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Investigating an On-line Teaching and Learning Environment for the University of Omar Al-Mukhtar, Libya

By

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(Libya)

A DISSERTATION

Submitted for the

Partial fulfilment of the requirements for the Master degree of Information System Management

September 24, 2010

Department of
School of Computing and Engineering Huddersfield University

University of HUDDERSFIELD

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In the name of Allah Most Gracious, Most Merciful

After working on this thesis research, I would say that it was one of the best things I have done in my life so far, exploring could be fun sometimes, but it becomes more beneficial after accepting the challenges and exploring new knowledge. It was really interesting to join the Master's program and have the opportunity to be involved in and share the experience of exploring new ways for improving the learning process for my university in Libya.

My thanks go first and foremost to my mother, Eida Ahmed, who has supported me with love, patience and understanding, as well as financially as a graduate student. Special thanks go to my husband, Ahmed Impes, who has encouraged me and given me a helping hand when I am feeling down, and my close friend, Balgis, for her kind support. I would like to express my thanks also to my committee, my deep thanks to Dr. Dave Wilson and Julie Wilkinson for organizing my thesis and all Huddersfield academic faculty members. Last, but not the least, my greatest appreciation goes to my colleagues and friends in the UK and Libya.

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ABSTRACT

The main goal of this research is to investigate e-learning environments and provide recommendations to the University of Omar Al-Mukhtar to help establish on-line environment by examining the feedback of Libyan students who studied abroad in the UK, held by a sample of 30 responses. The researcher used a questionnaire tool to collect both qualitative and quantitative data. The findings indicate that there are different attitudes towards online environment based on age, gender and subject. However, the findings show that Libyan students generally had positive attitudes towards the online environment. The research explores the main factors which are the most important and most indicative of students' satisfaction for online teaching and learning methods. The researcher was asked to explore a variety of areas in the online environment and its role in enhancing the teaching and learning in higher education as well as e-learning in Libya, focusing on a blended approach to build recommendations based on facts from research. The author recommends that Omer Al-Mukhtar University implement Blended e-learning methods based on the findings of the research. Lastly, mentioning recommendations and the necessity project plan to move from traditional learning and teaching to the online environment and explain the required purpose of Blended e-learning at Omer Al-Mukhtar University.

Key words: E-learning, Blended e-learning, Omer Al-Mukhtar University, Libya.

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CHAPTER 1:INTRODUCTION

1.1. THESES OVERVIEW

The use of virtual learning technology has increased rapidly in university teaching. The introduction of e-learning has led to rapid change which has impacted both the learners and the educators (Modi, 2006) .The increasing use of technology in all aspects of life, as well as in the education sector, motivated Libyan universities to update their processes and make the technology the main factor in their education systems.

1.2. PROBLEM DEFINITION

The University of Omar Al-Mukhtar is one of the Libyan universities which should respond to the rapid developments in the world. The wide use of information technology and communications means that traditional teaching methods are no longer suitable, especially with the growing numbers of students, as they no longer fit with the global trends in modern education. Indeed, they have become a strategic necessity in the light of an economy based on knowledge. Among the global trends in modern education now and especially in higher education, the trend is towards e-learning and distance learning. So it is important that University of Omar Al-Mukhtar should note scientific revolution and technological revolution, which was found in the world, and review its philosophy. It should aim to apply technology to develop teaching methods and provide appropriate evaluation for this. It is therefore important that the University of Omar Al-Mukhtar uses computers as its main teaching tool, and provides an e-learning environment for its students.

1.3. OVERALL AIM OF THE RESEARCH

The aim of this research is to investigate and propose an e-learning strategy for the University of Omar Al-Mukhtar: To achieve this aim, the following objectives have been identified:

- To make communication between tutors and students easier and faster.
- To make on-line access available to students at any time.
- To enable students to access information quickly and easily.
- To make learning more flexible, so that students can study in any location and also have the opportunity to socialise, find employment or get involved in group activities.

1.4. THE FOLLOWING RESEARCH QUESTIONS WILL BE PURSUED:

- What are the current challenges in e-learning, particularly in Libyan higher education?
- How can the challenges of e-learning be confronted, in particular, for higher education institutions?
- What are the models of e-learning?

1.5. WHAT IS THE STUDY TRYING TO ACHIEVE? (RESEARCH OBJECTIVES)

- RO 1: Testing the effect of different elements like educational level and gender on the attitudes toward an online environment (in terms of used tools).
- RO2: Students' approximations of their confidence in usage of computers.
- RO3: Measure the rate of Libyan students who like and feel comfortable with a new online environment.
- RO4: Identify the main factors which are the most important and most indicative of students' satisfaction for online teaching and learning methods.
- RO5: Produce a list of recommendations to establish e-learning in the University of Omar Al-Mukhtar
- RO 6:Propose a project plan to implement e-learning in university teaching in Libya

1.6. RESEARCH HYPOTHESIS

It is known that effective teaching methods create effective learning environments for students. Effective teaching methods also motivate students to learn and encourage them to continue in further education. Technology today provides excellent tools which play an important role in improving and developing teaching methods as well as giving students wider opportunities to learn. In order to get to the reply that agree or disagree this hypothesis, consequently, research question shall be 'Does e-learning replace face-to-face learning or does it support learning?'To reply this question, the study will implement Mixed methods the

researcher is pleased that the qualitative and quantitative data suited her study needs; the Mixed models research has been selected in within-stage to gather these data. Therefore, the researcher used a questionnaire tool to collect both qualitative and quantitative data by providing open and closed questions. The following section will provide more details.

1.7. RESEARCH METHODOLOGY

Primary and secondary data are necessary for this project. Secondary data shall be gathered from available sources in the e-library in the University of Huddersfield and the Amazon website. The primary data shall be gathered by conducting a suitable research approach after reviewing the literature and finding out different research approaches, for example, case studies. (Pickard, 2007)

Rudestam (2001) stated that the approach and methods must be identified before conducting research, collecting and analyzing data, to match the goal and answer the research questions. The data collection methods used to serve the needs of the research and the key element of data that need to be gathered is the opinion of Libyan students, identifying the main factors which are the most important and most indicative of students' satisfaction for online teaching and learning methods, and measuring the rate of Libyan students who like and feel comfortable with a new an online environment and measure the satisfaction of students who use the online environment. As the main goal of this research is to investigate e-learning environments and provide recommendations to the University of Omar Al-Mukhtar to help establish this environment, the students' feedback will be examined. The students are all from Libya and have experienced both traditional learning and online learning. The researcher should provide a useful tool to achieve the objective in the research to discover the facts which were not clear and not previously considered in the literature review. The questionnaire has been chosen as the most suitable tool for collecting data. Mixed methods are useful tools for collecting data concerning behaviours; it also provides more information about a specific group and is easy to collect information (Cresswell, 2003). We want to conduct mixed methods, based on quantitative and qualitative research.

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CHAPTER 2: LITERATURE REVIEW

2.1. DEFINITION OF E-LEARNING

Dagada and Jakovljevic (2004) stated that many authors have discussed the method in which on-line learning can be used to deliver assessment, training and support. E-learning offers the flexibility to deliver courses without the need to attend classes or follow the lesson in the lab, as well as saving the institutions' money. This problem is very important for learners who usually have limited money and also for tutors to reduce their expenses of different resources, for instance books, journals and other sources. Fichter (2002) argued that e-learning is a method that comes from technology, which is sometimes, called distance learning, which takes place virtually instead of in a traditional classroom. On-line learning began when a computer was developed and was used at the same time for personal use (White, 2007). Distance learning was developed by using computer as a tool to deliver courses which made distance learning easier than before, as the use of the computer has increased due to the availability of such technology (White, 2007).

Using on-line learning as a tool provides students with the opportunity to use all applications and communicate through the available forms of technology; this truly indicates that on-line learning plays an important role in supporting students from different classes with different abilities. Laurillard (2004) stated that the value of on-line learning for academic communities offers: access to digital sources and references which are not available locally or in hard copy; the ability to communicate with learners and tutors remotely without needing to be present in the classroom; access to interactive tutorials; and it is also easier to obtain educational games and some equipment for creation and designs.

However, Portal (2004) indicated that the biggest benefits of e-learning were that the students had access to the material at any time and did not have an excuse for missing courses, unless they did not have an Internet connection. On-line courses give students the opportunity when they cannot attend the class to follow the lesson regardless of their location or time. Students can obtain announcements, access assignments, take notes, contribute to discussion boards, chat and study with other students, and create their own schedules.

2.2. HISTORY OF E-LEARNING

In the modern education system, e-learning plays a vital role in advanced information technology. Although e-learning has progressed with the growth of technology, its roots can be found to have emerged more than a century ago, when it was known as 'distance learning'. The first e-learning programme was introduced in 1892 at Pennsylvania State University, where the purpose was to improve higher education and communication (Banas et al., 1998).

2.3. USAGE OF E-LEARNING

E-learning has had a significant impact on the development of education, as it can be used anytime, as well as anywhere, and can be practiced in almost any discipline, in various sectors, whether public or private, and in education or business. Higher educational institutions, such as universities, experience e-learning in everyday teaching and studying activities. Students are using a 'blackboard' system for information relating to their studies, such as hand-outs, enrolment status, teacher's notices; and they communicate with their colleagues and teachers without having to go to university. On the other hand, business organisations use e-learning to provide training to remote or mobile employees, and to advertise their products and services to customers (Mubarak, 2007).

2.4. SIGNIFICANT PROPERTIES OF ONLINE LEARNING IN UNIVERSITY TEACHING

The main features in e-learning are: a computer with internet access, DBMS along with some applications, and software to use and control the system efficiently.

- Students can present their work in the e-classroom from anywhere, at anytime;
- Reputation and quality are important for higher education institutions, so they regularly update learning material and create new opportunities for students.

2.5.E-LEARNING STAKEHOLDERS' MOTIVATIONS AND CONCERNS

From an organisational point of view, a stakeholder is someone who is directly involved in an organisation (Thompson and Strickland, 2001). Stakeholders from an online environment are individuals who are affected by e-learning. The following sections will describe stakeholder groups, and their feelings of both concern and enthusiasm for e-learning.

2.5.1. STUDENTS

Students are the main consumers of e-learning; they can be graduate or under-graduate students who are enrolled at college or university.

Motivations

E-learning can be a component of traditional learning or may be combined with online learning. Students are encouraged to achieve qualifications in higher education by using e-learning, especially those who are located far away from the institution (Huynh *et al.*, 2003; Kabassi and Virvou, 2004). E-learning can also be inexpensive and time-saving as well.

Concerns

Since e-learning introduced a totally new learning environment for students, it meant that different skills were required in order to succeed (Romiszowski, 2004). Students' critical thinking and research skills are developing because they have to deal with a huge amount of information from a variety of sources in a short period of time (New Media Consortium, 2007).

2.5.2. INSTRUCTORS

In a virtual environment, as in a face-to-face situation in a classroom, instructors take on the role of being the ideal guide to a student's educational experiences. Depending on the teaching method an instructor uses in an online environment, he/she can choose whether or not to have direct communication with their students. (New Media Consortium, 2007).

Motivations

Instructors can be motivated to create a virtual environment for a number of different reasons: For example, they may be encouraged by their institutions; they may wish to reach a large number of students; or they may have an interest in the advantages of technology, as it would help them to deliver information effectively. (Romiszowski, 2004)

Concerns

E-learning has changed instructors' views to thinking that their students need to gain new training and skills to achieve success (Jones, 2003). In virtual learning, an instructor's role changes from being the primary source for their students' knowledge, to being the manager of resources for knowledge (Romiszowski, 2004).

2.5.3 .EDUCATIONAL INSTITUTIONS

In the higher education sector, (which includes colleges and universities), e-learning is becoming more popular, which may lead HEI's to create 'online only' educational institutions.

Motivations

Educational institutions provide distance learning, including e-learning, to create access to staff and students, particularly if they are involved in more than one department. An upgrade to e-learning depends on the technological infrastructure in the institution, which can lead to expensive upgrades (Weller, 2004). E-learning requires different types of technological involvement, including the Internet, course management software, fully equipped classrooms, and proper computer and information technology facilities for students (Arabasz and Baker, 2003). Generally, institutions need more trained staff if the use of technology is set to increase (Young, 2001).

2.5.4.EMPLOYERS

Often, there is a tendency for employers to review online education, and to establish e-learning facilities to educational institutions, so that they can develop the infrastructure of the technology and upgrade them regularly (Romiszowski, 2004). Employers have a wide range of services to provide, from learning the management system to installing hardware components.

Motivations

Employers are becoming more motivated to invoke e-learning in their establishments, as an alternative to the traditional education system; denying the value of e-learning would restrict their pool of potential clients (Romiszowski, 2004). Employers are motivated to provide learning environments that will result in effective learning for students and make a profit for their business. Employees are encouraged to embrace e-learning to achieve qualifications in higher education for the purpose of advancing their career. On the other hand, unlike the traditional way of learning, e-learning will save money and time.

Concerns

E-learning providers should be concerned about the demise in communication skills in the teaching of various courses. It depends on the employers as to whether they choose to emphasise the technical or interpersonal skills in e-learning (Gunasekaran *et al.*, 2002).

2.6. MODELS OF E-LEARNING

In higher education institutions, using an online learning environment is very successful in supporting traditional ways of teaching. Many universities have a facility where students can access lectures and electronic resources (Laurillard, 2004).The following literature review is intended to outline the models of e-learning.ICT can be used in a number of ways to enable and facilitate learning. E-learning is capable of interacting with every area in the curriculum, and also with personal and professional development. It can also be used for collecting information to aid decision-making in any subject, whether it is associated with: work, personal or domestic life, entertainment, etc. Hrastinski (2008) stated that ICT not only supports e-learning, but also all forms of teaching and learning, or sometimes, a combination of both. In figure 2.1, e-learning supports learners in any location, where learners could be isolated or geographically remote from a classroom facility, or may be in a traditional classroom.

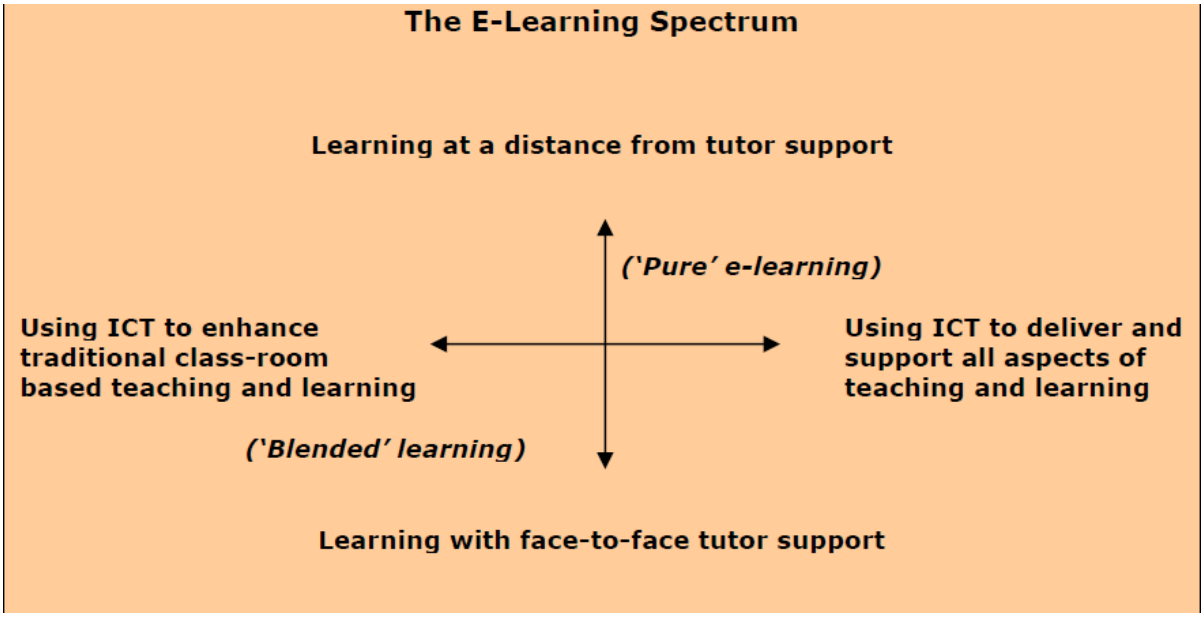

Figure 2.1: E-Learning Models (MWTLP ICT Strategy Group, 2004)

"E-Learning is not intended to replace face-to-face classroom training, but it can be used to enhance the traditional training." (APO, 2003).

To simplify the above quotation, the importance of studying in an online environment at university does not mean that e-learning will totally replace face-to-face learning.For virtual environment initiatives to succeed; universities have to understand the different types of e-learning methods. Research may support practitioners by defining the asynchronous and synchronous methods.

2.6.1. Synchronous e-learning means that all tutors and learners are logged on online at the same time, in the same room, as well as still being able to maintain direct contact. Synchronous e-learning includes live web-casts, whiteboard sessions, chat-rooms and application sharing. Hrastinski (2008) outlined that "*Synchronous e-learning, commonly supported by media such as videoconferencing and chat, has the potential to support e-learners in the development of learning communities. Learners and teachers experience synchronous e-learning as more social and avoid frustration by asking and answering questions in real time. Eight synchronous sessions help e-learners feel like participants rather than isolates*:"

2.6.2. Asynchronous e-learning means that the communication between students and tutors does not occur at the same time, where "*Asynchronous e-learning makes it possible for learners to log on to an e-learning environment at any time and download documents or send messages to teachers or peers. Students may spend more time refining their contributions, which are generally considered more thoughtful compared to synchronous communication."* (Hrastinski, 2008).

2.7.TYPES OF E-LEARNING APPROACHES

2.7.1. ENHANCED APPROACH: This approach refers to the creation of a virtual environment, where traditional learning is supported and enhanced by employing web-based technology. In other words, Kaminskaya (2006), stated that *"this approach can reduce some academic seat-time (face-to-face), the reduction must be no more than 24%; the majority of the offered e-courses in TPU's are of this kind."*

2.7.2. ONLINE APPROACH: This approach uses the online environment, which can be achieved without reverting to the approach of a traditional classroom. However, Tmeizeh and Itmazi (2008), stated that this kind of practice would has some face-to-face contact, i.e., before exams, but over 70% of courses are delivered by virtual learning.

2.7.3. BLENDED APPROACH: This type blends traditional learning and e-learning together, in the processes of teaching and learning, so that the use of e-learning tools become a part of education in the classroom. Heinze and Procter (2004) stated that many specialists who support this theory see its relevance in the application of e-learning, as it combines the advantages of e-learning and classroom benefits. This approach will be discussed in more detail further on in this chapter.

'Blended Learning' is a term that refers to the confusion between face-to-face and e-learning; it does not require the use of high-quality techniques, but instead consists of multiple approaches to teaching and learning. Heinze and Procter (2004) stated that *"learning is facilitated by the effective combination of different modes of delivery, models of teaching and styles of learning, and founded on transparent communication amongst all parties involved with a course."*

For the majority of people who apply this model, blended learning is a combination of traditional learning and e-learning, which can be used to teach and learn in the classroom, where the virtual environment becomes a natural extension for face-to-face learning. For this study, blended e-learning shall be employed. Figure 2 .2 illustrates the confusion between face-to-face learning and e-learning, (which defines blended e-learning).

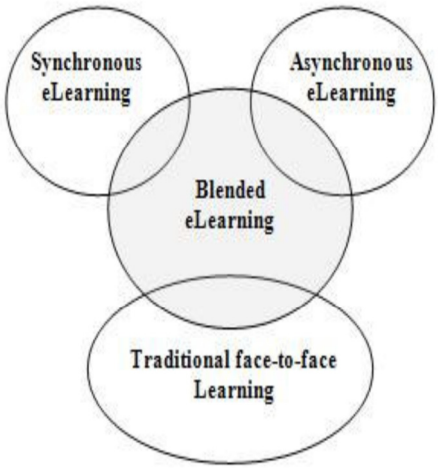

Figure 2.2: Blended E-Learning (Tmeizeh and Itmazi, 2008)

2.8. E-LEARNING PLATFORM

1. LCMS (Learning Content Management System).
2. LMS/CMS (Learning/ Course Management System).

These platforms are considered significant elements of on-line environment solutions from the institution of higher education's viewpoint, more specifically, LMS (Figure 2.3). Tmeizeh and Itmazi (2008) indicated that "*LMS is the software that automates the administration of training events. All LMSs manage the login of registered users, manage course catalogs, track learner activities and results, and provide reports to management*".

An LMS contain other functions, for instance: learner collaboration tools, authoring of content and management of classroom training, etc. The promotion of LMS is growing very quickly (Wilson, 2002). There are a set of LMSs that are free Open-Source Software (OSS) such as: 'MOODLE' <http://MOODLE.org> whereas others are of commercial software such as 'WebCT' <www.WebCT.com>.

