

***EVALUATING ON-LINE DISTANCE LEARNING
FROM LEARNERS' AND TEACHERS'
PERCEPTIONS: A CASE STUDY AT SULTAN
QABOOS UNIVERSITY***

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ABSTRACT

The current study evaluated online distance learning from learners' and teachers' perceptions through a descriptive case study of a Foundations basic computer skills course, which followed the ADDIE instructional design model within the institutional context of Sultan Qaboos University (SQU) in Oman. Following SQU strategic plan guidelines for 2025, three objectives were achieved: reinforcing the need for transformation of educational delivery methods, exploring students' perceptions of online distance learning and identifying both successful and impeding factors involved in implementation of online distance learning. A blended qualitative and quantitative exploratory approach was taken in conjunction with mixed methods for data collection from document analysis, interviews, focus groups and online surveys. Research questions identified learners' and teachers' perceptions of five attributes of online learning: learner-autonomy, interactive dynamics, flexible accessibility, effective feedback and multimedia simulations. Based on these attributes, results of the study provided institutionally related instructional design standards for effective online distance learning at SQU. In considering the feasibility of online courses at SQU in the future, the results indicated that learners would take online courses provided that they received training, technical support and better internet services. Teachers stipulated that they would require pedagogical and technical support to enable them to facilitate online courses. Also, incentives, flexible schedules and clear policies regarding intellectual property rights were highly demanded. This thesis consists of six chapters. The first chapter gives a historical background of e-learning providing the relevant demographic and sociological context. The second chapter reviews e-learning modes of delivery and related learning theories. The third one bridges the theoretical foundation with empirical implementation of an online course at SQU. Research methodology is described in chapter four, followed by detailed analysis of results in chapter five. The final chapter concludes the thesis by recommending actions for better implementation of online learning at Sultan Qaboos University.

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CHAPTER ONE: BACKGROUND TO THE STUDY

1. Introduction

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1.2 Information and Communication Technology in the Sultanate of Oman

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1. Introduction

Since the 1990s, higher education institutions all over the world have been subject to numerous changes in their external and internal environments in response to the emerging challenges of continual developments in Information and Communication Technology (ICT). The application of ICT is a core activity in the primary sectors of education such as learning, teaching, research and administration. Therefore, higher education institutions need to consider investing in ICT from a strategic perspective. This means integrating ICT planning as a major component of the overall vision and strategy for every institution. The rapid development of ICT-driven strategic planning has created myriad opportunities for both students and teachers in higher educational institutions throughout the world. (Wagner, Hassanein and Head, 2008). Such a progressive change will cause universities to re-examine the way education is delivered as emerging technologies can offer enhanced opportunities for improving learning through alternative, innovative, and more engaging ways to meet learning objectives.

The extensive use of ICT along with readily accessible information emerging through the internet has changed methods of education and has evolved into new networks of communication. One of the most important applications of ICT in education is e-learning. The revolution of e-learning is derived from the rapidly developing technology in ICT through personal computers, iPads, smart phones, as well as wired and wireless networks through the Internet which provide exchanges between those devices from nearby or afar (Alfahad and Almosa, 2002; Yusuf, 2013). This e-learning revolution or evolution has enabled universities to go beyond physical wall restrictions to become electronically open, linked and virtual. Consequently, interesting learning opportunities are exponentially enhanced by various technology, multimedia and interactive modes which have initiated a gradual shift in the educational paradigm, away from traditional delivery toward a more student-centered, autonomous and flexible learning.

The Sultanate of Oman is a country, which has officially adopted ICT for all sectors including education. In January 1997, the Sultanate of Oman joined the Internet through the official Internet services provider, General Telecommunications Organization (GTO). A few years later, in November 1999, His Majesty Sultan Qaboos bin Said clearly proclaimed his vision for ICT development in His Royal Speech on the 29th National Day of Oman:

"It is essential that Omani society – government and citizens- should realize the extent of the need to be prepared to encounter the challenges of globalization. We shall go through the improvement of our national capabilities, basing the economy on the firm foundations of international competitiveness and productivity, enhancing the performance of our institutions, and recognizing the value of knowledge, technology and research, which are the keys to progress."

