabia: P.O. Box 1619, Abha, Saudi Arabia; or by email after signing the form and scanning it to: ialasmari@yahoo.co.uk.

Phase Two Interview Questions

PART ONE: Baseline data

- Current use of e-learning materials.

Question 1

Which e-learning unit did you teach this term?

Question 2

After completing the e-learning course this term how would you describe your:

2.1 General level of computer experience?

2.2 Use of the Internet?

2.3 Ability to use email?

2.4 Use of the LMS (Learning Management System)?

Question 3

3.1 Where did you normally use a computer to deliver your e-learning courses?

3.2 Describe any difficulties in accessing the Internet in that place?

Question 4

In each weekly lesson, how much time did you spend to present your lecture, coordinate learning activates and respond to students' enquiries?

Question 5

Can you tell me how you use the LMS to deliver your lessons?

PART TWO:

This part gathers data related to your perceptions of the e-learning course that you delivered. These include the way that you planned to teach, the factors that motivated you to use e-learning tools, any disadvantages that may have inhibited you from using e-learning, and your experience of interactions with other teachers or students enrolled on the course.

Question 6

6.1 Could you briefly describe the objectives of your online unit? Do you think they were met?

6.2 Some faculties have said that their lesson planning and teaching styles had to change for online teaching. Have you found this to be the case? If yes, in what ways?

Question 7

What are the factors that motivated you, as a teacher, to deliver your course online?

Question 8

What are the disadvantages that you encountered while teaching your e-learning courses?

Question 9

Are you familiar with the LMS that you use, and what types of tools in that system did you use to deliver your course?

Question 10

What are the teaching methods that you used to deliver your e-learning course?

Question 11

Could you please provide examples of some of the main online activities that you used while teaching your e-learning course?

Question 12

How did you encourage students to learn online and participate in online activities and discussion?

Question 13

How did you communicate with students in this module?

Question 14

Could you briefly describe how you designed and organized the course content and course structure?

Question 15

E-learning courses are something new to academic life at the university and in society as well. After your experience of teaching this e-learning course, do you think there are cultural issues that might challenge utilising online learning?

Question 16

Would you like to add any comments, explanations or suggestions to the topics of our conversation?

PART THREE:

As an experienced e-learning teacher, this part looks at your vision and opinions on how to improve e-learning courses in the future.

Question 17

After collecting data for this study in Phase One in 2008 (via a student questionnaire, interviews with teachers, teachers' weekly reflective diaries and student focus groups), the researcher found a number of challenges and disadvantages that were experienced during e-learning. The question now is your opinion on how best to overcome, solve and improve those issues. Do those challenges still exist? The following are some key issues:

a. A lack of training.
b. The lack of an induction programme.
c. Continuous technical problems.
d. Lack of experience in an online environment.
e. The LMS system is not used effectively.
f. A lack of online communication with teachers and among students.
g. A lack of resources.
h. Involving teachers in designing the content and structure of e-learning courses.
i. Students vary in their general level of computer experience.
j. Access to the Internet beyond the university campus.
k. A lack of motivation of teachers.
l. A lack of online guide information to help students find out more about online courses.
m. Teachers spend more time dealing with and teaching online units.
n. Teachers' salaries are insufficient considering the time they spend on e-learning courses.
o. The numbers of students who register for online units are quite high, so it is quite difficult for e-learning teachers to deal with those numbers.
p. A lack of quick help and support from the e-learning centre.

Question 18

Would you like to add any comments, explanations or suggestions to your answer to the previous question?

Thank you very much for your time, effort and participation in this interview.