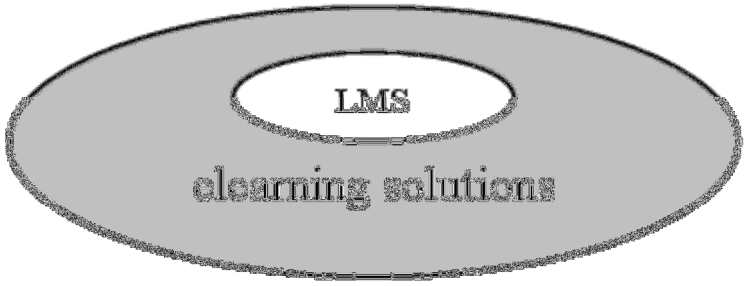

Figure 2.3: LMS within eLearning (Tmeizeh and Itmazi, 2008)

In brief, OSS is software which students may freely access, share, use and modify as well as redistribute the Source Code. OS-LMS is appropriate to the universities teaching owing to:

1. OSS is a suitable solution to run software .
2. Using licences, it costs approximately nothing.
3. Set well-known organisation's implementation of OSS, such as NASA's Centre (Tmeizeh and Itmazi, 2008).

2.9. ADVANTAGES OF BLENDED E-LEARNING

Blended E-Learning has an important role, and real potential to gather the best elements of the e-learning approach and traditional learning in university teaching. The significant benefits are: flexibility, reduction of cost, and the saving of time. The next section aims to present the main benefits for blended e-learning, which is supported by Tmeizeh and Itmazi, 2008:

1) Blended e-learning can support and enhance teaching, especially in an instructor's performance;

2) Improve the effectiveness of education and, by providing more harmony between the requirements of the learner and the educational programme provided;
3) Expanding the extent of access: with a mixed education model, multiple images can reach learners;
4) Increasing the effectiveness of the use of education programmes, which are costly: The integration of various causes benefit from the programmes offered. The programme-mail needs to be expensive, but would be provided through educational sessions and virtual integrated materials, quickly and simply, through sources such as documents, case studies, facts, educational records, appointments, texts and presentations, which approximately cost the same;

5) Reduce the number of academic seat and travel time;

6) Students can access the materials and course activities wherever and whenever they want, until a face-to- face meeting takes place;

7) Easy management of a big team of learners;

8) (Direct communication): Learners have regular communication with Module Leaders who can meet students in a classroom. The teachers can support students in their study and give them the opportunity to clarify anything that is not clear in e-sources.

2.9.1.Examples of applications blended e-learning is supported by (Tmeizeh and Itmazi, 2008)

1) Students will be taught a lesson, or more specific lessons based on a decision made in the classroom, without the use of e-learning tools; and teach another lesson, or some lessons, using e-learning tools, such as an electronic calendar, as well as using traditional methods.

2) Students are taught a particular lesson through both classroom education and e-learning, so they may start their lesson in the ways of a traditional classroom, and then use e-learning, for example, during lessons in trigonometry in America, students visited some sites to see examples of 'trigonometric' states, and then returned to the classroom to learn from their text-books to complement the lesson.

2.10.THE THEORETICAL FRAMEWORK FOR E-LEARNING

2.10.1.COLLABORATIVE LEARNING STRATEGY

Online learning is a collaborative learning process (Gokhale, 2000), where learners can join in with virtual classrooms and communities, or course materials can be supplied via email.

The successful performance of one learner has a positive impact on the whole community.

2.10.2.INDIVIDUALISATION STRATEGY

Individualisation should be used for the efficient use of e-learning, although communication is said to be a main contributor to the effect (Hannafin and Peck, 1988). By monitoring a learner as an individual, lecturers understand their response and requirement (Porter, 1997).

2.11. LIBYA AND E-LEARNING

2.11.1. PROSPECTS FOR E-LEARNING IN LIBYA

Although introducing e-learning to Libya faces very hard challenges, the government has been concentrating on ICT, which has consequently opened up an opportunity to adopt e-learning for the higher education sector. The government started a 60 million e-learning pilot project in September 2009, as a sign of approval and support. There was another sanction for the Development of Administrative Centres (ODAC) to improve Libya's ICT infrastructure, and to expand its economy and improve the quality of life for the community (Austrade,

2009), which is considered to have created a positive effect on the online environment initiatives in Libya.

2.11.1.1. TECHNOLOGY TRANSFER

Due to the advantages of ICT, several traditional structures are shifting towards the online environment. The increasing growth of technology has led to a broader expansion of knowledge transfer. This trend is very important for the developing countries, as there is a lack of technological infrastructure, resources and mentality to adopt new technology to implement an advanced educational system (Iahad, Dafoulas, Milankovic-Atkinson, & Murphy, 2004).

2.11.1.2.CHANGING STUDENT EXPECTATIONS

Students' expectations are changing with the progress of e-learning in higher education institutions in Libya. According to the Aljabal Algharbi University in Gharian in Libya (Rhema, 2005), e-learning responded to several problems identified by the students, as they discovered that they could have direct contact with tutors and fellow students. They also found that several learning sources provided them with the opportunity to work as a group, and it also helped other students by providing feedback on their assessment tasks.Rhema (2005) found out the students' response in her research: *"It appeared that the traditional classroom setting is not sufficient to assure effective and efficient communication between instructors and us and that other means of communication and education have to be found." "We do not have a wider choice of resources and modalities of study materials." "The possibilities to collaborate in group work assignments are too limited to work at fixed times in the day; we could not work when we are in different places. When ones misses the class session he/she will face difficulties to understand the lesson because the only key learning materials are the instructor notes on the class."*Consequently, it is clear that Libyan students admit that there are problems in the Libyan education system, and they accept alternatives such as e-learning to gain a better standard of education. To convince the students about the benefits of e-learning, the e-learning provider should employ well-trained teachers with positive attitudes.

2.12. CURRENT CHALLENGES IN E-LEARNING – PARTICULARLY IN LIBYA

Libya, one of the Arabic countries, has a great number of literate citizens, where they also enjoy a high standard of living and education, among the African nations. The higher education sector in Libya widely uses ICT in their daily teaching and learning. Also, the government is introducing new projects to develop ICT structure. Like other developing countries, Libya has a significant challenge in online education because of the linguistic and cultural background of the teacher and students. Moreover, there is no proper e-learning infrastructure, or much awareness of technology, and there is also a lack of Libyan experts to develop an online learning and teaching environment (Rhema, 2010). After reviewing the e-learning literature during researching, there is a list of most important challenges in Libya in higher education context are:

2.12.1. LANGUAGE AND CULTURAL BARRIER

Introducing any new technology to a cultural group is a great challenge, because different people have different views when adapting to new technology. In some come cases, people are afraid of change in the system. In the context of ICT and e-learning system development, it should be a priority to consider the cultural aspect of the user groups, which may lead the e-learning to a diverse dimension (Khan, 2003). Designing a common e-learning system interface for learners worldwide would involve cultural communication, which would therefore influence the adaption of the IT adoption (Elbeltagi, McBride & Hardaker, 2005).

Libya is a modern and literate Arabic country, where the main language is Arabic; however, the standard of the English language is very poor. In terms of linguistics, Arabic is different to English, i.e., they do not have anything in common. For example, English is written from left to right, and Arabic is written from right to left. Moreover, most of the e-sources, like software and web contents are in English, which makes ICT and e-learning in the Libyan education system more difficult.

2.12.2. TECHNOLOGICAL CHALLENGES

Having proper technological resources is a primary feature in developing the e-learning system, which involves the need for communication networks, hardware, software, computers, radio, audio cassettes, video, and Internet access. According to Khan (Khan, 2003) the e-learning framework depends on the technological infrastructure, including planning, hardware and software. Since software interface refers to the overall front-end look

of the e-learning system, it implies that the design of the interface should be easy to use, and understandable to the target group of the user (Khan, 2003). Moreover, the e-learning system is designed to help the pedagogy, so it should be easy to use and manage, and support the learning models. Maintaining e-learning is a great challenge in the implementation and integration of ICT and e-learning in an education system (Sife *et al.*, 2007).

Libya faces a number of technological challenges because there is no proper technological infrastructure, although several infrastructure plans are currently in progress. A computer laboratory is available in every higher education institution in Libya, but the insufficient network facility puts serious restrictions onto the Internet access. Moreover, availability of educational software products is very limited and most of them are in English, and very few are in Arabic. Also, there is no software development environment, no trained developers, and a lack of technical departments, which leads to delays in operation and installation software.

2.12.3.MANAGEMENT SUPPORT

According to Mapuva: *"Institutional leaders are a determinant factor, given their decision-making roles, which could either make-or-break the e-learning projects by either facilitating or impeding its implementation within their institutions."* (Mapuva, 2009). So, organisational support is essential to motivate teachers, although they are always committed in their role to support, they would gain more confidence with the support of administration, which is the key element to enable ICT into the process of the educational system (Andersson & Grönlund, 2009). This implies that Libyan higher education institutions are suffering from the lack of a skilled management team.

2.13. EFFECTIVE INITIATIVES IN NEIGHBOURING COUNTRIES (BEST PRACTICE)

It is important to find a good example of an e-learning university in the same country, or in neighbouring countries. According to Abdel and Wahab (Abdel and Wahab, 2008), Egypt is the best example for an e-learning infrastructure among northern African countries. Since Libya is a neighbour to Egypt, the ICT infrastructure is likely to be the same. In Egypt, there were signs of e-learning, which appeared at Cairo University. It seems that an e-learning centre is a unique experience in universities, and that it offers many benefits, such as, most notably, the possibility of distance-learning and the expansion of culture among members of

the community, thus improving citizens in terms of intellectual and scientific development. It also shows that e-learning users have overcome many obstacles, as they can go online and watch a lecture, complete with visual and audible effects whenever they want, without any obstacles impeding their work. Students are also regularly benefiting from this method in the review process, which offers assistance if they have not completely understood the topic.

Therefore, the engineering faculty at Cairo University is setting an example with virtual environment-related activities, like pilot projects within online classrooms. The University of America in Cairo is employing WebCT. As a system, this site offers information and assistance to students and faculty members about how to access lectures, which are broadcast through the site. The system also provides a centre for tutors to assist in converting materials to a 'web-friendly format'. Moreover, since 2002, several learning plans have been activated by the Egyptian government (Abdel and Wahab, 2008).

2.14. CONFRONT THE CHALLENGES OF ONLINE ENVIRONMENT, IN PARTICULAR, FOR HIGHER EDUCATION INSTITUTIONS

The following section aims to present recommendations about how higher education institutions should implement e-learning in case of a lack in skilled manpower, and lack of adequate resources to establish e-learning:

2.14.1. INSTITUTIONAL LEADERSHIP

Shaba (2000) indicated that the responsibility of institutional leaders is vital in the implementation of e-learning in the HEIs, since they make the decision of whether or not to invoke a programme, such as e-learning within their institution. Therefore, it is important to explorer these leaders' attitudes because they will indicate either an adoption or rejection of e-learning in their institutions. Other influential factors are the institutional structures and organisations that they implant within their institutions for the execution of policies. A study has shown that the success or failure of an e-learning operation depends on the structure of organisation that is expanded by an institution's leaders, to prepare for the adaptation of e-learning, in order to improve teaching and learning methods. It is also necessary to investigate HEI organisational structures, which enable the adoption of e-learning.

2.14.2.THE CHANGING ORGANISATIONAL STRUCTURE

Bringing in new technology such as ICT and e-learning into HEI's has an influence on the re-arrangement of organisational structure, and also changes their approach to education. This also affects organisational structures which had to be aligned in preparation for the adoption and use of ICTs in the HE sector, primarily for the purpose of skills-development. The introduction of e-learning has had a direct impact on the organisational structure, on both tactical and strategic levels (Shaba, 2000).On the other hand, lecturers have to take on a challenging role in this changeable teaching and learning environment, and in the design of e-learning. Although there are obvious unwanted effects, the implementation of distance learning techniques can emphasise university structure. In 2000, O'Hearn stated that the modern university has to be adaptable, and able to embrace new teaching methods through e-learning, and that teachers also play a significant role in the execution of e-learning within HEIs.

2.14.3. TRAINING TEACHING STAFF

Teaching staff play a vital role in higher education institutions when they adapt to any new technology, since they are the people who deliver information to the students. In the implementation of e-learning, teachers need to be trained appropriately by the institution's staff development facility. Schuler and Jackson described a 'primary stop' where teachers enhance their knowledge and skills that are required for desired work-related performance (Schuler and Jackson, 2006). Lecturers play an essential role in ensuring the implementation of e-learning in HEI's, but they are not the only group to adopt and implement this successfully. Students will experience a positive learning environment if the lecturer is well-trained, with a positive attitude, along with traditional learning as well as e-learning (Holley, 2002).Since staff development training is the main concern for institutions in implementing any form of new learning methods, it is essential to focus lecturers' training on how to use hardware and software (Shapiro, 2000). Lecturers with inadequate training of e-learning in the real educational environment can pose a problem in balancing the learning process, and can create problems in the application and practice with students (Volery, 2000).

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CHAPTER 3: RESEARCH METHODOLOGIES

3.1. INTRODUCTION

This chapter discusses the research methodologies which underpin the strategy of the research to achieve four key research objectives. Mixed methods is not the only approach used to achieve the project objectives; the researcher provided more details and evidence in the Selection Justification section that shows that mixed methods is the most appropriate way to meet the research goals, rather than another possible approach, i.e., the grounded theory approach. Furthermore, the real research design will be presented in this chapter to show how one can collect data in this study.

3.2.MIXED METHODS APPROACH

This section aims to provide a short rationale about the development of mixed methods as a research method. Mixed methods research is identified by Johnson and Onwuegbuzie (2004) at this point as "*the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study*". So, the aim of this method is to bridge the gaps among quantitative and qualitative research and provide flexibility to researchers in order to understand problems rather than employing either qualitative or quantitative research alone. As problems these days become more complex and interdisciplinary, the authors sometimes want more than one approach to produce superior study results; mixed methods offer authors flexibility, which is often necessary in achieving research objectives.

3.2.1. TYPES OF MIXED RESEARCH

Johnson and Christensen (2007) stated that there are two types of mixed research: they are 'mixed model research' and 'mixed method research'.

- **Mixed model process**: the technique where qualitative and quantitative methods are blended across or within the phases of the research method Johnson and Christensen (2007) stated, "*This is where you use the within-stage mixing approach or the across-stage mixing approach*".

- **Mixed method process**: the technique where a qualitative stage and a quantitative stage are integrated in the overall study of the research. Johnson and Christensen (2007) stated, "*This is like having a quantitative and a qualitative mini-study in the overall research study*".

3.2.2. PHASES OF MIXED METHODS

There are eight phases within mixed methods, as shown in Figure .3.4.The researcher has been following these steps in her study.

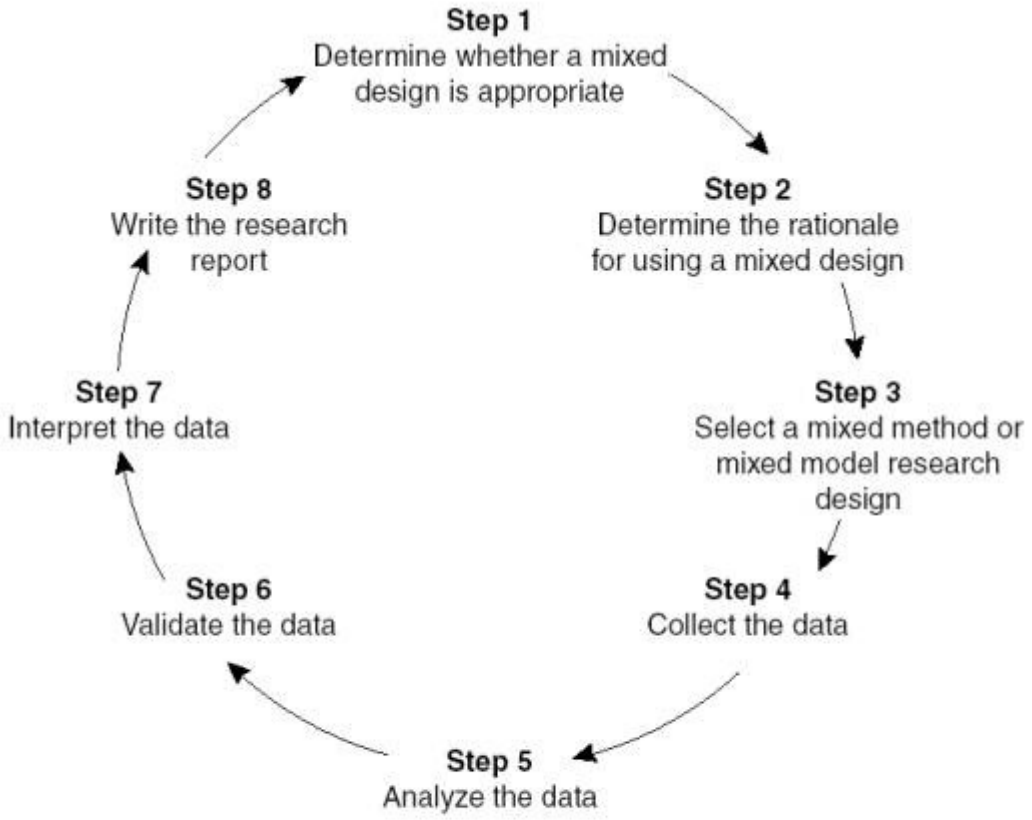

FIGURE 14.4 Important steps in a mixed research study

Although the steps are numbered, researchers often move around in the circle in multiple directions (especially steps 4 through 7).

Figure 3.4: Important steps in a mixed research study, source (Johnson; Christensen, 2007)

3.3. DATA COLLECTION METHODS

The researcher is pleased that the qualitative and quantitative data suited her study needs; the mixed models research has been selected in within-stage to gather these data. Therefore, the researcher used a questionnaire tool to collect both qualitative and quantitative data by providing open and closed questions. The use of a questionnaire is supported by research done by Johnson and Christensen (2007) which stated that, "*An example of within-stage mixed model research would be where you used a questionnaire during data collection that included both open-ended (i.e., qualitative) questions and closed-ended (i.e., quantitative, ,) questions*". In order to investigate the use of online environment in real estate, a mixed models approach was selected, this method is favoured in an effective research design. The data collection methods used to serve the needs of the research and the key element of data that need to be gathered is the opinion of Libyan students, identifying the main factors which are the most important and most indicative of students' satisfaction for online teaching and learning methods, and measuring the rate of Libyan students who like and feel comfortable with a new an online environment and measure the satisfaction of students who use the online environment. As the main goal of this research is to investigate e-learning environments and provide recommendations to the University of Omar Al-Mukhtar to help establish this environment, the students' feedback will be examined. The students are all from Libya and have experienced both traditional learning and online learning. The researcher should provide a useful tool to achieve the objective in the research to discover the facts which were not clear and not previously considered in the literature review. The questionnaire has been chosen as the most suitable tool for collecting data.

3.4. RESEARCH DESIGN

The questionnaire was designed as follows:

- The questionnaire is four parts long. The first part introduces the aim of the study. Codemiles (2009) states that it is important to define the objective to get useful information, therefore the questionnaire should be clear and use simple language.

  The researcher provided a brief introduction to introduce the aim of the study:

  "*Thank you for filling this survey. The aim of this survey is to investigate and propose an e-learning strategy for the University of Omar Al-Mukhtar to improve teaching and learning methods. The contents of this survey are private; no other people will see this data. This data will go just to the study.*"

- The second part contains pre-session information relating to the user, such as, gender, age and professional background see (appendix B).
- The third part contains the questions, taking into consideration the type of question that will be asked. The questionnaire consists of ten separate questions, nine of those questions were closed questions which are most commonly used to get statistics data whereas the last question was open-ended and is required when collecting qualitative data, which gives students the opportunity to answer questions by using their own words, and provide comments and suggestions of their experiences.

3.5. SELECTION JUSTIFICATION

- The mixed approach was selected for this project for the following reasons.
  The researcher wanted a balance between quantitative and qualitative data. It's essential to consider that quantitative and qualitative data often reply research questions, the mixed models research suited the study needs. According to Thomas (2003, p 7) "*both qualitative and quantitative can be used effectively in the same project*". The mixed methods process was not the single contender for this research; furthermore, there is another possible method of research, which is the 'grounded theory approach'. Fredericks and Miller (1999) indicated that "*it does appear that grounded theory is an attempt to address the context of discovery issue, although the assumption is never stated explicitly. Indeed, the very concept of a grounded theory is based on the idea that the development of formulating such a theory involves a discoverable process*". This indicates that the grounded method may possibly assist in discovering the people's perspectives of an exact problem; but it is not capable of finding out the changes and variations. In addition, the literature illustrates that the grounded theory method has been censured on several occasions because of the difficulty within analysing the statistics (Trauth, 2001). Those causes were behind the decision to reject this method for this research.
- The researcher has chosen a questionnaire because it is a useful tool for collecting data concerning behaviours; it also provides more information about a large group and is easy to collect information (Cresswell, 2003).