This emphasis from the highest level of leadership provided a catalyst to all sectors in the country to take an initiative in adopting ICT within their operations. Above all, Sultan Qaboos University (SQU) in Oman took the lead among all government sectors to accelerate the utilization of ICT and the Internet in education. Since the 1990s, SQU has been subject to numerous changes in response to the emerging challenges of continual developments in Information and Communication Technology (ICT). Therefore, Sultan Qaboos University (SQU) realized the need to revise its academic status so as to meet the needs of the pressing environmental factors pursuant towards change. In 2009, the SQU university council requested a strategic and visionary long-term plan that would progressively guide the university to the year 2025 (Renard, 2010, p.2). For the same purpose, a study was conducted to know the views of SQU main stakeholders for SQU long-term strategic plan 2012-2025. Several themes were discussed by the participants. Only the theme related to the subject of this study, integration of ICT and e-learning in education, is highlighted here.

The future SQU internal challenges indicated by the participants are:

- 35% of the responses addressed admission challenges: an increase in the number of students, the budget required, and the enlarging infrastructure
- 13% of responses addressed the use of technology in education and coping with technological development.

The following are the Ideas suggested by the stakeholders to assist SQU in responding to the challenges:

- Improving internet resources/ facilities
- Providing e-learning and distance learning
- Training staff and students in the use of technology
- Encouraging student-centered learning

A different committee undertook a literature review to gather opinions and predictions regarding future developments that may have an effect on the external environment faced by universities in general and SQU in particular. According to the environmental scanning Group, "SQU must have the ability to respond with agility to environmental changes and not be hampered by the bureaucratic layers" (p.120). The group adopted a method called "conditional viewing" by Aguilar (1967). The SQU group made use of certain scholars for each specific factor and arrived at some implications. Only the factor of the integration of information and communication technology in education is highlighted here. Under this factor the following list of implications were derived:

1. SQU must look ahead to swiftly venture into future learning and delivery modes: print-to-multimedia-to-tele learning-to-flexible-to-intelligent, flexible-to-ubiquitous
2. SQU may start to examine opportunities for "multimedia learning". Tele-learning and e-learning" ultimately lead to "online and mobile multimedia learning". It sums up to anytime, anywhere learning
3. Academic interactions will shift increasingly into virtual communities and classrooms with electronic walls. The university must be ready for this shift

4. SQU should embark on ICT based curriculum development
5. SQU should work on developing and adopting web-based syllabus
6. SQU should shift teaching process from static pages to dynamic pages
7. SQU needs to keep abreast of new and unified technology and adopt them.
8. Online learning maybe another option to reduce educational cost.
9. The present modes of teaching may have to be modified drastically to better conform to the habits of the students exploring the digital world. (Towards a Long-term Strategic Plan for Sultan Qaboos University, 2010, p. 25-26)

These implications from literature support the perceptions of the stakeholders from a previous study on 'opinion gathering of SQU main stakeholders for SQU long-term strategic plan 2012-2025' that the integration of ICT in university education by '**Providing e-learning and distance learning**' is a favored solution for the expected challenges in the future. This claim emphasizes that:

“SQU must look ahead to swiftly venture into future learning and delivery modes print-to-multimedia-to-tele-learning-to-flexible-to-intelligent, flexible-to-ubiquitous and SQU may start examining opportunities for ‘multimedia learning’. Tele-learning, e-learning ultimately leading to online and mobile multimedia learning”. (Towards a Long-term Strategic Plan for Sultan Qaboos University, 2010, p. 26)

This study creates a link between the research findings mentioned above and the current empirical research to investigate and provide clearer descriptive and prescriptive data to make institutionally informed decisions for future strategic planning in the field of e-learning.

This study suggests the adoption of online distance learning in SQU, in addition to the conventional classroom-based learning that is prevalent in SQU at present. The online distance learning allows students to complete courses and programs without attending scheduled classes in a central location, such as a university campus. Through this approach, students can work from anywhere, such as home or workplace and at their own pace, on a schedule that suits their individual

needs. Online distance learning employs and relies on a variety of information technologies to deliver instruction and course material to students. Up until the time of writing this thesis, no formal research had been conducted to investigate the impact of this application in SQU and in Oman. Therefore, a lack of initiative in research has provided a niche to fill for this research study on Sultan Qaboos University students' and teachers' attitudes toward online distance learning. This study endeavours to provide critical insights about the participants' perceptions and attitudes towards the usefulness of online distance learning in SQU.