3.6.THE PILOT PHASE

The pilot research has been conducted with five students from Libya in order to assess and test the design of the questionnaire, items on the questionnaire as well as test the skills of the researcher. The results of the pilot phase were not used in the research findings. The main aim of the pilot study was to consider and minimise the disadvantages of the questionnaire; the pilot research was conducted on Wednesday 30th June. The link for this questionnaire was sent to Libyan students by e-mail who study in the UK. The five respondents were different participants (one male, four females) from different universities and different courses. The items on the questionnaire were discussed during the questionnaire because the researcher wanted to know the thinking of the participators toward items on the questionnaire. The researcher used the feedback from the Libyan students and supervisor, some questionnaire items were revised to clarify questions, some items were cancelled which not offer useful data which related to the research questions. Moreover, this pilot study was used to clarify, revise the sub-questions and the research questions, minimise mistakes and assist the researcher in obtaining the data which she needed to achieve the goals of the project.

3.7. THE ACTUAL QUESTIONNAIRE PROCESS

Once the pilot study was finished, the questions were amended and published as needed. The researcher prepared the questions from the pilot study to minimise the disadvantages of the questionnaire to be clear to respondents; the actual research was conducted on Monday 19th July. To collect data, a questionnaire was send to Libyan students by e-mail and different areas in the UK. A questionnaire was also sent to the Libyan Cultural Affairs website (available at http://culturalaffairs.libyanembassy.org.uk/lca08/lcee/) this website distributed the questionnaire to Libyan students who study in the UK to share their thinking and comments. 200 questionnaires were distributed, 30 out of 200 questionnaires were received.

3.8. LIMITATIONS

The researcher faced some challenges which caused a few limitations to the research. One of these challenges was time. The time was limited to gather data, hence, the number of samples received was relatively small so had to be analysed carefully.

3.9.DATA ANALYSIS METHOD

Once the questionnaire was finished, data was analysed using MS Excel, the analysis of the results is published in chapter five, the four key research objectives (examine students' feedback for some Libyan students who studied abroad, measure the rate of Libyan students who like and feel comfortable with a new online environment and measure the satisfaction of students, to classify attitudes towards online environment (in terms of used tools), students approximations of their confidence in usage of computers and identify the main factors which are the most important and most indicative of students' satisfaction with online teaching and learning methods) were analysed. There are also other research objectives in chapter two and recommendations were analysed.

3.10. CONCLUSION

To sum up, the researcher carried out the research in the UK, using a sample of Libyan students. Mixed methods were selected to suit study needs in within-stage to gather data, the researcher used a questionnaire tool to collect both qualitative and quantitative data by providing open and closed questions. The pilot phase showed some errors in items on the questionnaire, overall structure of the items on the questionnaire was revised. The actual research was conducted with 30 Libyan students. This sample is positive to all students at Omer Al-Mukhtar University owing to the similarity among Libyan students. The findings of the study are available in chapter four.

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CHAPTER 4: ETHICAL AND PROFESSIONAL ISSUES

4.1. INTRODUCTION

This chapter discusses the ethical and professional issues, and what the different theories relating to these issues are. Here, copyright issues are discussed in detail along with an evaluation of the data protection process. In addition, this chapter provides some course of action on such circumstances and shows the difference between copyright and data protection.

4.2. COPYRIGHT LAW

Copyright is one of the main emerging issues where legal action is enforced. Importantly, in the UK, the Copyright law strictly prohibits someone from using another person's work without prior permission. More elaborately, no one is allowed to make copies, lend, re-produce or adopt any work that has been done by someone else without having authorization (UK Copyright Law, 2010). However, in the academic perspective, plagiarism is a crucial issue and occurres when one person copies or adopts another person's work without providing sufficient credit to the actual author. Here the researcher introduces the following actions to ensure the respect of all the issues of copyright:

- For constructing a theoretical framework, gathering of information is required from the legal and excellent secondary information sources such as the Metalib library catalogue, Google Scholar and the personal library of the researcher and her friends.
- Searching information, downloading them and using this information is a highly sophisticated technique and all of these works need to be done in a specialized approach. Importantly, abusive behaviour regarding information collection was strictly prohibited on those circumstances.
- Proper referencing has been provided for all the sources of information used.

4.3. DATA PROTECTION ACT

According to Rogerson (1996), 'computer ethics' or 'information ethics' is the result of the appearance of new technology. Importantly, the improvement and the development of science and technology divert the ethical system. He added that the book 'Cybernetics' (1984) introduced the influencing factor of computer and information technology and their effect on the social and moral structure of society. Later, different important and relevant concerns about computers and security, the accountability of the professional of computer and the disability of the computer technology users were discussed and evaluated in the scholarly publication 'The Human Use of the Human Being' (Bynum,1997, 2006 and 2007). Later British Computer Society (BCS), Association for Computing Machinery (ACM), and The Institute of Electrical and Electronics Engineers (IEEE) evaluated these issues and used these lessons to formulate proper rules and regulations. Importantly, they introduced these rules and regulations for protecting the privacy and the security of information. Moreover, In order to recognize the fact, realize it and acknowledge the accessing, storing and use of the data many rules and regulations come into place that ensure the proper utilization of data. Importantly, the Data Protection Act 1998 and 2002 is highly respected and focuses on the following aspects:

1. in order to get the benefit all the users of the data or information and all the agencies related to this matter need to register with the Data Protection Register;
2. different sorts of legal access authority and the level of these rights;
3. sata protection rules and regulations need to be adopted and realized;
4. convictive actions are strictly prohibited and they focus on all possible kinds of criminal activities regarding information protection.

Data Protection Act, 2002

4.4. CODE OF ETHICS IN THIS STUDY

The researcher was honest and open regarding her work, and students had agreed to be part of the research. Also, the researcher provided the Code of Ethics to students before asking the students to fill the questionnaire. It helped the students to understand what the researcher proposed to do with data. Also the given Code of Ethics showed the students that the researcher would process the data with honesty and integrity. The following section provides a summary of set ethical principles that are covered in this study:

1. Anonymity: no personal data on names was gathered in the survey. The researcher did not write any sensitive personal information about students such as address, names and emails. During the survey the researcher was aware of the need to prevent any harm and ensure that the correct data was obtained. p5

2. Confidentiality: the researcher ensured that the relevant data was used for this study purpose only. Moreover, the researcher confirmed that the data would not be used for any other purpose in the future. In addition, after finishing the research work the researcher will eliminate this information. p1, p2, p3.

3. Right to comment: the researcher believed that participants had the right to go through the study process. Moreover, students had the right to comment about the process of the study and final report if they were not happy with that. As the researcher encouraged the participation of the students as part of the research she would accept it. p1

4. The final report: the researcher has given a free photocopy of the report which contains the procedures and future of the findings. The researcher no longer produces the short report and the photocopy was sent to interested participants free of cost, even the postage cost was paid by the researcher.

5. Honesty: the researcher has striven to be honest in this study. She was honest with findings, report data and publication status; she did not misrepresent or falsify the data.

6. Objectivity: the researcher has striven to avoid bias for analyzing and interpreting data.

7. Integrity: the researcher has acted with sincerity and kept her agreements and promises. Besides, the researcher aimed for consistency of action and thought.

8. Carefulness: the researcher avoided negligence and errors and she kept a good record of the activities of the research.

9. Intellectual Property: the researcher respected Intellectual Property such as copyright. She did not use any unpublished data or findings without permission.

10. Non-discrimination: the researcher avoided discrimination against students on the basis of gender, ethnicity or any other factors that were not related to scientific integrity.

11. Human Subjects Protection: the researcher tried to minimize harm and maximize advantages when conducting the survey and respected students' dignity and privacy.

12. Data Protection: the researcher has read the Data Protection Act before conducting questionnaire. The researcher acted fairly and lawfully with data and personal information and she did not keep the data longer than necessary. Moreover, the researcher kept information in a safe place without making any changes.

The main purpose of the Data Protection Act is to make the authorities available to the people to have access on the information and how their providing information has been recorded and how this information will be used. Moreover, controlling the information, which means who will take care of the information and how the authority will take care of it, is another main purpose of the Data Protection Act and, fortunately, this Act ensures that all the demands of the information providers are met. However, if any researcher works with the personal information of the information provider she needs to follow eight main principles. Because of the nature of the study only five principles were applicable in that circumstance and they are given below:

- Principle 1: "Personal data shall be processed fairly and lawfully."
- Principle 2: "Personal data shall be held only for one or more specified and lawful purpose."
- Principle 3: "Personal data shall be adequate, relevant and not excessive in relation to the purpose or purposes for which they are processed."
- Principle 4: "Personal data shall be accurate and, where necessary kept up to date…"
- Principle 5: "Personal data processed for any purpose or purposes shall not be kept for longer than is necessary..." (Data Protection Act ,1998 & 2002)

The researcher took some initiatives in each phase of the research to ensure the application of the five principles and the stages are given below:

4.4.1BEFORE COMPLETING THE QUESTIONNAIRE

- The researcher needs to explain the objective of the study along with the proper topic of the research. Moreover, the researcher need to provide the acceptable reason for data collection and she needs make it sure that the students know the ultimate purpose of the survey. (P1 and P2)
- In order to discover the possible risks and barriers, the researcher needs to conduct a pilot survey and, according to the findings of that survey, the researcher needs to take required initiatives by modifying or removing some issues. (P5)

- Before starting the survey, the researcher needs to make herself fully aware of the Data Protection Act and set her plan according to that. (P1)
- The researcher needs to ensure that the questions are relevant to the study only and she does not ask any questions that are not going to be used in that specific study. (P3 and P4)
- The researcher has to confirm that the questions are easily realizable by the participants. (P3 and P4)
- The researcher needs to avoid the questions which are not necessary and irrelevant. (P3)

4.4.2.AFTER COMPLETING THE QUESTIONNAIRE

- The researcher needs to keep the gathered data in a safe and secure place. (P5)
- The researcher should not talk about the findings of the data to someone else other than the supervisor. (P5)
- The researcher needs to keep the related report out of the reach of any members of her family. (P5)
- The researcher is bound to use the collected information only for the purpose that is mentioned and she is strictly prohibited to use this information for any other purpose. (P2)
- The researcher is liable to analyze all the collected data by giving same priority and all the data deserves equal treatment from the Researcher in terms of effort and sincerity. (P1)
- It will be more identifiable and recognizable if the researcher uses numbers for the quotations of the participations: for example, P1 said… and P4 said…. (P1)

4.5. CONCLUSION

In brief, the researcher discussed Copyright law, the Data Protection Act, computer ethics, and ethical issue. Moreover, some principles and acts were discussed in order to make sure that private data were processed securely. The author reflected on her understanding of the professional principles and ethics by talking through the steps she followed when gathering the data and the analysis phases, thus the researcher acted fairly and lawfully with the data collected.

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CHAPTER 5:DATA ANALYSIS, FINDINGS AND DISCUSSION

5.1. INTRODUCTION

This chapter will analyse students' feedback for some Libyan students who studied abroad, thereby evaluating the e-learning environment as an effective support to face-to-face learning at the University of Omer Al-Mukhtar and other research objectives will be provided in the next section. The actual research was conducted with 30 Libyan students; the findings reflect the fifteen percent who responded to the questionnaire. The questionnaire comments and suggestions reported by students on e-learning are also reflected in the results.

5.2. RESEARCHER OBJECTIVES

RO 1: Testing the effect of different elements like educational level and gender on the attitudes toward an online environment (in terms of used tools).

RO2: Students' approximations of their confidence in usage of computers.

RO3: Measure the rate of Libyan students who like and feel comfortable with a new online environment.

RO4: Identify the main factors which are the most important and most indicative of students' satisfaction for online teaching and learning methods.

5.3. DATA ANALYSIS

5.3.1. COMPUTERS USING BY MODE OF STUDY AND AGE

As could be expected, analysis of using computers by age of students discloses strong links with the mode of study, as younger students (especially students aged 21–35) were full-time students. As the graphs below illustrate, full-time students used a computer every day and had a strong tendency to using technology compared with other students, such as part-time students. Especially, there were important differences for:

- Very rarely, if ever (12% compared with 73%);
- Occasionally (19% compared with 18%);
- Every day, I'm addicted! (69% compared with 73%);

However, there was quite a similar number for occasionally (19% compared with 18%); notably, younger students were more likely to use computers for different reasons compared with students aged 35+.

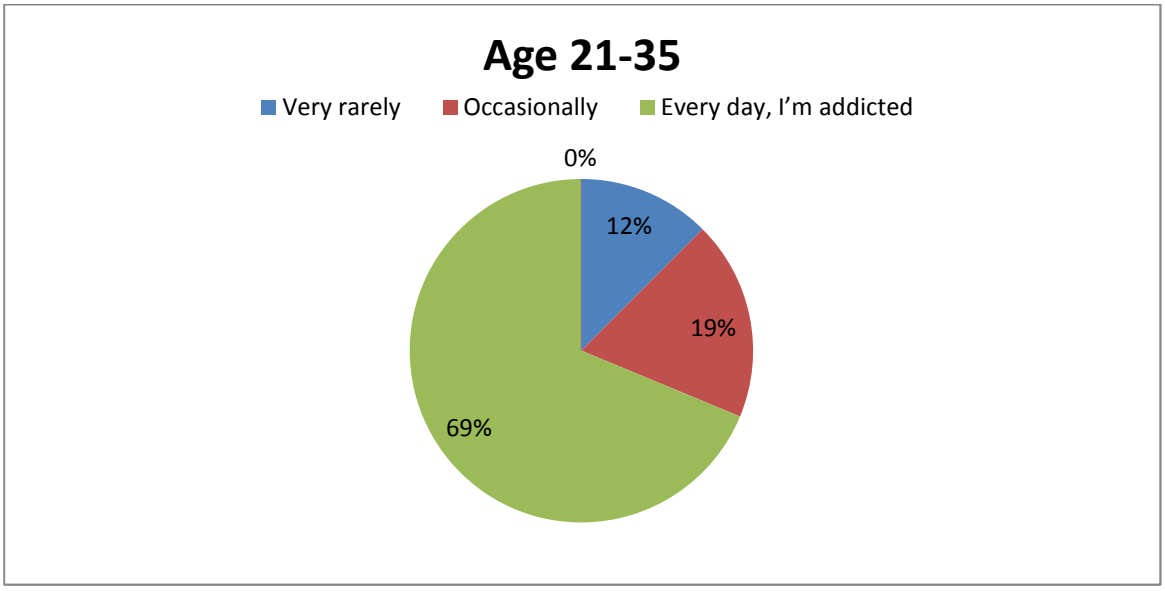


Figure 5.5: Computer use by full-time students age 21–35

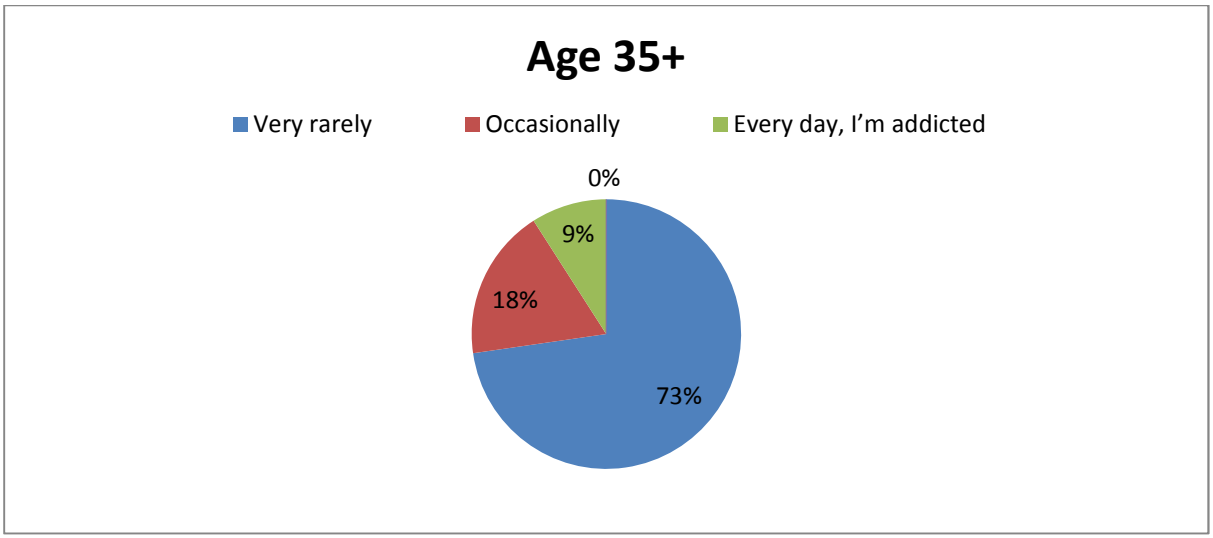


Figure 5.6: Computer use by part-time students

5.3.2. USAGE OF COMPUTERS BY GENDER

The analysis of data revealed a set of significant differences in the way males and females who were using computers, males were more likely than females to use computers. These differences in using computers among males and females could be related to the different subjects which students tended to study. The study stated that males were more likely to study subjects which related to usage of computers, which require students to use computers for different reasons. For instance, Advanced computer science, Accounting and Engineering (54% compared with 15% female). In contrast, females were more likely to study Chemistry (23% compared with 15% male) and English (31% compared with 8% of males) see figure 5.7 and figure 5.8.

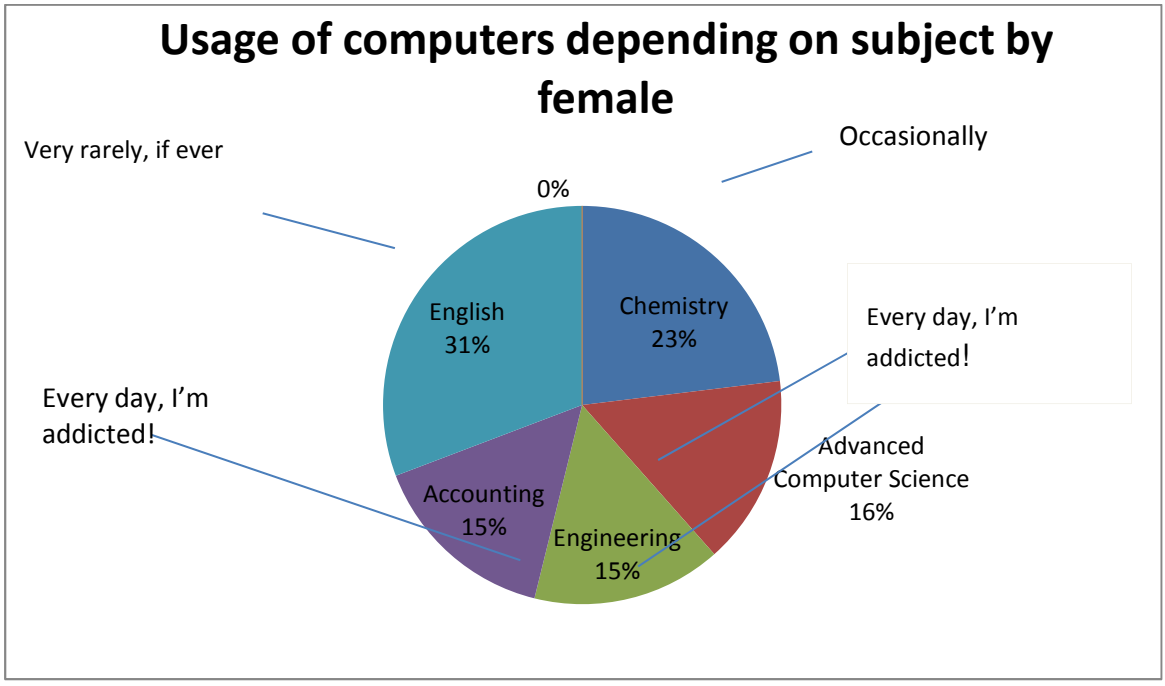


Figure 5.7: usage of computers by females

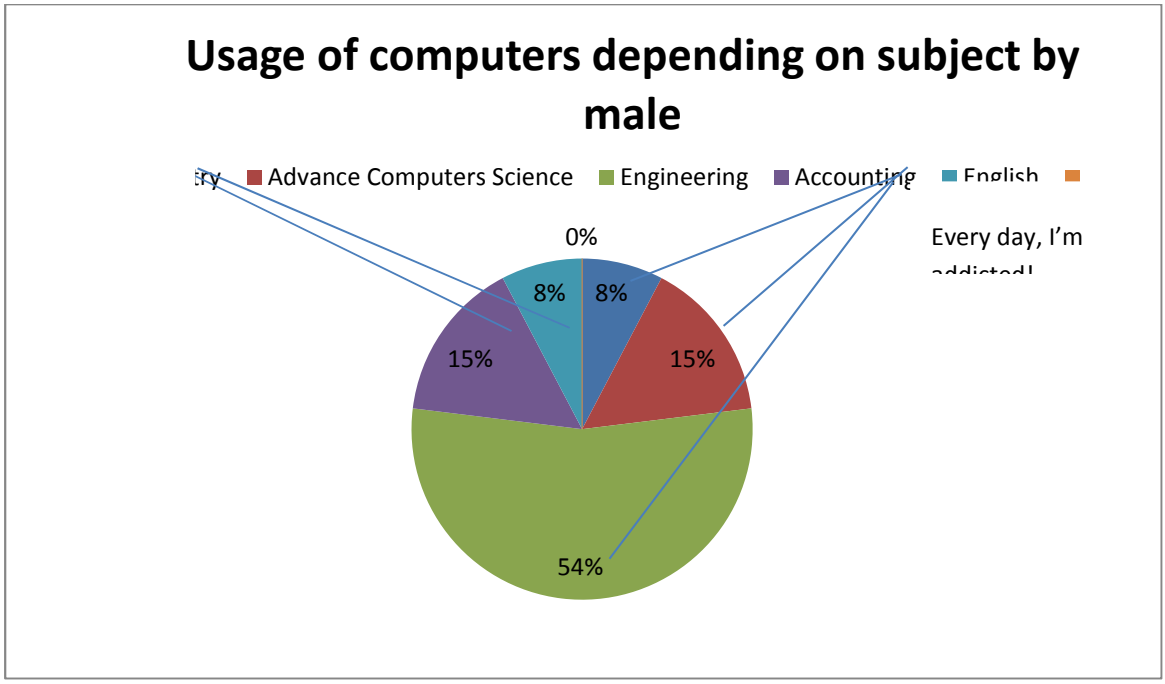


Figure 5.8: usage computer by males

5.4. How long have you been using computers?

Most students from female and male have been using computers for over ten years ago. The percentage was 67% compared with other students who stated that they have been using computers from two years, other said five years and the rest said they have been using computers from eight years ago, those students were age 35+years, as illustrated in the graph below.