Since every setting is unique in terms of the implementation of e-learning, this chapter presents the setting of the Sultanate of Oman in relation to the country's location and its topography and the advancement of ICT. It also introduces Sultan Qaboos University where this study took place in terms of the implementation of e-learning. The final section presents the objectives, the research questions, the limitations, and the research stance of the current study.

1.1 Geographical Location and Topography of the Sultanate of Oman

The Sultanate of Oman is an independent state in the Middle East, located in the south-eastern corner of the Arabian Peninsula, occupying an area of 309,500 sq. km with a coastline of 1,700 km which distinguishes it as the third largest country in the Arabian Peninsula after Saudi Arabia and The Emirates (Al-Barwani, 2007). Oman shares its borders with the United Arab Emirates in the northwest, Kingdom of Saudi Arabia in the west, Republic of Yemen in the south, Gulf of Oman in the northeast, and the Arabian Sea in the southeast (Ministry of National Economy, Oman, 2006b). The system of government in Oman is that of a well-respected monarchy, which traces its renaissance to the accession of H.M. Sultan Qaboos bin Said Al-Said to the throne on July 23, 1970 (Ministry of Information, Oman, 2006). The primary natural resources are petroleum, copper, asbestos, marble, limestone, chromium, gypsum and natural gas.

Oman has widely varying topography ranging from high mountains and deep creeks in the north, to the dunes and large salt flats in the centre, and the green hills of the Dhofar region in the south, and has a total coastline of 1,700 km. The northern coast is separated from the rest of the country by the Hajar Mountains with the highest peak being Jabal Shams at 3,075 m. In the south there is another mountain range. This widely ranging topography is highly relevant when considering the development of ICT in the country.



Fig. 1.1

As shown in Fig. 1.1 above, the Sultanate is divided into eleven governorates known as "muhafazat": Ad Dakhiliyah, Al Buraymi, Al Wusta, Az Zahirah, Janub al Batinah (Al Batinah South), Janub ash Sharqiyah (Ash Sharqiyah South), Masqat (Muscat), Musandam, Shamal al Batinah (Al Batinah North), Shamal ash Sharqiyah (Ash Sharqiyah North), Zufar (Dhofar), Muscat is the capital of Oman (Index Mundi, 2014; BAASANA, 2014). According to the latest census in 2016, Oman has a population of 4,444,397 million which includes expatriates.

The following Table 1.1 shows the distribution of population in different regional governorates in Oman. As can be seen Muscat, the capital, has the highest population (1,093,360), Al Batina ranks the second highest (921,330), followed by Al- Dhakliya region (368,027).

Population (Mid-Year Estimate) , Area (Km²) & Population Density by Governorates

Governorates	Population			Population Density (Km ²)			Area (Km ²)
	(¹)2012	(²)2011	(¹)2010	2012	2011	2010	
Muscat	1,093,360	1,003,742	775,878	280.3	257.4	198.9	3,900
Dhofar	346,046	315,324	249,729	3.5	3.2	2.5	99,300
Musandam	34,148	31,025	31,425	19.0	17.2	17.5	1,800
Al Buraymi	89,564	78,535	72,917	—	—	—	—
Ad - Dakhliya	368,027	342,017	326,651	11.5	10.7	10.2	31,900
Al - Batinah North	598,206	523,661	483,582	25.8	23.6	38.7	12,500
Al - Batinah South	323,124	294,720	289,008	6.7	6.0	4.5	36,400
Ash - Sharqiya South	243,534	219,899	188,032	6.7	6.0	4.5	36,400
Ash - Sharqiya North	220,661	195,757	162,482	6.7	6.0	4.5	36,400
Adh - Dhahirah (³)	170,584	157,006	151,664	3.9	0.0	0.0	44,000
Al Wusta	36,391	30,624	42,111	0.5	0.4	0.5	79,700
Not Stated	99,356	102,988	—	—	—	—	—
Total	3623001	3295298	2773479	11.705981	10.647166	8.9611599	309500

1- Actual Results of General Census of Population , Housing and Establishment from (12 - 21) December 2010

2-Registered the Directorate General of Civil Status (Mid Year)

3- Includes Al Buraymi Governorate

Table 1.1

(Statistical Yearbook, 2012)

The above facts indicate that population in Oman is dispersed all over the country in governorates which are at different distances from the capital city of Muscat. Due to random distribution of the population and the various geographical features, it is expensive for the government to provide public services in all areas especially the ones occupied by small populations. Therefore, the government initiated the provision of universities in the highly populated areas such as Muscat and Al Batinah Region. These universities ought to accommodate students from the same regions and the areas nearby. Therefore, the majority of university students in Oman either move to live in the capital city of Muscat or Al Batinah region or commute daily to their universities during their study period. This explains for a high demand for online distance learning in Oman.