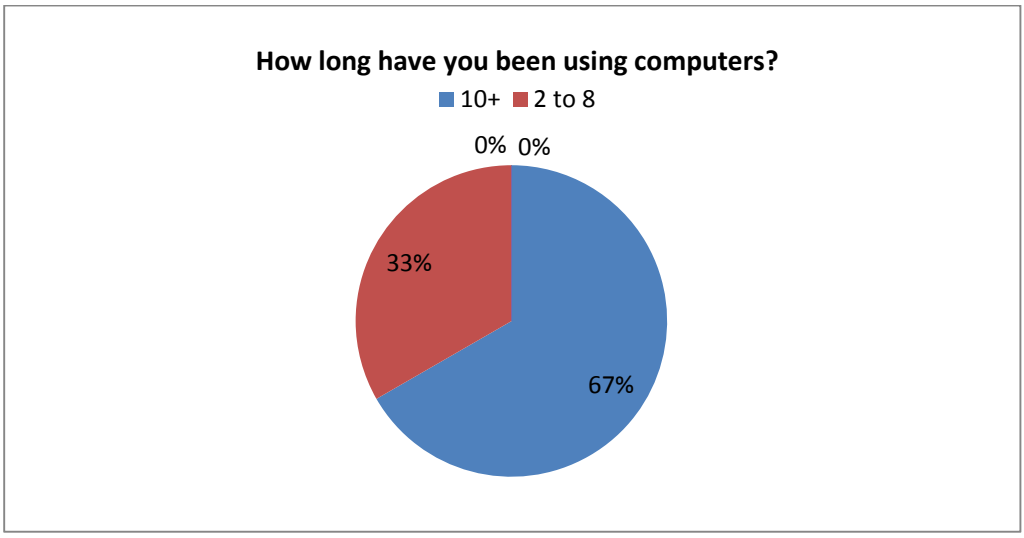


Figure 5.9: How long have you been using computers?

These results suggest that students aged 35+ were at a drawback as students were not using computers as much as younger students to access e-resources. The findings also suggest they were not sending emails and research embracing new knowledge (such as using computers to create photos and graphs) as much as their younger students. This would be related to the kinds of course older students were studying years ago. They were not likely to be studying computer skills.

5.5.Hours using the Internet per week

Moreover, 58% of the students spend approximately over 15 hours per week on the Internet at their home or another place, those studying Engineering and Computer science were most likely to spend over 15 hours per week on the Internet as illustrated in the graph below, other students spend between 5–10 hours per week.

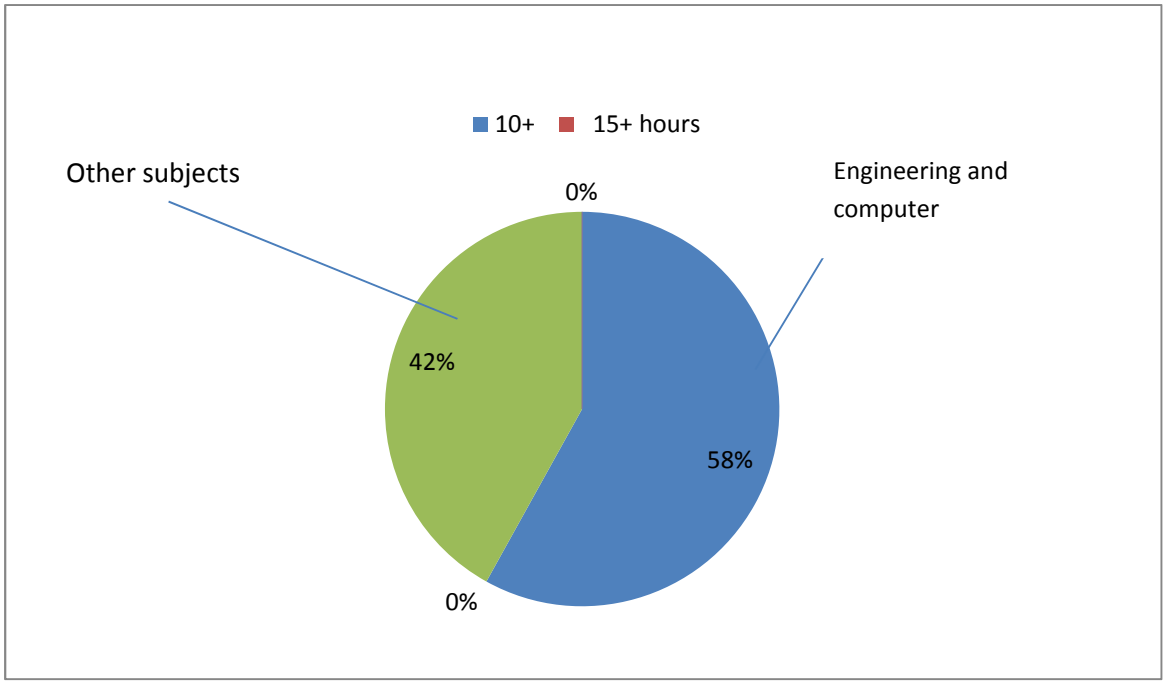


Figure 5.10: Hours using the internet per week

5.6.1. Students' confidence in using computers

In order to discover how students feel about using computers the students were asked to state which of these statements most closely related to them:

- I am not confident in using computers, because I am not good at all at using technology.
- I am good at using computers for some essential tasks.
- I am very confident in using computers for many tasks.

The majority of students were confidents using computers as illustrated in the graph below; about half (47%) stated that they were so confident in using computers for many tasks, whereas 38% of students said that they were good at using computers. Males were more likely than females to be confident; 37% of males compared with 10% females.

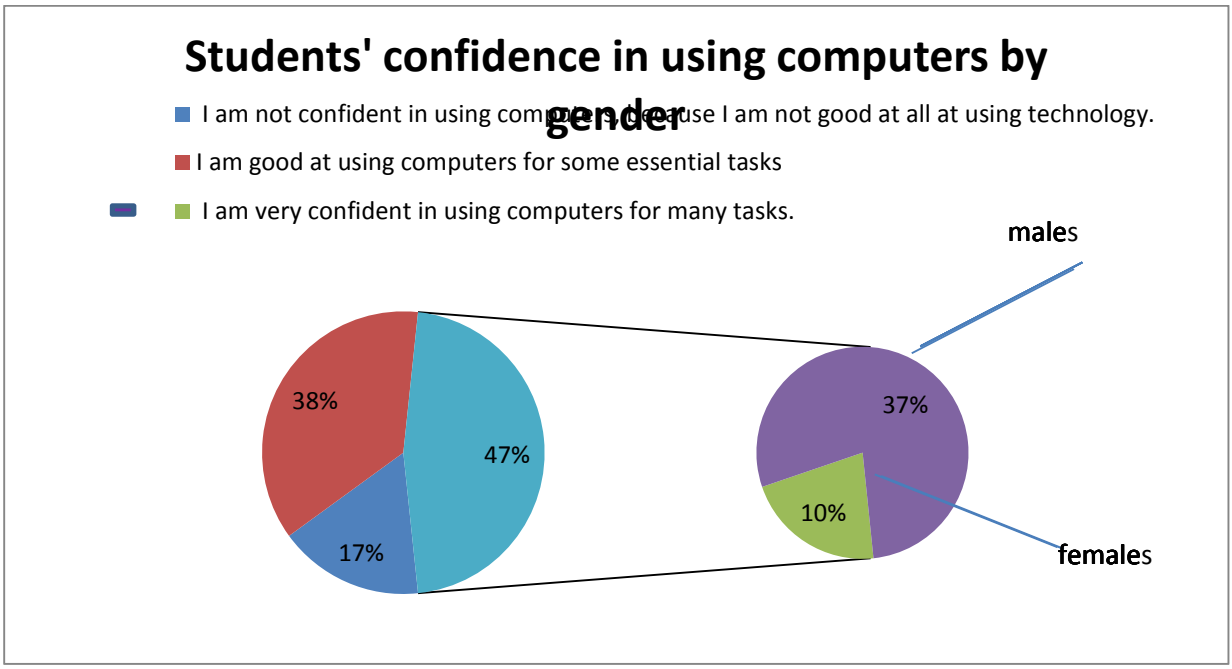


Figure 5.11: students 'confidence in using computers by gender

Age was a significant element, with older students less confident than younger learners, 10% of students aged 35+ felt confident compared with 41% 21–35-year-olds as shown below.Students studying Advanced Computers Science and Engineering were the most confident in using computers, whereas students studying Business, English, Chemistry

and Health Social Care were the least confident in using computers. Full-time students stated more confidence in using computers than part-time students.

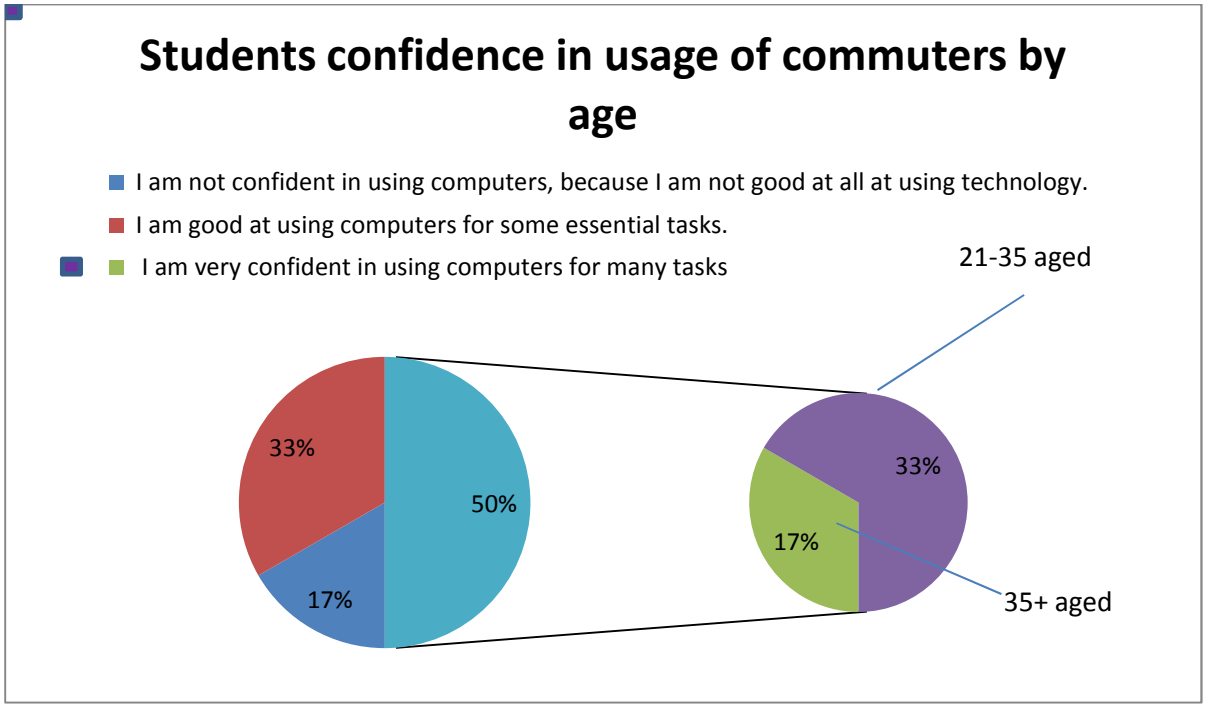


Figure 5.12: students 'confidence in using computers by gender

5.6.2. What do you use the online environment for?

Learners were asked questions regarding online environment use in their study. As would be expected, students describing themselves as confident with using computers were more likely to use the online environment than students who considered they were not confident with using computers. The significant factor with students using the online environment was to access e-resources concerning their subjects, the percentage was 24%, and 23% used it to write messages to their tutors, 15% of students used it to take quizzes, 18% used it to post emails to other students and 20% of learners used it to submit their work to their tutors, see the graph below.

You use the online environment for:

A-To write messages to your teacher(s) about your study
B -To access e-resources
C-To post emails to other students on your course
D-To take tests
E-To submit your work and projects to your teachers

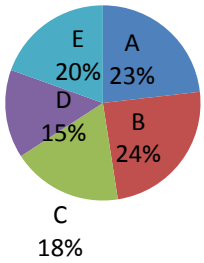


Figure 5.13: Usage of online environment

5.7. STUDENTS' SATISFACTION TOWARDS E-LEARNING

Do you think your experience with the online environment was interesting? If yes: would you like to take other online courses in the future?

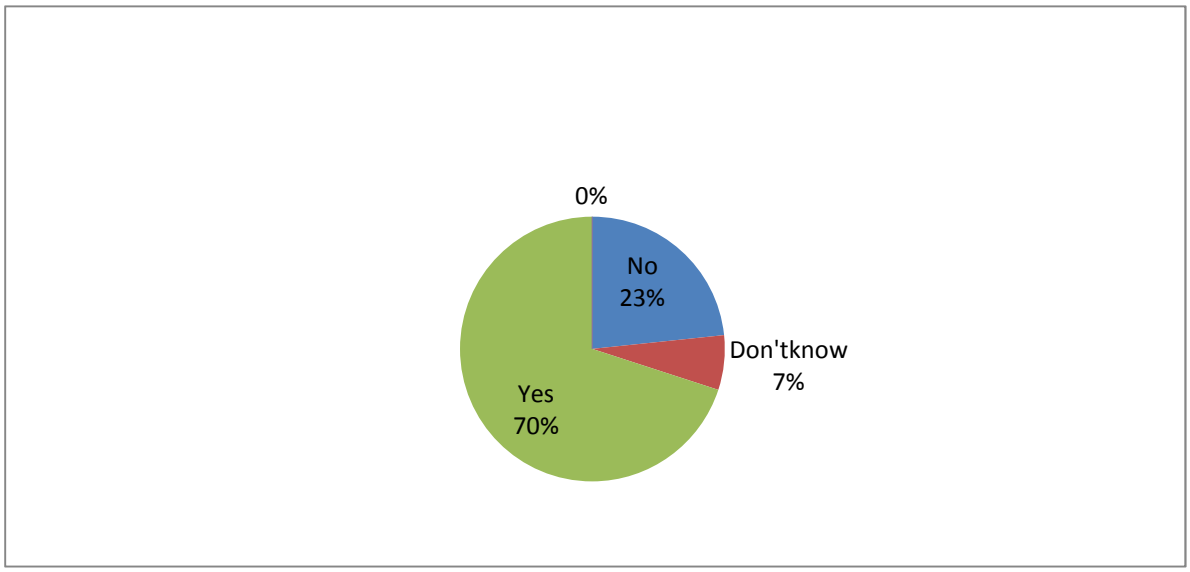


Figure 5.14: students 'satisfaction towards e-learning

Do you recommend an online environment to Libyan students who study in Libya?

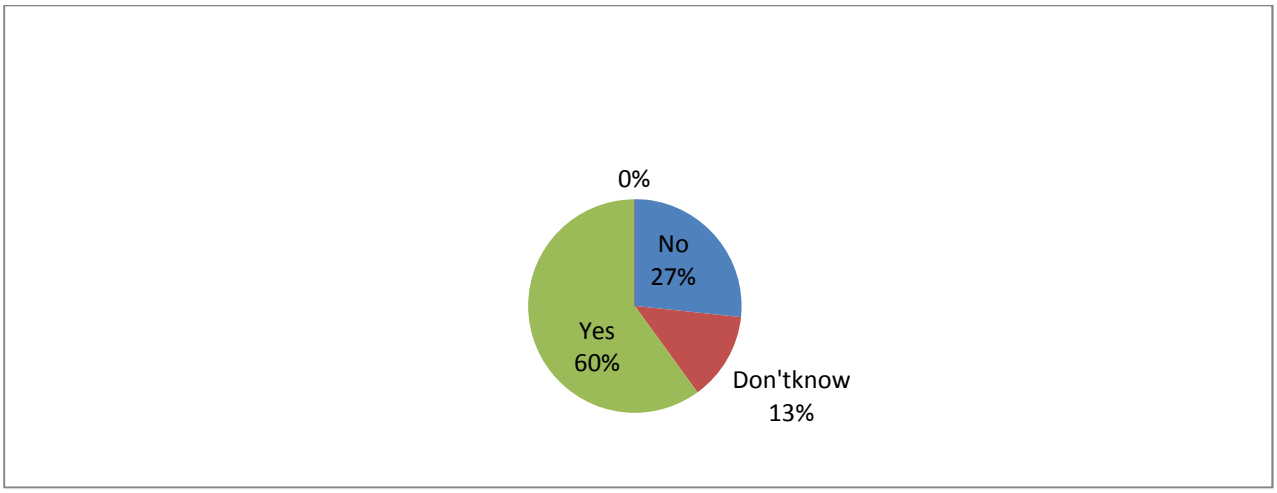


Figure 5.15: students 'satisfaction towards e-learning

Do you think when traditional learning is blended with e-learning, it shall be more useful?

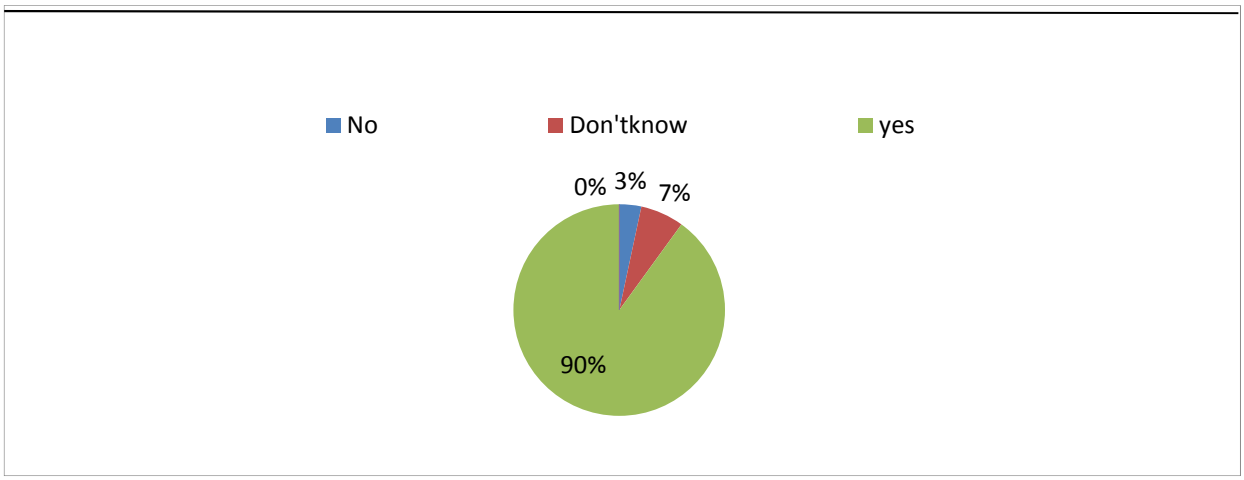


Figure 5.16: students 'satisfaction towards e-learning

As illustrated in the graphs above, 70% of Libyan students found e-learning interesting; they liked the online environment and wished to take another online course. In addition, 60% would recommend the online environment to Libyan students who study in Libya. Only 23% were not interested in the online environment. Interestingly, 90% agreed that if traditional learning is blended with e-learning, it shall be more useful.

5.8.STUDENT ATTITUDES TOWARDS AND BELIEFS ABOUT THE ONLINE ENVIRONMENT

Getting more information through teachers and the e-library was found to be the key attributing factor for students' satisfaction toward using the online environment (refer to table 5.1). However, most comments which were received by students were the same. Around 70% of Libyan students expressed their praise for the online environment.