Considering the location and the demography of the Sultanate of Oman, gives an overview of the advancement of ICT.

1.2 Information and Communication Technology in the Sultanate of Oman

Oman envisions a transformation of the Sultanate into a knowledge-based economy by leveraging ICT as a major resource to provide services to its citizens, the government and the business community (Digital Oman, 2005). The government endeavors to provide regulations and an infrastructure to conduct business electronically ranging from passport issuance, trade and finance to health and education. In short, Oman has prioritized ICT as a leading proponent of its Digital Society transformation and has designed a unified national strategy, which is currently being implemented. In striving to achieve its transformational goal, Oman has resolutely decided to harness Information and Communication Technology (ICT) to empower its people in meeting the challenges of a global economy. Specifically, Oman's ICT strategy is clearly defined by the Information Technology Authority (ITA):

“The Digital Oman Strategy, or e-Oman in short, aims to provide appropriate services electronically to citizens, residents, private and public sectors and the

community in order to transform the Sultanate into a knowledge-based community that is able to achieve the objectives of sustained development". (Information Technology Authority, 2009, p. 9).

The Digital Oman strategy is basically divided into two major components (Digital Oman, 2014):

1. E-Government: Enabling government services through electronic delivery channels.
2. e-Governance: Establishing regulatory measures, influencing and enhancing education, developing the country's IT sector and addressing the Digital Divide.

In 2002, the Telecommunications Regulatory Authority (TRA) was established under the Telecommunications Act according to Royal Decree No. 30/2002. TRA focuses upon developing the telecommunications sector in Oman by regulating and maintaining telecom services, promoting the interests of telecommunications service providers and beneficiaries, and ensuring that consumers receive an equivalence of international standards in telecommunications services, within a reasonable range of choices and prices. The Information Technology Authority (ITA) is the body responsible for implementing the nation's IT infrastructure projects along with supervising all projects related to implementation of the Digital Oman Strategy: "*e. Oman*" (Telecommunications Regulatory Authority, 2014). Among other major responsibilities of ITA is benchmarking ICT access and usage in socio-economic sectors for planning purposes. ITA has conducted surveys on ICT access and usage in a variety of major sectors including government, higher education, general education and business (ITA, 2014).

A survey on the 'Access to and Use of Information and Communications Technology (ICT) by households and individuals' was conducted by the ITA in 2013 covering 11,000 randomly selected households across the Sultanate. The following illustration (Fig 1.2) shows results related to the use of ICT (ITA, 2014).