Table 5.1 Libyan students' views for testifying satisfaction about using the online environment

Reasons for Satisfaction	**Attributing Factor**
Online environment gave me the opportunity to access the e-library and contact with my tutors easily.	Knowledge gained, tutor support
I can access the e-book and get more information at any time I want.	Knowledge gained
I can get other people's idea by using discussion boards and improving my skills.	Knowledge gained
I can keep up with my assignment and am able to complete it on time.	Time management
I can communicate with my tutors by e-mail and they always give me feedback on my work.	Knowledge gained, tutor support
With co-students, I can get more information by discussion board.	Knowledge gained

It gave me help to learn what I need for assignments.	Knowledge gained.
I can get and gain info about assignments and courses.	Knowledge gained
It's very useful and I encourage everybody to use it and it essential for anyone who needs to improve his or her skills.	Recommendations
There should be blended e-learning with traditional learning in higher education to improve and development of learning and teaching process in L IBYA.	Recommendations
Some time it is a good, interesting, and easy but not always I thank should be mixed together .	Recommendations
I would recommend it to students who have the basic knowledge how to use it before involving in this kind of learning. Otherwise it will be hard for them.	Recommendations
In my opinion the online environment is a very successful discovery, especially through communication between individuals and people anywhere and anytime, where the world has become a small village. This in turn has been reflected in all fields including social, scientific, political and even cultural with all advantages disadvantages.	Knowledge gained
It is very useful, because I can access e-resources and my e-mail at any time I need.	Knowledge gained, time management
It is good idea when it is mixed with traditional learning.	Recommendation
That will help users to get as much knowledge as they want and easy to get all information of e-learning.	Knowledge gained
It is a sufficient way to get accessible information and resources.	Knowledge gained

-It creates perfect learning atmosphere. *-As a facility, it provides students with a wide range of learning experiences that are not available by other services.*	
For the education process, I consider it as the fundamental way to get all the information you need in an easy way and without consuming time. Nowadays, there are some of electronic books that are available online which are free and you can use it at any time. Moreover, there are some courses that depend strongly on using Internet, such as corpus analysis especially by 'Wmatrix' which is a fundamental tool in analysing language according to linguistic framework.	Knowledge gained, time management

Table 5.2 below shows the reasons students who were dissatisfied with online environment was owing to lack of time and lack the skills, some of the students were more inclined to traditional learning where their learning style did not suit online learning and teaching. Furthermore, some learners lack the skills for learning in the online environment. Those students prefer traditional learning methods.

Table 5.2: Students' views for testifying dissatisfaction about the online environment

Reasons for dissatisfaction	**Attributing factor**
I don't have time to get information through the e-library.	Lack of time
I like to discuss with my tutor face to face.	Learning style
Sometimes my tutor does not reply to my questions by e-mail and then I cannot understand what is going on in my project.	Skills for email, tutor support

The four research objectives were examined in the previous sections. The research results are provided in the next section.

5.9.DISCUSSION AND COCLUSION

Based on the findings, the main factors analysed, tutor support, learning styles, and time management, do influence student satisfaction; however, gaining knowledge was the most impact factor in determining student satisfaction with online learning. Moreover, the general opinion of e-learning is that flexibility and tutor support were the main reasons for students' satisfaction. The majority of students in this research were comfortable and confident concerning usage of computers as well as the online environment in general, most students spent over ten hours per week on the Internet in their home or other places, also most of them had experience using computer over ten years, and the majority of students recommend blending this environment with traditional learning. Also, some of them recommended the online environment to Libyan students who study in Libya. However, a few students preferred traditional learning to online learning, the main reason was lack of skills to learn and lack of time to access to the online environment.

The findings showed that Libyan students had positive attitudes towards e-learning; our findings achieved research objectives and answered the research question (research hypotheses) which was 'Does e-learning replace face-to-face learning or does it support learning?' The findings showed that e-learning supports traditional learning methods, the results based on the respondents' gender, educational level and age. The findings showed that E-learning is also an effective teaching method to motivate students to learn and encourage them to continue in further education. Thus, technology plays an important role in improving and developing teaching methods as well as giving students wider opportunities to learn.

CHAPTER 6: EVALUATION

6.1. INTRODUCTION

This chapter provides an evaluation of the project, its success, time management skills, self-evaluation and the research method in terms of productivity as well as validity of the product.

6.2. EVALUATING THE PRODUCT (MANAGEMENT REPORT)

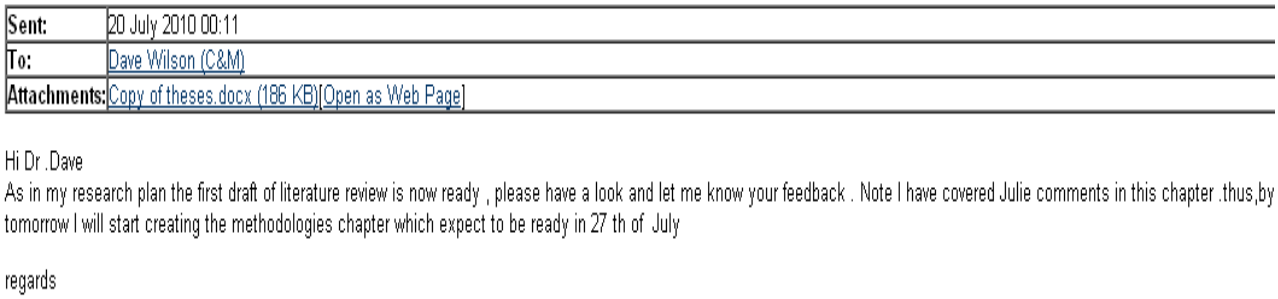
The researcher has evaluated the research paper by:

- understanding how to write a report's 'Abstract'. The researcher was aware that the Abstract included a short review of the methods and investigation, and pointed out the findings;
- understanding how to write the report's 'Introduction'. The researcher was aware that the introduction was at the beginning of the report, after the Abstract, and included information concerning the researcher's interest in this subject and why she selected to investigate on this issue as well as justified why Mixed method was chosen as the approach in her research;
- understanding how to write the report's 'Method' section. The researcher was aware that the 'Method' section followed the introduction in a report which discussed the detail of the techniques used (questionnaire) and Mixed method that were used to collect data. She was aware that the 'Discussions' section followed the Method section in the report, which discusses what was the best model of e-learning which was discovered from investigation and research, and explained the results with more detail which contained statistics, questions and analysis; and
- understanding how to write the report's 'Recommendation'. The researcher was aware that the recommendations were the last part of the report. The recommendations were based on findings and investigation in Chapter Two, which was part of the project and included the necessary project plan.

6.3.EVALUATING THE PROJECT

This study appeared to be successful due to:

1. The scope of the investigation has been identified in term of references.
2. The researcher understood the scope of the study.
3. The researcher understood the theoretical framework which related to the subject of e-learning.
4. The researcher used the best of her ability to utilise literature and other resources of data.
5. The overall of project was organised.
6. The project was free from grammatical or spelling errors and had no complicated text.
7. The thesis was written in a formal technique. The project was a well-coherent whole.
8. It was possible to achieve the key research objectives (Chapter 5).
9. The author was able to submit it on the time.
10. The author covered the ethical and professional issues (Chapter 4).
11. The author followed the project plan strictly (Figure 15).
12. The requisite product was published (Appendix 3).
13. The author was capable of managing her time during working on the project and worked very well. The author was able to finish each chapter of this project as scheduled in the Actual project plan (Figures 6.17 and 6.18).



Sent:	20 July 2010 00:11
To:	Dave Wilson (C&M)
Attachments:	Copy of theses.docx (186 KB)[Open as Web Page]

Hi Dr .Dave
As in my research plan the first draft of literature review is now ready , please have a look and let me know your feedback . Note I have covered Julie comments in this chapter .thus,by tomorrow I will start creating the methodologies chapter which expect to be ready in 27 th of July

regards

Figure 6.17: Evidence of commitment to the schedule

Date	Task	Milestone
June	• Review of literature • Formulate research proposal • Formulate TOF • Draw mind map for initial literature review	a) Completion of initial literature review –end June b) Completion of moderated research proposal – c) Completion of moderate TOF last draft end June
July	• Collect previous statics , quantitative and qualitative data from literature review • Prepare materials • Draw mind map for literature review • Read more about methodology sector • Design questionnaire • Send questionnaire	A) End of July Completion of data collection. b)Revise and edit findings

Figure 6.18 :Actual project plan

Clearly, the author wanted to use a checklist, there was extra time to address some questions to which her answers were 'no' or 'not sure'. The author finished the checklist in week 9 and was ready to take it to her final meeting with her supervisor.

Table 6.3: Using a self-evaluation checklist supported by (The University of Southampton, 2003).

Questions	Yes/No/Not sure

1 Dissertation topic Is the topic clear and well defined? Does it involve a problem, question, or hypothesis that sets the agenda and points precisely to what needs to be explored or discovered? Is the topic of genuine relevance or interest within your subject discipline? Does it pick up on important or interesting themes or subjects arising from your studies?	
2 Literature review Have you accessed the most recent literature of relevance to your topic, as well as seminal sources from the past? Do you refer to major books, articles, artefacts? Since quality is more important than quantity – how well have you selected your material? Does the literature review hang together, to show how the ideas and findings have developed, or is it merely a shopping list of books and articles? Is the review critical? Does it briefly evaluate, showing how your dissertation fits into what is mistaken or lacking in other studies? The literature review should provide a critically appraised context for your studies. into what is mistaken or lacking in other studies? The literature review should provide a critically appraised context for your studies.	
3 Theoretical underpinnings Does theory permeate the structure from beginning to end, from statement of problem to recommendation? Are you asking yourself a key question, presenting a thesis, or defending a statement? Be clear about your approach. Theory is the framework of your study – not a luxury. Your dissertation will be judged, in part, by how well you express and critically understand the theory you are using, and how clearly and consistently it is connected with the focus and methodology of your dissertation.	

4 Methodology Two chief criteria: Is your choice of methods and research techniques well suited to the kind of problem you are studying? Methods work if they provide a persuasive response to your question, positive or negative. Is your description of the methods you have adopted clear enough to take a blueprint and replicate?	
5 Results Are your findings faithful to what you actually found – do you claim more than you should? Don't 'massage' your evidence or findings… Have you provided enough evidence to make a convincing case? Have you presented everything directly relevant to the question in such a way that the reader doesn't have to flip back and forth to make her or his own connections? Are results or findings clearly and accurately written, easy to read, grasp and understand?	
6 Discussion and recommendations Have you achieved research objectives' So what?', What should we do with your findings and research? What do they imply? Findings don't speak for themselves – they need to be analysed. Have you explained what your findings mean and their importance, in relation to theory and practice?	

6.4.EVALUATING THE RESEARCH METHOD

- The research approach adopted in order to achieve the research objectives was Mixed methods.
- The researcher showed the ability to select a justified approach for achieving the aim.
- The thesis presented well-founded recommendations drawn from the findings and research.
- The findings achieved the research objectives presented.

Mixed method was useful as a research method because:

- it allowed the researcher to achieve the research objectives; she was able to discover that Libyan students had positive attitudes towards e-learning. Mixed methods are a useful approach to discovering the opinions and main factors which are the most important and most indicative of students' satisfaction for online teaching and learning methods; it was therefore the most suitable approach for this study (Chapter 3);
- it allowed the researcher to understand that the general opinion of e-learning is that flexibility and tutor support were the main reasons for students' satisfaction;
- it helps to show the researcher how change could be acquired.

However, this method appeared to be a challenge for the following reasons:

- the researcher faced some challenges such as lack of necessary data sources at the library;
- the researcher lacked knowledge in this area;
- the major data gathering technique was a questionnaire, which greatly depended upon the author's writing skills; and
- lack of necessary literature, which was significant to give details in the process stages.

The author was able to confront the challenges by:

- buying information sources;
- seeking support from experts who had knowledge in this area and asking friends who adopted similar methods;
- reading regularly and minimising the disadvantages by conducting a pilot study; the pilot study was used to clarify, revise the sub-questions and the research questions, minimise mistakes and assist the researcher in obtaining the data which she needed to achieve the goals of the project;
- improving the questions in the questionnaire using her own knowledge and her supervisor's and Dr Julie's comments.

6.5. SELF-EVALUATION

To complete the requisite self-evaluation, the author has designed the following table to illustrate the differences among her competencies before and after the dissertation. Also, she gives the causes of development.

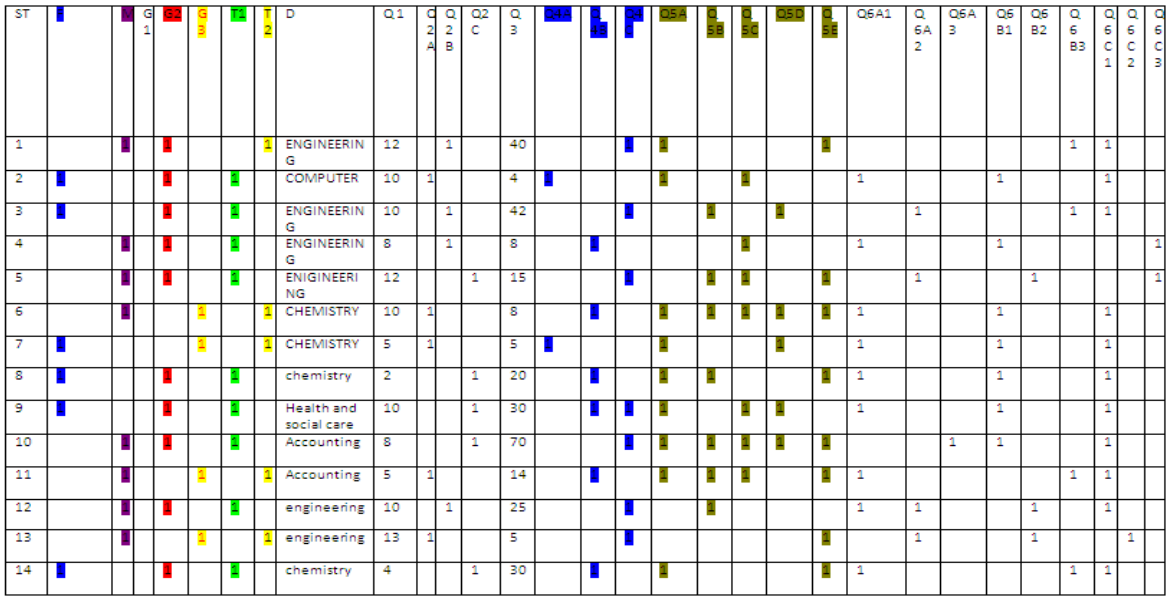
Table 6.4: Comparison of the author's competencies before and after the dissertation

Before the dissertation	**After the dissertation**	**The causes for development**
In terms of communication skills, I was not confident to ask tutors, I always was scared and shy when I was in front of a tutor.	Good communication skills	The project assisted me with developing my self-confidence. Communication with my supervisor was good; the on-line environment has helped me to improve my self-confidence, along with the feedback from my supervisor. In my case, I preferred to deal with my supervisor because he is the first person I met when I came to school, he accepted my request to be my supervisor, even though this project is not software programme, when I told him I felt comfortable talking to him.

		I continually asked my supervisor for advice concerning revisions of the chapters of my project. I also communicated with experts in the school, such as Dr Julie, who gave me a good plan to my project.
Reasonable English skills	Good English	Writing the questions in the questionnaire, writing the project and communicating with supervisor.
Reasonable time management skills	Excellent time management skills	Shortage of time for a large project. After completing the seven modules, I can manage my time and I felt that I made excellent improvement in terms of management skills during this work. Even though it demanded a lot of effort due to the researcher wanting to follow her project plan strictly, I kept to my agreement to submit my work on time and arrive at the times when I had appointments with my supervisor. I provided the best of my capability to finish this dissertation by

		the deadline.
Good data transcript skills	Excellent data transcript skills	Transcription of 30 responses during the project even though the time was limited.
Social Competencies	Ethical manner. Good co-operative and helpful relationships with Libyan students	Since the MSC course started I have been strictly commitment to work in ethical manners. Well, working with my supervisor was not the only relationship I have involved in during this project. I had to deal also with Libyan students.
Technical	Good understand specification (informal ,structured or formal)	I have reviewed structure of documentation file.

It is important to point out that the author was able to save data in a digital table, such as using table templates in Microsoft Word, in order to analyse the data ,see (Figure 6.19).



ST			G1	G2	G3	T1	T2	D	Q1	Q2A	Q2B	Q2C	Q3	Q4A	Q4B	Q4C	Q5A	Q5B	Q5C	Q5D	Q5E	Q6A1	Q6A2	Q6A3	Q6B1	Q6B2	Q6B3	Q6C1	Q6C2	Q6C3
1		1		1			1	ENGINEERING	12		1		40			1	1				1						1	1		
2	1			1		1		COMPUTER	10	1			4	1			1		1			1			1			1		
3	1			1		1		ENGINEERING	10		1		42			1		1		1			1				1	1		
4		1		1		1		ENGINEERING	8		1		8		1				1			1			1					1
5		1		1		1		ENIGINEERING	12			1	15			1		1	1		1		1			1				1
6		1			1		1	CHEMISTRY	10	1			8		1		1	1	1	1	1	1			1			1		
7	1				1		1	CHEMISTRY	5	1			5	1			1			1		1			1			1		
8	1			1		1		chemistry	2			1	20		1		1	1			1	1			1			1		
9	1			1		1		Health and social care	10			1	30		1	1	1		1	1		1			1			1		
10		1		1		1		Accounting	8			1	70			1	1	1	1	1	1			1	1			1		
11		1			1		1	Accounting	5	1			14		1		1	1	1		1	1					1	1		
12		1		1		1		engineering	10		1		25			1		1				1	1			1		1		
13		1			1		1	engineering	13	1			5			1					1		1			1			1	
14	1			1		1		chemistry	4			1	30		1		1				1	1					1	1		

Figure 6.19: Example of a digital table used to save data

6.5.1. Benefits gained

As a consequence of this knowledge, my abilities are greatly developed; I am now much better at writing research papers, providing recommendations, and can analyse real issues. This dissertation aided me with explaining a difficult issue by conducting a questionnaire. Last, but not least, I can now state that I am PERFECT, but I had to work hard to gain knowledge and practical skills. At present, if somebody asked me, “Do you have practical experience?” I will be more confident in saying, “Yes, I have.”

6.6. CONCLUSION

To sum up, the aim of this chapter was to evaluate the research approach, the project, product and self-evaluation. Consistent with the evaluation above and what has been written before, this dissertation has been successfully concluded but with more effort and hard work. The author was able to provide the best of her ability to achieve this project successfully, at the same time the researcher want to learn more in order to write Chapter Seven. Chapter Seven provides recommendations for Omer Al-Mukhtar University and gives a necessary project plan for the University to move to an online environment.

CHAPTER 7: RECOMMENDATIONS

7.1. INTRODUCTION

This chapter includes recommendations based on the investigation and research which is highlighted in the range of chapters and in the findings from this research study. The first section covers the author's recommendations. The necessity of producing a strategy plan to move to an on-line environment is also a main topic of this chapter.

As part of her research and investigation, the researcher has carried out wide reviews of literature which related to e-learning models, e-learning platforms and other topics. The researcher based her recommendations for Omer Al-Mukhtar University on this literature and findings, which showed that Libyan students had positive attitudes towards e-learning and the majority of students recommended blending this environment with traditional learning.

So, our limited research proposes that blended e-learning is suitable for the University and will be able to support traditional learning. The research stated that both traditional and electronic learning have advantages and disadvantages so we cannot dispense with the traditional education system nor can we dispense with the option of electronic technology.

Based on the literature (page 19, Chapter two) as evidence, which is supported by Tmeizeh and Itmazi (2008) and data analysis which was extracted from the questionnaires, 70% of Libyan students found e-learning interesting; they liked the online environment and wished to take another online course. In addition, 60% would recommend the online environment to Libyan students who study in Libya. Interestingly, 90% agreed that if traditional learning is blended with e-learning, it would be more useful (see figures 5.14, 5.15 and 5.16). Furthermore, the majority of students were confident using computers as illustrated in the graph 5.11 in Chapter five; almost half (47%) stated that they were very confident in using computers for many tasks. Also, most comments which were received by students were the same. Around 70% of Libyan students expressed their praise for the online environment. Some of them said that "*should be blended e-learning with traditional learning in higher education to improve and development of learning and teaching process in LIBYA"*. Others said *"Some time it is a good, interesting, and easy but not always I think should be mixed together"*.

Also, the rest of them said that *"It is good idea when it is mixed with traditional learning"* (for more details see table 5.1 in Chapter five).

From these results we can recommend that blended e-learning is appropriate way forward for Omer Al-Mukhtar University. Consequently, our study suggests that the best model for our university is the blended e-learning model which employs e-learning integrated with learning in the classroom (traditional) in the processes of teaching and learning (there is an example of applications of blended e-learning supported by Tmeizeh and Itmazi (2008) in Chapter two).

7.2. WHY BLENDED E-LEARNING?

Omer Al-Mukhtar University may benefit from adopting blended e-learning like any university in the developed countries or developing countries. Here is listed a set of benefits which could be developed by Omer Al-Mukhtar University if they adopted blended e-learning:

1- Cost savings

   Cost saving is important for any university. Graham *et al.* (2003) stated that blended e-learning has the potential to reduce costs.

2- In the blended e-learning environment, students and teachers are requested to be present for learning in a classroom face-to-face during 25% of academic time. Blended e-learning can reduce the seat time courses from 25% to 75% of the sum academic period (Kaplún, 2006). So, adopting blended e-learning may assist the diverse needs of increasing the student population by decreasing the seat time study.

   Every course provided by blended e-learning shall decrease half of the seat time, as a result, if Omer Al-Mukhtar University provides courses via blended e-learning, it may be able to raise its capacity without needing to build classrooms, buildings and laboratories.

7.2.1. OPEN-SOURCE SOFTWARE (OSS) PLATFORM FOR OMER AL-MUKHTAR UNIVERSITY

The researcher investigated a variety of areas in the e-learning platform (Chapter two) to formulate recommendations based on support from the investigation. The OSS platform is not a bad solution to realize blended e-learning. At present, many universities use the Open-Source LMS (Learning Management System): MOODLE. (For more details see Chapter two: Why OSS?)

As a result, we recommend that Omer Al-Mukhtar University adopts OS-LMS, in particular MOODLE.

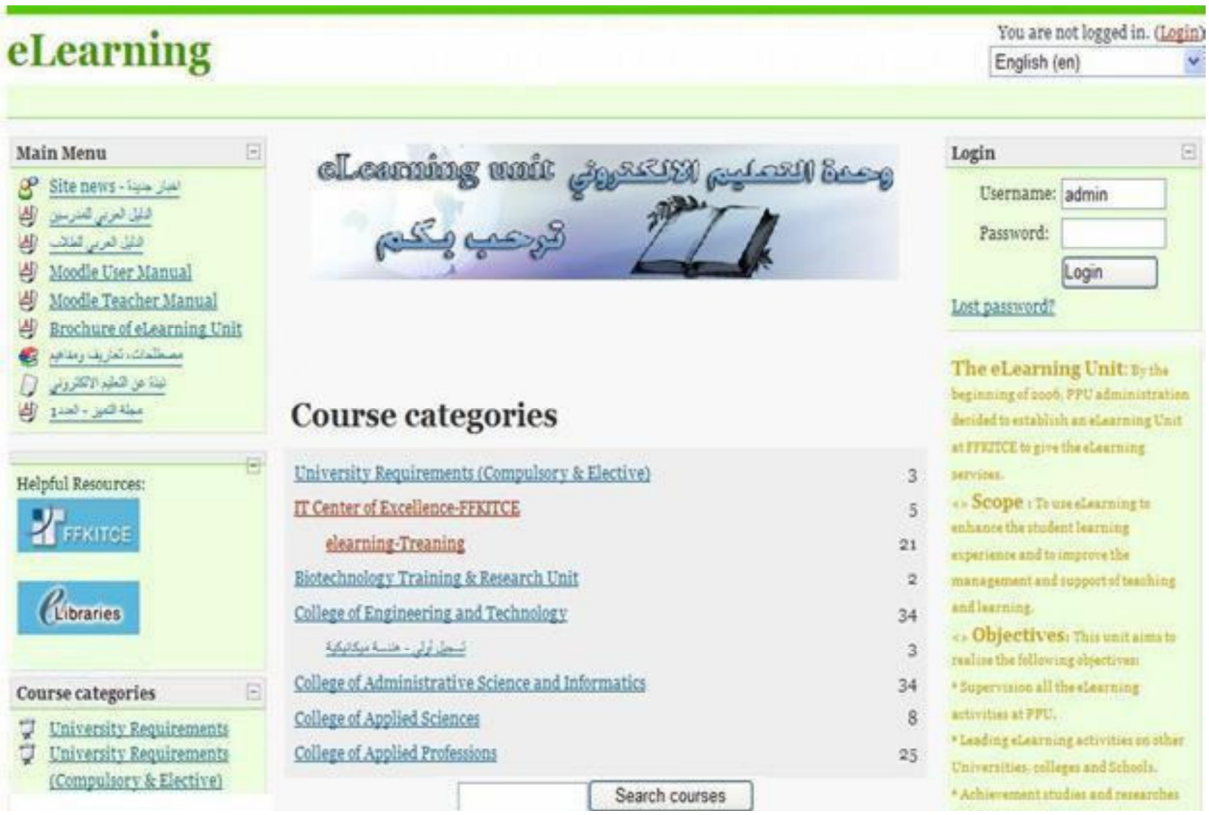


Figure 6.20: Example page from MOODLE (Tmeizeh and Itmazi, 2008)

Our limited research recommends that Omer Al-Mukhtar University employs MOODLE because it has a good capability and it completely supports Arabic and 75 other languages (Figure 6.20).

7.3. NECESSITY OF A STRATEGY PLAN TO MOVE TO AN ONLINE ENVIRONMENT

If Omer Al-Mukhtar University wants to implement blended e-learning then it needs to produce a strategy plan, which would offer a clear starting point. This plan will define the new environment and will explain the main steps which may include challenges faced by

Libyan universities when introducing e-learning as evidence which presented by(Rhema, 2010) (Chapter two) and based on finding which was received from students

In addition, the e-learning requirements which are essential to adopt a successful blended e-learning programme.

The strategy plan of implementing blended e-learning has the following summaries:

7.3.1. THE UNIVERSITY

1. In general, behind each successful project is leadership. Leadership plays an important role in implementing a new project which offers significant support for new training; without leadership the organisational acceptance could be slow. As research has presented by Shaba (2000) (chapter Two) that the success or failure of an e-learning operation depends on the structure of the organisation that is expanded by an institution's leaders, to prepare for the adaptation of e-learning, in order to improve teaching and learning methods.

    - Leaders at all levels should reinforce participation across the university to implement e-learning.
    - Each leader must have ownership of the plan of the change management for adopting blended e-learning. They should help in performance, execution and full development.

2. The University should offer the essential technical infrastructure to build an on-line environment that is accessible to all its students. This means providing good-quality computer rooms and a minimum technological platform, such as necessary access to software, current browser versions, hardware, etc. As part of adopting a new environment, the University will have to provide suitable technological capability. The system must be fully tested and anticipated problems addressed.
3. The University must select the model of on-line environment and the appropriate on-line environment platform Learning Management System (LMS).

4. It's essential that the University provides training for the tutors, to give them the essential technical skills necessary to use the system. Since staff development training is the main concern for institutions in implementing any form of new learning

methods, it is essential to focus lecturers' training on how to use hardware and software.

7.3.2. THE STUDENTS

At the beginning of their study, the University should provide necessary training for students to realize a new environment, and to get the essential skills. Quite simply, the University should provide the students with a profile of Internet skills, computers, understanding of Windows and basic typing abilities, and give students English courses to learn English language because most of the e-sources, like software and web content are in English, which makes ICT and e-learning in the Libyan education system more difficult.

7.3.3. THE GOVERNMENT

The government must offer the money for:

- an ICT structure;
- a proper e-learning infrastructure;
- Libyan experts to develop an online learning and teaching environment;
- tutors, due to the increase in work;
- developing a software environment;
- courses to train developers and technical departments, who can help in operation and installation of software.

7.4. CONCLUSION

To sum up, the researcher used a questionnaire tool to collect both qualitative and quantitative data. The findings indicate that there are different attitudes towards online environment based on age, gender and subject. However, the findings show that Libyan students generally had positive attitudes towards the online environment. The researcher based her recommendations for Omer Al-Mukhtar University on literatures and findings, the researcher proposed that blended e-learning is suitable for the University and will be able to support traditional learning the researcher also recommend that Omer Al-Mukhtar University should adopt OS-LMS, in particular MOODLE.

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REFERENCES LIST

Banas, E. J. Emory, W. F. (1998). History and Issues of Distance Learning. *Public Administration Quarterly*. 22 (3), pp 365-383.

Cresswell, J. W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (Second Edition). Thousand Oaks, CA: SAGE.

Gunasekaran, A., McNeil, R.D., & Shaul, D. (2002). E-learning: research and applications. *Industrial andCommercial Training, 34* (2), 44-53.

Graham, C. R., Allen, S., and Ure, D. (2003). Blended learning environments: A review of the research literature. Unpublished manuscript, Provo, UT.

HANNAFIN, MJ & PECK, KL 1988: The design development and evaluation of instructional software. London: Collier McMillan Publishers.

Holley, D. (2002). "Which room is the virtual seminar in please?". Education and Training, 44(3),pp. 112-121.

Huynh, M.Q., Umesh, U.N., Valachich, J. (2003). E-Learning as an Emerging Entrepreneurial Enterprise inUniversities and Firms. Communications of the AIS, 12, 48-68.

Fichter, D. (2002). *Intranets and e-learning: a perfect partnership.* Online, 26(1):68-71.

Gorman, G. E.andClayton, P. (1997) *Qualitative research for the information professional: practical handbook.* . London: Library Association.

Kaplún, G. (2006). Learning and teaching in the internet age.Distance learning and new technologies for vocational training,Trazos de la Formación, ISBN 92-9088-216-6.

Marton, F. (1988) Describing and improving learning. In R.R. Schmeck (Ed.) *Styles and strategies of learning*. New York: Plenum, pp 53-82.

Miller, S.I. and Fredericks, M. (1999). How Does Grounded Theory Explain? *Qualitative Health Research* 9 (4)

Pickard, A.J. (2007). *Research methods in Information.* London : Facet

Rudestam, K. E. & Newton, R. R. (2001). *Surviving your dissertation: a comprehensive guide to content and process.* (2nd Ed.) Newbury Park, CA: Sage.

Romiszowski, A. (2004). How's the E-learning Baby? Factors Leading to Success or Failure of an Educational Technology Innovation. Educational Technology, 44 (1), 5–27.

Shabha, G. (2000). *Virtual universities in the third millennium: an assessment of the implicationsof teleworking on university buildings and space planning*. Facilities, 18(5), pp. 235-244

Thompson, A.A., & Strickland, A.J. (2001). Crafting and Executing Strategy: Text and Readings, New York:McGraw-Hill

Thomas, R. (2003).*Qualitative &Quantitative Research Methods in Theses and Dissertation*.California:Corwin Press

.
Young, K. (2001). The Effective Deployment of e-Learning. *Industrial and Commercial Training, 33* (1), 5-11.

Zhang,D.Zhao,J.Zhou,L.Nunamaker,J. (2004). Can elearning replace classroom learning? *Communication Of The ACM*. 47 (5), pp 75-79.

Zhang, D., Zhou, L., & Briggs, R.O. (2006). Instructional video in e-learning: Assessing the impact of interactivevideo on learning effectiveness. *Information & Management, 43*, 15-27

Abdel-wahab, A. (2008). *Modeling students' intention to adopt e-learning a case from Egypt. Turkish* Online Journal of Distance Education, 9(1), 157-168.

Andersson, A., & Grönlund, A. (2009). *A conceptual framework for E-learning in developing countries: Acritical review of research challenges.* The Electronic Journal on Information Systems in DevelopingCountries, 38(2), 1-16.

Mapuva,J .(2009).*Confronting challenges to e-learning in Higher Education Institutions*, , International Journal of Education and Development using Information and Communication Technology Avaliable at < ijedict.dec.uwi.edu/include/getdoc.php?id=3477&article=732> access at [18/June/2010]

Mapuva, J. (2009). Confronting challenges to e-learning in higher education institutions. International on line Journal of Education and Development Using ICT, 5(3).

Porter, CE (2004). A Typology of Virtual Communities: A Multi-Disciplinary Foundation for Future Research. *Journal of Computer-Mediated Communication, November*, 10 (1)

Sife, A. S., Lwoga, E. T., & Sanga, C. (2007). *New technologies for teaching and learning: Challenges forhigher learning institutions in developing countries*. International Journal of Education and DevelopmentUsing ICT, 3(2), 57-67

Shapiro, L. (2000). *Evolution of Collaborative Distance Work at ITESM: structure and process*. Journal of Knowledge Management, 4(1), pp. 44-55. Volery, T. (2000). Critical success factors in online education. The International Journal of Educational Management, 14(5), pp. 216-223.

Wagner, N., Hassanein, K., & Head, M. (2008). *Who is responsible for E-Learning Success in Higher Education? A Stakeholders' Analysis.* Educational Technology & Society, 11 (3), 26-36. Available at < www.ifets.info/journals/11_3/3.pdf> access at [18/June/2010]

Koohang,A, Riley,L & Smith ,T .(2009)*E-Learning and Constructivism: From Theory to Application E-Learning , Interdisciplinary Journal of E-Learning and Learning Objects,* www.highbeam.com › access at [18/June/2010]

HANNAFIN, MJ & PECK, KL 1988: *The design development and evaluation of instructional software. London: Collier McMillan Publishers.KAPLAN-LEISERSON, E 2003: Interested in e-learning? Glossary. ASTD's* Online Magazine All About E-Learning,http://www.learningcircuits.org/glossary.html (Accessed on 9 August 2010)

Weller, M. (2004). Models of Large Scale e-Learning. *Journal of Asynchronous Learning Networks, 8* (4), 83-92.Werbach, K. (2000). Clicks and Mortar Meets Cap and Gown: Higher Education Goes Online. *Release 1.0, 18* (8), 1-22.

O'Hearn, J. (2000). *Challenges for service leaders: setting the agenda for the virtual learning organization.* International Journal of Contemporary Hospitality Management, 12(2), pp. 97-

106.

Bynum, T (1999). *The Foundation of Computer Ethice*. Keynote Address at AICEC99 (The Australian Institute of Computer Ethics Conference 1999), Melbourne, Australia, July 1999

Itmazi, J. A. Gea, M. M. Paderewski, P. and Gutiérrez, F.L. (2005). A Comparison and evaluation OF Open source learning management systems, In Proceedings of the IADIS International Conference- Applied Computing 2005, Algarve, Portugal,. February 22nd-25th.

Austrade. (2009). *Education to Libya. Australian Government Report*. Accesee at [August 28, 2010] available at < fromhttp://www.austrade.gov.au/Education-to-Libya/default.aspx>.

APO (2003). "Multimedia and E-Learning: A New Direction For Productivity Promotion and Enhancement. Asian Productivity Organisation. Tokyo. ©APO. ISBN: 92-833-2344-0.

Arabasz, P., & Baker, M. (2003). *Respondent Summary: Evolving Campus Support Models for E-Learning Courses*,*EDUCAUSE Center for Applied Research*, retrieved July 1, 2010 from http://www.educause.edu/ir/library/pdf/EKF/ekf0303.pdf.

BRANDON-HALL, (2003). "Site of BRANDON-HALL.COM", "ELearning Glossary of Terms". www.brandonhall.com/public/pdfs/glossary.pdf

Bynum, T and Schubert, P. (1997). *How to Do Computer Ethics* – A Case Study: The Electronic Mall Bodensee. in Jeroen van den Hoven, ed., Computer Ethics: Philosophical Enquiry, Erasmus University Press. (Proceedings of CEPE 97

Code miles, *How to Evaluate a Research Proposal.[online] Available at*

http://www.codemiles.com/general-discussion/how-to-evaluate-a-research-proposal-t3257.html[Accessed 9 January 2010]

Carol A. T. (2003). Improving Learning and Reducing Costs: New Models for Online Learning, Troy, New York: National Center for Academic Transformation. www.educause.edu/ir/library/pdf/erm0352.pdf

Hrastinski, S. (2008). "A study of asynchronous and synchronous e-learning methods discovered that each supports different purposes" Available at: <http://www.educause.edu/EDUCAUSE+Quarterly/EDUCAUSEQuarterlyMagazineVolum/AsynchronousandSynchronousELea/163445> [accessed AT 28/7/2010]

Itmazi J. Gea M. (2005). *Survey: Comparison and Evaluation Studies of Learning Management Systems. MICROLEARNING2005*: Learning & Working in New Media Environments, International Conference.http://www.microlearning.org/index.php?itemid=44&catid=1

Heinze, A. and Procter, C. (2004). Reflections on the use of blended learning. Proceedings of Education in a Changing Environment,University of Salford, Education Development Unit.

GOKHALE, AA 1995: *Collaborative learning enhances critical thinking*. Digital and Archives, http://scholar.lib.vt.ed/ejournals/JTE/jtev7nl, gokhale.jte-v7nl.html (Accessed on 30 July 2010).

Johnson ,B,& Christensen (2007).*Educational Research: qualitative, quantitative ,and Mixed Approaches.* Available <http://www.southalabama.edu/coe/bset/johnson/studyq/sq14.htm >Access at 5August 2010

Johnson, B& Onwuegbuzie ,A,(2004) , *Mixed Methods Research:A Research Paradigm Whose Time Has Come Available*<http://www.aera.net/uploadedFiles/Journals_and_Publications/Journals/Educational_Researcher/Volume_33_No_7/03ERv33n7_Johnson.pdf> Access at August 2010

Jones, A.J. (2003). *ICT and Future Teachers: Are we preparing for e-Learning? Paper presented at the IFIP WorkingGroups 3.1 and 3.3 Conference: ICT and the Teacher of the Future*, July 27-31, 2010, Melbourne, Australia.

Kaminskaya, E. (2006). "Teaching With Technology: A Case Study Of Online Faculty Development at The University Of Central Florida", International Research and Exchanges Board, University of Central Florida.

Khan, B. (2003). *A framework for e-learning*. access at September 5, 2010from

http://www.bookstoread.com/framework/

Laurillard, D .(2004) .*E-Learning in Higher Education* Available at https://www.adelaide.edu.au/...elearning/E-Learning_in_Higher_Education.doc access at [18/June/2010]

Ortiz,J .(2006) "*E-Learning", Available at* <www.**best**.eu.org/download/edu/IBS-2001-Trondheim-eLearning.pdf> access at [18/June/2010]

Thurrocklearningpartnership,(2004).E-Learning Strategy, Available at <www.thurrocklearningpartnership.org.uk/.../e-learning%20strategy%20and%20Priority%20Actions%2004.pdf > access at [18/June/2010]

The University of Southampton.(2003). *Writing your Dissertation*. Available at < www.studyskills.soton.ac.uk/.../Writing%20Your%20Dissertation.doc - Similar>

> at [20 August 2010]

Trauth, E.M. (2001a). *Qualitative research in IS : issues and trends.* Hershey, Pa.: Idea Group Pub.UK Copyright Law, (2010). Copy right low [Online] .Available at <http://www.copyrightservice.co.uk/copyright/uk_law_summary>. [Last accessed 22/08/2010]

Tmeizeh , J. and Itmazi, M. (2008). "Blended E-Learning Approach for Traditional Palestinian Universities." Available at: http://ewh.ieee.org/soc/e/sac/meem/index.php/meem/article/view/45 [Accessed AT 28/7/2010]

Thompson, A.A., & Strickland, A.J. (2001). Crafting and Executing Strategy: Text and Readings, New York:McGraw-Hill.

Modi ,S.(2006), *LEARNING AND TEACHING BEYOND THE CLASSROOM: USING VIRTUAL LEARNING ENVIRONMENTS AND DISCUSSION BOARDS[Online*] Available at

modis@westminster.ac.uk [Accessed 24 December 2009].

Dagada, R. & Jakovljevic, M. (2004). 'Where have all the Trainers Gone?' E-learning Strategies and Tools in the Corporate Training Environment, Proceedings of the 2004 annual research conference of the South African institute of computer scientists and information technologists on IT research in developing countries ≤ http://portal.acm.org/citation.cfm?id=1035053.1035076> [Accessed 17/6/2010]

Mubarak, H. (2007). Attitudes towards E-Learning. Available: http://www.scribd.com/doc/2931290/Attitude-towards-Elearning . Last accessed 8 Jan 2010

Laurillard, D. (2004). *E-Learning in Higher Education* [online] Available at https://www.adelaide.edu.au/clpd/resources/seminars/2006/harness_elearning/E-Learning_in_Higher_Education.doc [Accessed 20 December 2009]

NAIT. *eLearning@NAIT* [online] Available at http://www.nait.ca/elearning.htm [Accessed 10 January 2010]

New Media Consortium (2007). *2007 Horizon Report,* retrieved July 1, 2010from http://www.nmc.org/pdf/2007_Horizon_Report.pdf.

Portal. (2004). *Defining e-learning* [online] Available at http://cbdd.wsu.edu/edev/Kenet_ToT/Unit1/Defineelearning.htm. [Accessed 24 December 2009]

Pickard, A.J. (2007). *Research methods in Information*. London : Facet

PCR. (2003). Program in Course Redesign (PCR). The National Center for Academic Transformation. Saratoga Springs, NY 12866, USA. www.center.rpi.edu/PCR.htm

PORTER, LR 1997: Creating the virtual classroom – Distance learning with the Internet. John Wiley & Sons, Inc: New York. SMITH, JM 2001: Blended learning: An old friend gets a new name. Executive online.http://www.gwsae.org/Executiveupdate/2001/March/blended.htm (Accessed on 10 July 2010).

Rogerson, S. and Gotterbarn, D (1996). The Ethics of Software Project Management. in G. Collste (ed.), ETHICS AND INFORMATION TECHNOLOGY, New Delhi: New Academic Publisher

Rhema, A. & Miliszewska, W. (2005). Towards E-Learning in Higher Education in Libya< Towards E-Learning in Higher Education in Libya > [Accessed 17/6/2010]

Sorrels,L.(2009) .*How to Evaluate Research Articles*. Available at < http://www.ehow.com/how_5040509_evaluate-research-articles.html> at [20 August 2010]

White, M. (2007). *History Of Elearning - A Brief History Of E-Learning And Distance Education* [Online] Available at: http://www.elearning-avenue.com/e-learning-rise-the-rise-of-e-learning-why-2/ [Accessed 9 January 2010]

Wilson, D. (2002). The future of learning management, learning technologies© Principal Media Ltd. Online: www.learningtechnologies.co.uk/magazine/article_full.cfm?articleid=19&issueid=5&section=1

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APPENDIXES

APPENDIX (A) TERM OF REFERENCES

Introduction

This article intends to present a brief debate concerning the context of research questions including problems statement linked with literature review which tries to reflect both the methodological background as well as theoretical background, methods research ,and other sectors are all presented in this article 'terms of reference'.

Overall Aim of the Research

The aim of this research is to investigate and propose an e-learning strategy for the University of Omar Al-Mukhtar: To achieve this aim, the following objectives have been identified:

- To make communication between tutors and students easier and faster.
- To make on-line access available to students at any time.
- To enable students to access information quickly and easily.

- To make learning more flexible, so that students can study in any location and also have the opportunity to socialise, find employment or get involved in group activities.

The following research questions will be pursued:

- What are the current challenges in e-learning, particularly in Libyan higher education?
- How can the challenges of e-learning be confronted, in particular, for higher education institutions?
- What are the models of e-learning?

What is the study trying to achieve? (RESEARCH OBJECTIVES)

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- RO 1: Testing the effect of different elements like educational level and gender on the attitudes toward an online environment (in terms of used tools).
- RO2: Students' approximations of their confidence in usage of computers.
- RO3: Measure the rate of Libyan students who like and feel comfortable with a new online environment.
- RO4: Identify the main factors which are the most important and most indicative of students' satisfaction for online teaching and learning methods.
- RO5: Produce a list of recommendations to establish e-learning in the University of Omar Al-Mukhtar

RO 6: Propose a project plan to implement e-learning in university teaching in Libya

Relationship to the Course

The study will based on the models of Information System Management from the course, theories will help to understand the strategy of e-learning in higher education, researcher will

also collect data, the part of project based on Effective Research & Professional Practice model.

Problem statement

The use of virtual learning technology has increased rapidly in university teaching. The introduction of e-learning has led to rapid change which has impacted both the learners and the educators (Modi, 2006) .The increasing use of technology in all aspects of life, as well as in the education sector, motivated Libyan universities to update their processes and make the technology the main factor in their education systems.

The University of Omar Al-Mukhtar is one of the Libyan universities which should respond to the rapid developments in the world. The wide use of information technology and communications means that traditional teaching methods are no longer suitable, especially with the growing numbers of students, as they no longer fit with the global trends in modern education. Indeed, they have become a strategic necessity in the light of an economy based on knowledge. Among the global trends in modern education now and especially in higher education, the trend is towards e-learning and distance learning. So it is important that University of Omar Al-Mukhtar should note scientific revolution and technological revolution, which was found in the world, and review its philosophy. It should aim to apply technology to develop teaching methods and provide appropriate evaluation for this.It is therefore important that the University of Omar Al-Mukhtar uses computers as its main teaching tool, and provides an e-learning environment for its students. **The section below outlines brief ideas about e-learning and its role in enhancing the teaching and learning in higher education, and also offers suggestions for e-learning in Libya.**

Dagada and Jakovljevic (2004) stated that many authors have discussed the method in which on-line learning can be used to deliver assessment, training and support. E-learning offers the flexibility to deliver courses without the need to attend classes or follow the lesson in the lab, as well as saving the institutions' money. This problem is very important for learners who usually have limited money and also for tutors to reduce their expenses of different resources, for instance books, journals and other sources. Fichter (2002) argued that e-learning is a method that comes from technology, which is sometimes, called distance learning, which takes place virtually instead of in a traditional classroom. On-line learning began when a computer was developed and was used at the same time for personal use (White, 2007). Distance learning was developed by using computer as a tool to deliver courses which made

distance learning easier than before, as the use of the computer has increased due to the availability of such technology (White, 2007).Using on-line learning as a tool provides students with the opportunity to use all applications and communicate through the available forms of technology; this truly indicates that on-line learning plays an important role in supporting students from different classes with different abilities.

Laurillard (2004) stated that the value of on-line learning for academic communities offers: access to digital sources and references which are not available locally or in hard copy; the ability to communicate with learners and tutors remotely without needing to be present in the classroom; access to interactive tutorials; and it is also easier to obtain educational games and some equipment for creation and designs. However, Portal (2004) indicated that the biggest benefits of e-learning were that the students had access to the material at any time and did not have an excuse for missing courses, unless they did not have an Internet connection. On-line courses give students the opportunity when they cannot attend the class to follow the lesson regardless of their location or time. Students can obtain announcements, access assignments, take notes, contribute to discussion boards, chat and study with other students, and create their own schedules.

Literature review

The fallowing section will be highlighted initially the challenges and ideas which will be discussed in literature review chapter those topics are:

History of E-learning

The first e-learning programme was introduced in 1892 at Pennsylvania State University, where the purpose was to improve higher education and communication (Banas et al., 1998).

Usage of E-learning

E-learning has had a significant impact on the development of education, as it can be used anytime, as well as anywhere, and can be practiced in almost any discipline, in various sectors, whether public or private, and in education or business. Higher educational institutions, such as universities, experience e-learning in everyday teaching and studying activities. (Mubarak, 2007).

Significant Properties of Online Learning in University Teaching

The main features in e-learning are: a computer with internet access, DBMS along with some applications, and software to use and control the system efficiently.

E-Learning Stakeholders' Motivations and Concerns

From an organisational point of view, a stakeholder is someone who is directly involved in an organisation (Thompson and Strickland, 2001). Stakeholders from an online environment are individuals who are affected by e-learning. After reviewing the online environment literature during researching, there is a list of most important stakeholder team in higher education context are: **(Students, Instructors, and Employers)**

Models of E-Learning

The following literature review is intended to outline the models of e-learning.ICT can be used in a number of ways to enable and facilitate learning

Synchronous e-learning means that all tutors and learners are logged on online at the same time, in the same room, as well as still being able to maintain direct contact

Asynchronous e-learning means that the communication between students and tutors does not occur at the same time.

Types of E-learning Approaches

ENHANCED APPROACH: This approach refers to the creation of a virtual environment, where traditional learning is supported and enhanced by employing web-based technology

ONLINE APPROACH: This approach uses the online environment, which can be achieved without reverting to the approach of a traditional classroom.

BLENDED APPROACH: This type blends traditional learning and e-learning together, in the processes of teaching and learning, so that the use of e-learning tools become a part of education in the classroom. . For this study, blended e-learning shall be employed.

E-learning platform

3. LCMS (Learning Content Management System).
4. LMS/CMS (Learning/ Course Management System).

1-Advantages of Blended E-Learning

Blended E-Learning has an important role, and real potential to gather the best elements of the e-learning approach and traditional learning in university teaching. The significant benefits are: flexibility, reduction of cost, and the saving of time. The next section aims to

present the main benefits for blended e-learning, which is supported by Tmeizeh and Itmazi, 2008

2-Examples of applications blended e-learning is supported by (Tmeizeh and Itmazi, 2008)

The Theoretical Framework for E-Learning

Collaborative Learning Strategy

Online learning is a collaborative learning process (Gokhale, 2000)

Individualisation Strategy

Individualisation should be used for the efficient use of e-learning, although communication is said to be a main contributor to the effect (Hannafin and Peck, 1988).

Libya and e-learning

Prospects for E-learning in Libya

Although introducing e-learning to Libya faces very hard challenges, the government has been concentrating on ICT, which has consequently opened up an opportunity to adopt e-learning for the higher education sector. The government started a 60 million e-learning pilot project in September 2009, as a sign of approval and support. There was another sanction for the Development of Administrative Centres (ODAC) to improve Libya's ICT infrastructure, and to expand its economy and improve the quality of life for the community (Austrade, 2009), which is considered to have created a positive effect on the online environment initiatives in Libya.

Technology Transfer

Due to the advantages of ICT, several traditional structures are shifting towards the online environment.

Changing Student Expectations

Students' expectations are changing with the progress of e-learning in higher education institutions in Libya

Current Challenges in E-Learning – Particularly in Libya

Libya, one of the Arabic countries, has a great number of literate citizens, where they also enjoy a high standard of living and education, among the African nations. The higher education sector in Libya widely uses ICT in their daily teaching and learning. Also, the government is introducing new projects to develop ICT structure. Like other developing countries, Libya has a significant challenge in online education because of the linguistic and cultural background of the teacher and students. Moreover, there is no proper e-learning infrastructure, or much awareness of technology, and there is also a lack of Libyan experts to develop an online learning and teaching environment (Rhema, 2010). After reviewing the e-learning literature during researching, there is a list of most important challenges in Libya in higher education context are:

1. Language and Cultural Barrier

2. Technological Challenges

3.Management Support

How to confront these challenges

1-The changing of the organization structure

2-Traning teaching staff

3- Creating learning environment (Mapuva ,2009).

Effective Initiatives in Neighbouring Countries (best practice)

It is important to find a good example of an e-learning university in the same country, or in neighbouring countries. According to Abdel and Wahab (Abdel and Wahab, 2008), Egypt is the best example for an e-learning infrastructure among northern African countries.

Research hypothesis

It is known that effective teaching methods create effective learning environments for students. Effective teaching methods also motivate students to learn and encourage them to continue in further education. Technology today provides excellent tools which play an important role in improving and developing teaching methods as well as giving students wider opportunities to learn. In order to get to the reply that agree or disagree this hypothesis, consequently, research question shall be 'Does e-learning replace face-to-face learning or does it support learning?'

To reply this question, the study will implement phenomenographic method and online questionnaire; the following section will provide more details.

Research Methodology

Primary and secondary data are necessary for this project. Secondary data shall be gathered from available sources in the e-library in the University of Huddersfield and the Amazon website. The primary data shall be gathered by conducting a suitable research approach after reviewing the literature and finding out different research approaches, for example, case studies. (Pickard, 2007)

Rudestam (2001) stated that the approach and methods must be identified before conducting research, collecting and analyzing data, to match the goal and answer the research questions. The data collection methods used to serve the needs of the research and the key element of data that need to be gathered is the opinion of Libyan students, identifying the main factors which are the most important and most indicative of students' satisfaction for online teaching and learning methods, and measuring the rate of Libyan students who like and feel comfortable with a new an online environment and measure the satisfaction of students who use the online environment. As the main goal of this research is to investigate e-learning environments and provide recommendations to the University of Omar Al-Mukhtar to help establish this environment, the students' feedback will be examined. The students are all from Libya and have experienced both traditional learning and online learning. The researcher should provide a useful tool to achieve the objective in the research to discover the facts which were not clear and not previously considered in the literature review. The questionnaire has been chosen as the most suitable tool for collecting data. Mixed methods are useful tools for collecting data concerning behaviours; it also provides more information about a specific group and is easy to collect information (Cresswell, 2003). We want to conduct mixed methods, based on quantitative and qualitative research.

The researcher is pleased that the qualitative and quantitative data suited her study needs; the mixed models research has been selected in within-stage to gather these data. Therefore, the researcher used a questionnaire tool to collect both qualitative and quantitative data by providing open and closed questions. The use of a questionnaire is supported by research done by Johnson and Christensen (2007) which stated that, "*An example of within-stage mixed model research would be where you used a questionnaire during data collection that*

included both open-ended (i.e., qualitative) questions and closed-ended (i.e., quantitative) questions".

Presenting data

Select a number of ways to present data so present data as graphs or tables to aid understanding (Codemiles, 2009). The data collected by questionnaire will be transferred to computer to be analysed by websites such as Survey Monkey.

Deliverables

The document of this project will be provided to the School of Computing and Engineering in hard copy also research paper will be formulated with the findings and given to the project supervisor, David Wilson, as defined in 'A Guide to Completing Postgraduate Projects'.

Required Information Resources

E-library which contains e-resource (books, journals) and databases, and the IT facilities at the University of Huddersfield are required to implement this project.

Staff Involved

Implementing this project productively will involve support from: David Wilson; Julie Wilkinson; 30 participators from Libyan students who study in the UK; and my manager, who gave me permission to continue this project.

Risk

The researcher will face one risk, the lack of contribution to the survey. To solve this problem, the researcher aims to invite as many Libyan students as possible who are from Libya to participate in the questionnaire and get Libyan students' e-mail addresses from Huddersfield University.

Justification

What is the justification for this research? When I came to the University of Huddersfield and saw the modern technology and how students have access to tutors easily via email and discussion boards with other classmates, e-resources and a huge e-library and database blackboards, made me question why my university does not offer a similar environment to its students. I hoped that my university would be more like Huddersfield, which is the reason for this research.

Project plan

Date	Task	Milestone
June	• Review of literature • Formulate research proposal • Formulate TOF • Draw mind map for initial literature review	a) Completion of initial literature review –end June b) Completion of moderated research proposal – c) Completion of moderate TOF last draft end June
July	• Collect previous statics , quantitative and qualitative data from literature review • Prepare materials • Draw mind map for literature review • Read more about methodology sector • Collect data • Send invitation for the interview • Conduct interview record interview • Design questionnaire • Send questionnaire	A) End of July Completion of data collection. b)Revise and edit findings
August	• Analyze data • Transcript data • Professional issues • Evaluating /reflected	Completion data analysis Write-up Revise and edit
September	• Final revision and edit • Produce first draft of dissertation • Produce final dissertation	Submit the final dissertation By 24/Sep.

APPENDIX (B) QUESTIONNAIRE

Thank you for filling this survey. The aim of this survey is to investigate and propose an e-learning strategy for the University of Omar Al-Mukhtar to improve teaching and learning methods. The contents of this survey are private, no other people will see this data. This data will go just to the study.

Section A: Personal Details

Gender: Male ☐ Female ☐

Age: 17-20 ☐ 21-35 ☐ 35+ ☐

Employment Status:

In full time education ☐ In part time education ☐ Not in education ☐

Main Program of study:

Department ☐

Section B: Information about your computer use

Q1: I've been using a computer for approximately ☐ years.

Q2: I normally use a computer: *(please tick one)(61)*

A) Very rarely, if ever. ☐

B) Occasionally ☐

C) Every day, I'm addicted! ☐

Q3. I spend approximately ☐ hours a week at home or somewhere else on the Internet (for work, recreational and educational purposes)

Q 4.Which of these statements is closest to the way you feel about using computers?

- I am not confident in using computers, because I am not good at all at using technology. ☐
- I am good at using computers for some essential tasks. ☐
- I am very confident in using computers for many tasks. ☐

Q .5 You use the on line environment for:

- To write message for your teacher(s) about your study ☐
- To access e-resource ☐
- To post emails to other students on your course ☐
- To take tests ☐

- To submit your works and projects to your teacher ☐

Section E: your satisfaction towards e-learning

Q 6 (A) .Do you think your experience with on line environment was interesting? If yes: Do you like taking other online courses in the future?

◉ Yes

○ No

○ Don't know

(B).Do you recommend on line environment to Libyan students who study in Libya?

◉ Yes

○ No

○ Don't know

(C). When traditional learning is blended with e-learning , it shall be more useful

○ Yes

○ No

○ Don't know

Q.7 what is your opinion about online environment?

APPENDIX (C) PRODUCT, MANAGEMENT REPORT

Investigating an On-line Teaching and Learning Environment for the University of Omar Al-Mukhtar, Libya

Written by: Aisha .Abdraba .Othman
School of Computing and Engineering Huddersfield University

Abstract

The main goal of this research is to investigate e-learning environments and provide recommendations to the University of Omar Al-Mukhtar to help establish on-line environment by examining the feedback of Libyan students who studied abroad in the UK, held by a sample of 30 responses. The researcher used a questionnaire tool to collect both qualitative and quantitative data. The findings indicate that there are different attitudes towards online environment based on age, gender and subject. However, the findings show that Libyan students generally had positive attitudes towards the online environment. The research explores the main factors which are the most important and most indicative of students' satisfaction for online teaching and learning methods. The researcher was asked to explore a variety of areas in the online environment and its role in enhancing the teaching and learning in higher education as well as e-learning in Libya, focusing on a blended approach to build recommendations based on facts from research. The author recommends that Omer Al-Mukhtar University implement Blended e-learning methods based on the findings of the research. Lastly, mentioning recommendations and the necessity project plan to move from

traditional learning and teaching to the online environment and explain the required purpose of Blended e-learning at Omer Al-Mukhtar University.

Key words: E-learning, Blended e-learning, Omer Al-Mukhtar University, Libya.

Introduction

The use of virtual learning technology has increased rapidly in university teaching. The introduction of e-learning has led to rapid change which has impacted both the learners and the educators (Modi, 2006) .The increasing use of technology in all aspects of life, as well as in the education sector, motivated Libyan universities to update their processes and make the technology the main factor in their education systems.The University of Omar Al-Mukhtar is one of the Libyan universities which should respond to the rapid developments in the world. The wide use of information technology and communications means that traditional teaching methods are no longer suitable, especially with the growing numbers of students, as they no longer fit with the global trends in modern education. Indeed, they have become a strategic necessity in the light of an economy based on knowledge. Among the global trends in modern education now and especially in higher education, the trend is towards e-learning and distance learning. So it is important that University of Omar Al-Mukhtar should note scientific revolution and technological revolution, which was found in the world, and review its philosophy. It should aim to apply technology to develop teaching methods and provide appropriate evaluation for this. It is therefore important that the University of Omar Al-Mukhtar uses computers as its main teaching tool, and provides an e-learning environment for its students.

The mixed approach was selected for this project for the following reasons. The researcher wanted a balance between quantitative and qualitative data. It's essential to consider that quantitative and qualitative data often reply research questions, the mixed models research suited the study needs. According to Thomas (2003, p 7) "*both qualitative and quantitative can be used effectively in the same project*".

Justification: What is the justification for this research? When I came to the University of Huddersfield and saw the modern technology and how students have access to tutors easily via email and discussion boards with other classmates, e-resources and a huge e-library and database blackboards, made me question why my university does not offer a similar environment to its students. I hoped that my university would be more like Huddersfield, which is the reason for this research

Research Methodology

The researcher is pleased that the qualitative and quantitative data suited her study needs; the Mixed models research has been selected in within-stage to gather these data. Therefore, the researcher used a questionnaire tool to collect both qualitative and quantitative data by providing open and closed questions. The use of a questionnaire is supported by research done by Johnson and Christensen (2007) which stated that, "*An example of within-stage mixed model research would be where you used a questionnaire during data collection that included both open-ended (i.e., qualitative) questions and closed-ended (i.e., quantitative) questions*". Mixed methods were selected to suit study needs in within-stage to gather data, the researcher used a questionnaire tool to collect both qualitative and quantitative data by providing open and closed questions .To collect data, a questionnaire was send to Libyan students by e-mail and different areas in the UK. 200 questionnaires were distributed, 30 out of 200 questionnaires were received.

Literature Review

Definition of e-learning

Dagada and Jakovljevic (2004) stated that many authors have discussed the method in which on-line learning can be used to deliver assessment, training and support. E-learning offers the flexibility to deliver courses without the need to attend classes or follow the lesson in the lab, as well as saving the institutions' money. This problem is very important for learners who usually have limited money and also for tutors to reduce their expenses of different resources, for instance books, journals and other sources. Fichter (2002) argued that e-learning is a method that comes from technology, which is sometimes, called distance learning, which takes place virtually instead of in a traditional classroom. On-line learning began when a computer was developed and was used at the same time for personal use (White, 2007). Distance learning was developed by using computer as a tool to deliver courses which made distance learning easier than before, as the use of the computer has increased due to the availability of such technology (White, 2007).

Using on-line learning as a tool provides students with the opportunity to use all applications and communicate through the available forms of technology; this truly indicates that on-line learning plays an important role in supporting students from different classes with different abilities. Laurillard (2004) stated that the value of on-line learning for academic communities offers: access to digital sources and references which are not available locally or in hard copy; the ability to communicate with learners and tutors remotely without needing to be present in the classroom; access to interactive tutorials; and it is also easier to obtain educational games and some equipment for creation and designs.

.MODELS of E-Learning

In higher education institutions, using an online learning environment is very successful in supporting traditional ways of teaching. Many universities have a facility where students can access lectures and electronic resources (Laurillard, 2004).The following literature review is intended to outline the models of e-learning.ICT can be used in a number of ways to enable and facilitate learning. E-learning is capable of interacting with every area in the curriculum, and also with personal and professional development. It can also be used for collecting information to aid decision-making in any subject, whether it is associated with: work, personal or domestic life, entertainment, etc. Hrastinski (2008) stated that ICT not only supports e-learning, but also all forms of teaching and learning, or sometimes, a combination of both. In figure 2.1, e-learning supports learners in any location, where learners could be isolated or geographically remote from a classroom facility, or may be in a traditional classroom.

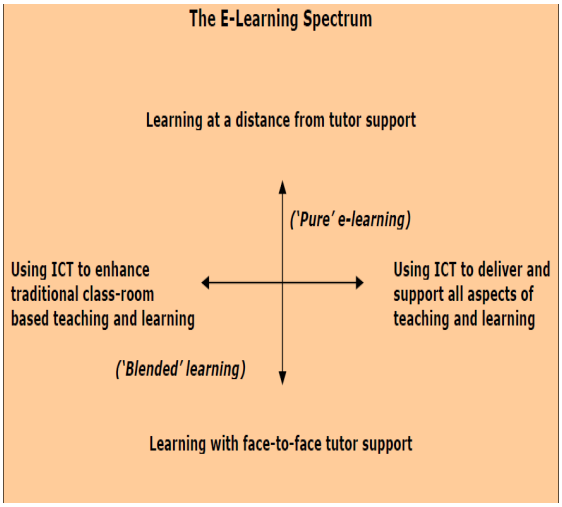

Figure 1: E-Learning Models (MWTLP ICT Strategy Group, 2004)

"E-Learning is not intended to replace face-to-face classroom training, but it can be used to enhance the traditional training." (APO, 2003).

To simplify the above quotation, the importance of studying in an online environment at university does not mean that e-learning will totally replace face-to-face learning.For virtual environment initiatives to succeed; universities have to understand the different types of e-learning methods. Research may support practitioners by defining the asynchronous and synchronous methods.

Synchronous e-learning means that all tutors and learners are logged on online at the same time, in the same room, as well as still being able to maintain direct contact. Synchronous e-learning includes live web-casts, whiteboard sessions, chat-rooms and application sharing. Hrastinski (2008) outlined that "*Synchronous e-learning, commonly supported by media such as videoconferencing and chat, has the potential to support e-learners in the development of learning communities. Learners and teachers experience synchronous e-learning as more social and avoid frustration by asking and answering questions in real time. Eight synchronous sessions help e-learners feel like participants rather than isolates*:"

2.6.2. Asynchronous e-learning means that the communication between students and tutors does not occur at the same time, where "*Asynchronous e-learning makes it possible for learners to log on to an e-learning environment at any time and download documents or send messages to teachers or peers. Students may spend more time refining their contributions, which are generally considered more thoughtful compared to synchronous communication."* (Hrastinski, 2008).

2.7.TYPES OF E-LEARNING APPROACHES

2.7.1. ENHANCED APPROACH: This approach refers to the creation of a virtual environment, where traditional learning is supported and enhanced by employing web-based technology. In other words, Kaminskaya (2006), stated that *"this approach can reduce some academic seat-time (face-to-face), the reduction must be no more than 24%; the majority of the offered e-courses in TPU's are of this kind."*

2.7.2. ONLINE APPROACH: This approach uses the online environment, which can be achieved without reverting to the approach of a traditional classroom. However, Tmeizeh and Itmazi (2008), stated that this kind of practice would has some face-to-face contact, i.e., before exams, but over 70% of courses are delivered by virtual learning.

2.7.3. BLENDED APPROACH: This type blends traditional learning and e-learning together, in the processes of teaching and learning, so that the use of e-learning tools become a part of education in the classroom. Heinze and Procter (2004) stated that many specialists who support this theory see its relevance in the application of e-learning, as it combines the advantages of e-learning and classroom benefits. This approach will be discussed in more detail further on in this chapter.

'Blended Learning' is a term that refers to the confusion between face-to-face and e-learning; it does not require the use of high-quality techniques, but instead consists of multiple approaches to teaching and learning. Heinze and Procter (2004) stated that *"learning is facilitated by the effective combination of different modes of delivery, models of teaching and styles of learning, and founded on transparent communication amongst all parties involved with a course."*

For the majority of people who apply this model, blended learning is a combination of traditional learning and e-learning, which can be used to teach and learn in the classroom, where the virtual environment becomes a natural extension for face-to-face learning. For this study, blended e-learning shall be employed. Figure 2 .2 illustrates the confusion between face-to-face learning and e-learning, (which defines blended e-learning).

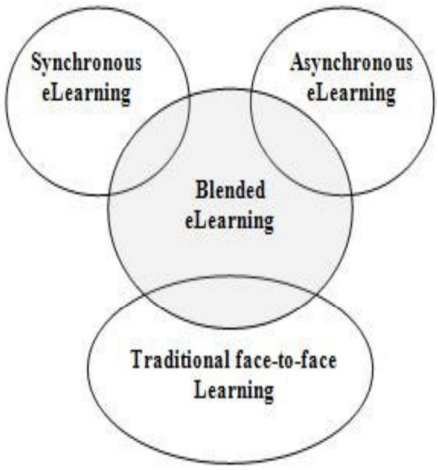

Figure 2: Blended E-Learning (Tmeizeh and Itmazi, 2008)

E-learning platform

5. LCMS (Learning Content Management System).
6. LMS/CMS (Learning/ Course Management System).

These platforms are considered significant elements of on-line environment solutions from the institution of higher education's viewpoint, more specifically, LMS (Figure 2.3). Tmeizeh and Itmazi (2008) indicated that "LMS is the software that automates the administration of training events. All LMSs manage the login of registered users, manage course catalogs, track learner activities and results, and provide reports to management".

An LMS contain other functions, for instance: learner collaboration tools, authoring of content and management of classroom training, etc. The promotion of LMS is growing very quickly (Wilson, 2002). There are a set of LMSs that are free Open-Source Software (OSS) such as: 'MOODLE' <http://MOODLE.org> whereas others are of commercial software such as 'WebCT' <www.WebCT.com>.

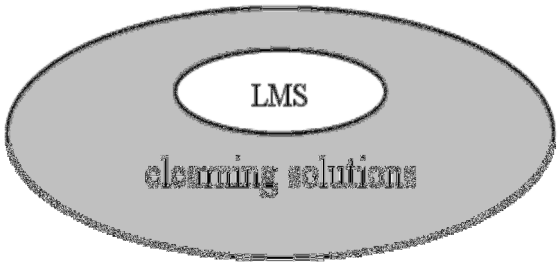

Figure 3: LMS within eLearning (Tmeizeh and Itmazi, 2008)

In brief, OSS is software which students may freely access, share, use and modify as well as redistribute the Source Code. OS-LMS is appropriate to the universities teaching owing to:

4. OSS is a suitable solution to run software .
5. Using licences, it costs approximately nothing.
6. Set well-known organisation's implementation of OSS, such as NASA's Centre (Tmeizeh and Itmazi, 2008).

ADVANTAGES OF BLENDED E-LEARNING

Blended E-Learning has an important role, and real potential to gather the best elements of the e-learning approach and traditional learning in university teaching. The significant benefits are: flexibility, reduction of cost, and the saving of time. The next section aims to present the main benefits for blended e-learning, which is supported by Tmeizeh and Itmazi, 2008:

1) Blended e-learning can support and enhance teaching, especially in an instructor's performance;

2) Improve the effectiveness of education and, by providing more harmony between the requirements of the learner and the educational programme provided;
3) Expanding the extent of access: with a mixed education model, multiple images can reach learners;

4) Increasing the effectiveness of the use of education programmes, which are costly: The integration of various causes benefit from the programmes offered. The programme-mail needs to be expensive, but would be provided through educational sessions and virtual integrated materials, quickly and simply, through sources such as documents, case studies, facts, educational records, appointments, texts and presentations, which approximately cost the same;

5) Reduce the number of academic seat and travel time;

6) Students can access the materials and course activities wherever and whenever they want, until a face-to- face meeting takes place;

7) Easy management of a big team of learners;

8) (Direct communication): Learners have regular communication with Module Leaders who can meet students in a classroom. The teachers can support students in their study and give them the opportunity to clarify anything that is not clear in e-sources.

Examples of applications blended e-learning is supported by (Tmeizeh and Itmazi, 2008)
1) Students will be taught a lesson, or more specific lessons based on a decision made in the classroom, without the use of e-learning tools; and teach another lesson, or some lessons, using e-learning tools, such as an electronic calendar, as well as using traditional methods.

2) Students are taught a particular lesson through both classroom education and e-learning, so they may start their lesson in the ways of a traditional classroom, and then use e-learning, for example, during lessons in trigonometry in America, students visited some sites to see examples of 'trigonometric' states, and then returned to the classroom to learn from their text-books to complement the lesson.

Libya and e-learning

Current Challenges in E-Learning – Particularly in Libya

Libya, one of the Arabic countries, has a great number of literate citizens, where they also enjoy a high standard of living and education, among the African nations. The higher education sector in Libya widely uses ICT in their daily teaching and learning. Also, the government is introducing new projects to develop ICT structure. Like other developing countries, Libya has a significant challenge in online education because of the linguistic and cultural background of the teacher and students. Moreover, there is no proper e-learning infrastructure, or much awareness of technology, and there is also a lack of Libyan experts to develop an online learning and teaching environment (Rhema, 2010). After reviewing the e-learning literature during researching, there is a list of most important challenges in Libya in higher education context are:

LANGUAGE AND CULTURAL BARRIER

Introducing any new technology to a cultural group is a great challenge, because different people have different views when adapting to new technology. In some come cases, people

are afraid of change in the system. In the context of ICT and e-learning system development, it should be a priority to consider the cultural aspect of the user groups, which may lead the e-learning to a diverse dimension (Khan, 2003). Designing a common e-learning system interface for learners worldwide would involve cultural communication, which would therefore influence the adaption of the IT adoption (Elbeltagi, McBride & Hardaker, 2005).

Libya is a modern and literate Arabic country, where the main language is Arabic; however, the standard of the English language is very poor. In terms of linguistics, Arabic is different to English, i.e., they do not have anything in common. For example, English is written from left to right, and Arabic is written from right to left. Moreover, most of the e-sources, like software and web contents are in English, which makes ICT and e-learning in the Libyan education system more difficult.

TECHNOGICAL CHALLENGES

Having proper technological resources is a primary feature in developing the e-learning system, which involves the need for communication networks, hardware, software, computers, radio, audio cassettes, video, and Internet access. According to Khan (Khan, 2003) the e-learning framework depends on the technological infrastructure, including planning, hardware and software. Since software interface refers to the overall front-end look of the e-learning system, it implies that the design of the interface should be easy to use, and understandable to the target group of the user (Khan, 2003). Moreover, the e-learning system is designed to help the pedagogy, so it should be easy to use and manage, and support the learning models. Maintaining e-learning is a great challenge in the implementation and integration of ICT and e-learning in an education system (Sife *et al.*, 2007).

Libya faces a number of technological challenges because there is no proper technological infrastructure, although several infrastructure plans are currently in progress. A computer laboratory is available in every higher education institution in Libya, but the insufficient network facility puts serious restrictions onto the Internet access. Moreover, availability of educational software products is very limited and most of them are in English, and very few are in Arabic. Also, there is no software development environment, no trained developers, and a lack of technical departments, which leads to delays in operation and installation software.

.MANAGEMENT SUPPORT

According to Mapuva: *"Institutional leaders are a determinant factor, given their decision-making roles, which could either make-or-break the e-learning projects by either facilitating or impeding its implementation within their institutions."* (Mapuva, 2009). So, organisational support is essential to motivate teachers, although they are always committed in their role to support, they would gain more confidence with the support of administration, which is the key element to enable ICT into the process of the educational system (Andersson & Grönlund, 2009). This implies that Libyan higher education institutions are suffering from the lack of a skilled management team.

Effective Initiatives in Neighbouring Countries (best practice)

It is important to find a good example of an e-learning university in the same country, or in neighbouring countries. According to Abdel and Wahab (Abdel and Wahab, 2008), Egypt is the best example for an e-learning infrastructure among northern African countries. Since

Libya is a neighbour to Egypt, the ICT infrastructure is likely to be the same. In Egypt, there were signs of e-learning, which appeared at Cairo University. It seems that an e-learning centre is a unique experience in universities, and that it offers many benefits, such as, most notably, the possibility of distance-learning and the expansion of culture among members of the community, thus improving citizens in terms of intellectual and scientific development. It also shows that e-learning users have overcome many obstacles, as they can go online and watch a lecture, complete with visual and audible effects whenever they want, without any obstacles impeding their work. Students are also regularly benefiting from this method in the review process, which offers assistance if they have not completely understood the topic.

Therefore, the engineering faculty at Cairo University is setting an example with virtual environment-related activities, like pilot projects within online classrooms. The University of America in Cairo is employing WebCT. As a system, this site offers information and assistance to students and faculty members about how to access lectures, which are broadcast through the site. The system also provides a centre for tutors to assist in converting materials to a 'web-friendly format'. Moreover, since 2002, several learning plans have been activated by the Egyptian government (Abdel and Wahab, 2008).

Confront the challenges of online environment, in particular, for higher education institutions

The following section aims to present recommendations about how higher education institutions should implement e-learning in case of a lack in skilled manpower, and lack of adequate resources to establish e-learning:

INSTITUTIONAL LEADERSHIP

Shaba (2000) indicated that the responsibility of institutional leaders is vital in the implementation of e-learning in the HEIs, since they make the decision of whether or not to invoke a programme, such as e-learning within their institution. Therefore, it is important to explorer these leaders' attitudes because they will indicate either an adoption or rejection of e-learning in their institutions. Other influential factors are the institutional structures and organisations that they implant within their institutions for the execution of policies. A study has shown that the success or failure of an e-learning operation depends on the structure of organisation that is expanded by an institution's leaders, to prepare for the adaptation of e-learning, in order to improve teaching and learning methods. It is also necessary to investigate HEI organisational structures, which enable the adoption of e-learning.

THE CHANGING ORGANISATIONAL STRUCTURE

Bringing in new technology such as ICT and e-learning into HEI's has an influence on the re-arrangement of organisational structure, and also changes their approach to education. This also affects organisational structures which had to be aligned in preparation for the adoption and use of ICTs in the HE sector, primarily for the purpose of skills-development. The introduction of e-learning has had a direct impact on the organisational structure, on both tactical and strategic levels (Shaba, 2000).On the other hand, lecturers have to take on a challenging role in this changeable teaching and learning environment, and in the design of e-

learning. Although there are obvious unwanted effects, the implementation of distance learning techniques can emphasise university structure. In 2000, O'Hearn stated that the modern university has to be adaptable, and able to embrace new teaching methods through e-learning, and that teachers also play a significant role in the execution of e-learning within HEIs.

TRAINING TEACHING STAFF

Teaching staff play a vital role in higher education institutions when they adapt to any new technology, since they are the people who deliver information to the students. In the implementation of e-learning, teachers need to be trained appropriately by the institution's staff development facility. Schuler and Jackson described a 'primary stop' where teachers enhance their knowledge and skills that are required for desired work-related performance (Schuler and Jackson, 2006). Lecturers play an essential role in ensuring the implementation of e-learning in HEI's, but they are not the only group to adopt and implement this successfully. Students will experience a positive learning environment if the lecturer is well-trained, with a positive attitude, along with traditional learning as well as e-learning (Holley, 2002).Since staff development training is the main concern for institutions in implementing any form of new learning methods, it is essential to focus lecturers' training on how to use hardware and software (Shapiro, 2000). Lecturers with inadequate training of e-learning in the real educational environment can pose a problem in balancing the learning process, and can create problems in the application and practice with students (Volery, 2000).

Discussion

Based on the findings, the main factors analysed, tutor support, learning styles, and time management, do influence student satisfaction; however, gaining knowledge was the most impact factor in determining student satisfaction with online learning. Moreover, the general opinion of e-learning is that flexibility and tutor support were the main reasons for students' satisfaction. The majority of students in this research were comfortable and confident concerning usage of computers as well as the online environment in general, most students spent over ten hours per week on the Internet in their home or other places, also most of them had experience using computer over ten years, and the majority of students recommend blending this environment with traditional learning. Also, some of them recommended the online environment to Libyan students who study in Libya. However, a few students preferred traditional learning to online learning, the main reason was lack of skills to learn and lack of time to access to the online environment.

The findings showed that Libyan students had positive attitudes towards e-learning; our findings achieved research objectives and answered the research question (research hypotheses) which was 'Does e-learning replace face-to-face learning or does it support learning?' The findings showed that e-learning supports traditional learning methods, the results based on the respondents' gender, educational level and age. The findings showed that E-learning is also an effective teaching method to motivate students to learn and encourage them to continue in further education. Thus, technology plays an important role in improving and developing teaching methods as well as giving students wider opportunities to learn.

BLENDED ELEARNING For Omer AL-Muktar University

As part of her research and investigation, the researcher has carried out wide reviews of literature which related to e-learning models, e-learning platforms and other topics. The researcher based her recommendations for Omer Al-Mukhtar University on this literature and findings, which showed that Libyan students had positive attitudes towards e-learning and the majority of students recommended blending this environment with traditional learning. So, our limited research proposes that blended e-learning is suitable for the University and will be able to support traditional learning. The research stated that both traditional and electronic learning have advantages and disadvantages so we cannot dispense with the traditional education system nor can we dispense with the option of electronic technology. Consequently, our study suggests that the best model for our University blended e-learning model which employs e-learning integrated with learning in the classroom (traditional) in the processes of teaching and learning (there is an example of applications of blended e-learning in Chapter two).

WHY Blended E-learning?

Omer Al-Mukhtar University may benefit from adopting blended e-learning like any university in the developed countries or developing countries. Here is listed a set of benefits which could be developed by Omer Al-Mukhtar University if they adopted blended e-learning:

3- Cost savings
   Cost saving is important for any university. Graham *et al.* (2003) stated that blended e-learning has the potential to reduce costs.
4- In the blended e-learning environment, students and teachers are requested to be present for learning in a classroom face-to-face during 25% of academic time. Blended e-learning can reduce the seat time courses from 25% to 75% of the sum academic period (Kaplún, 2006). So, adopting blended e-learning may assist the diverse needs of increasing the student population by decreasing the seat time study.

   Every course provided by blended e-learning shall decrease half of the seat time, as a result, if Omer Al-Mukhtar University provides courses via blended e-learning, it may be able to raise its capacity without needing to build classrooms, buildings and laboratories.

OPEN-Source Software (OSS) Platform for Omer Al-Mukhtar University

The researcher investigated a variety of areas in the e-learning platform (Chapter two) to formulate recommendations based on support from the investigation. The OSS platform is not a bad solution to realize blended e-learning. At present, many universities use the Open-Source LMS (Learning Management System): MOODLE. (For more details see Chapter two: Why OSS?)

As a result, we recommend that Omer Al-Mukhtar University adopts OS-LMS, in particular MOODLE.

Figure 4: Example page from MOODLE (Tmeizeh and Itmazi, 2008)

Our limited research recommends that Omer Al-Mukhtar University employs MOODLE because it has a good capability and it completely supports Arabic and 75 other languages (Figure 6.20).

Necessary of a Strategy Plan to Move to an Online Environment

If Omer Al-Mukhtar University wants to implement blended e-learning then it needs to produce a strategy plan, which would offer a clear starting point. This plan will define the new environment and will explain the main steps which may include challenges faced by Libyan universities when introducing e-learning (Chapter two) and the e-learning requirements which are essential to adopt a successful blended e-learning programme.

The strategy plan of implementing blended e-learning has the following summaries:

THE UNIVERSITY

5. In general, behind each successful project is leadership. Leadership plays an important role in implementing a new project which offers significant support for new training; without leadership the organisational acceptance could be slow. As research has shown that the success or failure of an e-learning operation depends on the structure of the organisation that is expanded by an institution's leaders, to prepare for the adaptation of e-learning, in order to improve teaching and learning methods.

- Leaders at all levels should reinforce participation across the university to implement e-learning.
- Each leader must have ownership of the plan of the change management for adopting blended e-learning. They should help in performance, execution and full development.

6. The University should offer the essential technical infrastructure to build an on-line environment that is accessible to all its students. This means providing good-quality computer rooms and a minimum technological platform, such as necessary access to software, current browser versions, hardware, etc. As part of adopting a new environment, the University will have to provide suitable technological capability. The system must be fully tested and anticipated problems addressed.
7. The University must select the model of on-line environment and the appropriate on-line environment platform Learning Management System (LMS).

8. It's essential that the University provides training for the tutors, to give them the essential technical skills necessary to use the system. Since staff development training is the main concern for institutions in implementing any form of new learning methods, it is essential to focus lecturers' training on how to use hardware and software.

THE STUDENTS

At the beginning of their study, the University should provide necessary training for students to realize a new environment, and to get the essential skills. Quite simply, the University should provide the students with a profile of Internet skills, computers, understanding of Windows and basic typing abilities, and give students English courses to learn English language because most of the e-sources, like software and web content are in English, which makes ICT and e-learning in the Libyan education system more difficult.

THE GOVERNMENT

The government must offer the money for:

- an ICT structure;
- a proper e-learning infrastructure;
- Libyan experts to develop an online learning and teaching environment;
- tutors, due to the increase in work;
- developing a software environment;
- courses to train developers and technical departments, who can help in operation and installation of software.

Conclusion

To sum up, the researcher used a questionnaire tool to collect both qualitative and quantitative data. The findings indicate that there are different attitudes towards online

environment based on age, gender and subject. However, the findings show that Libyan students generally had positive attitudes towards the online environment. The researcher based her recommendations for Omer Al-Mukhtar University on literatures and findings, the researcher proposed that blended e-learning is suitable for the University and will be able to support traditional learning the researcher also recommend that Omer Al-Mukhtar University should adopt OS-LMS, in particular MOODLE.