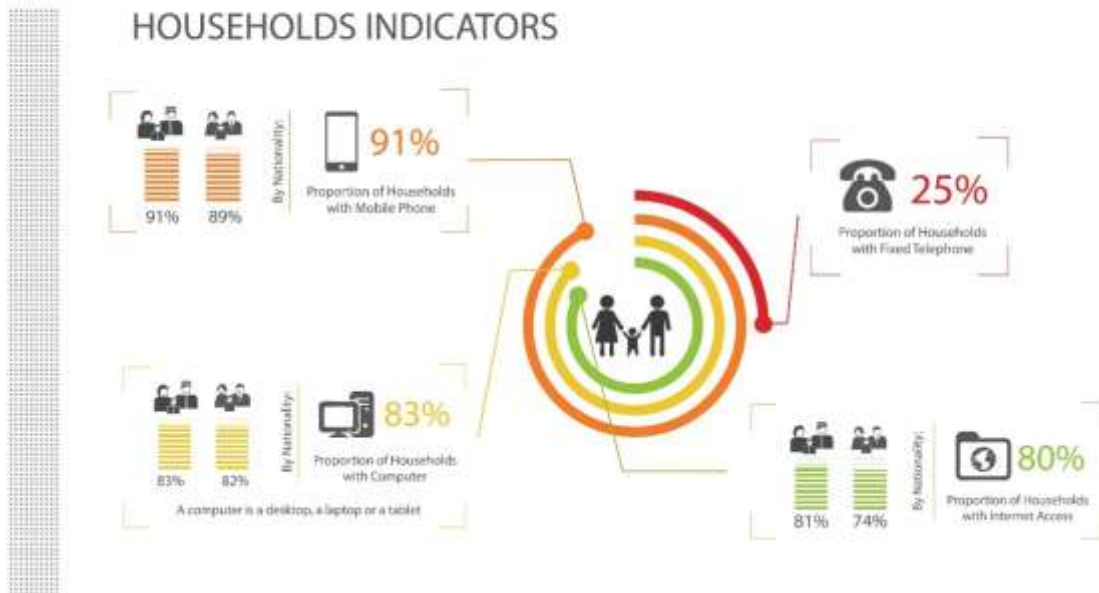


Fig. 1.2
(ITA, 2014)

A summary of the results analysis of the people surveyed showed that: 91% use mobile phones, 83% own and use computers at home, and 80% have Internet access at home. Interestingly enough, of all age groups, high school students between the ages of 15-19 years used computers the most. As far as the Internet is concerned, Fig.1.3 below provides a detailed breakdown of internet usage indicating that the highest Internet usage is by college students between the ages of 20 – 24 years. (ITA, 2014).

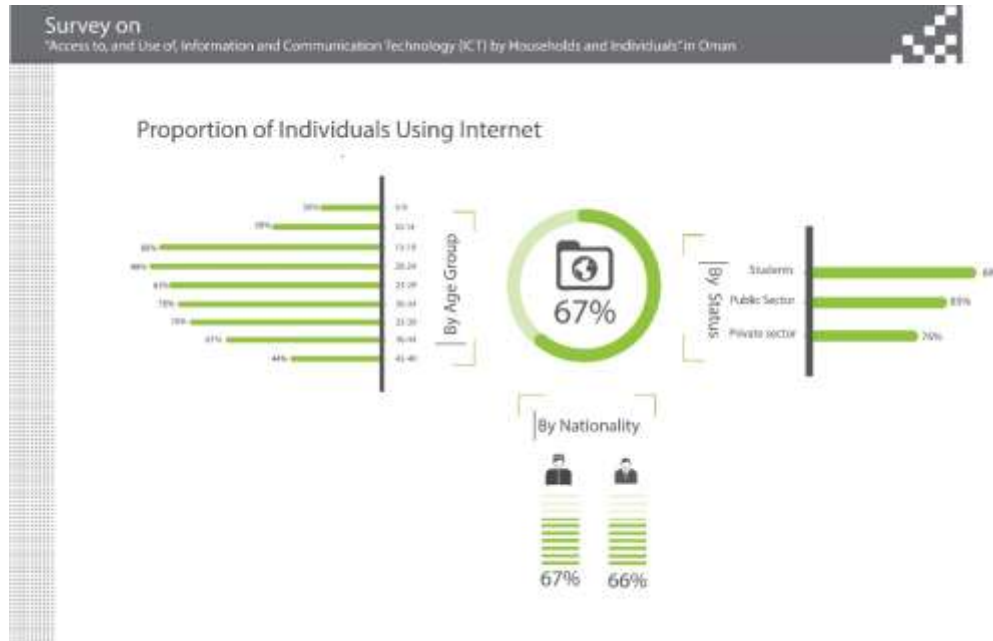


Fig. 1.3
(ITA, 2012)

This implies that the development of ICT in Oman is adopted, encouraged and financially supported by the government in a strategic manner. Thus this study is situated within national planning and contributes to the development of higher education through the best utilization of ICT in online distance learning. This is supported by the data above which indicates that 'the highest Internet users are college students between the ages of 20 – 24 years and the highest users of computers are the high school students between the ages of 15-19 years'. (ITA, 2014)

According to the above data, among all groups surveyed, the highest computer and internet use is by school and university students. The following section looks closely at the use of ICT in education sector to examine further the use of computers, the Internet and ICT in general at both school and university level.

1.3 Information and Communication Technology in Education

With the emergence of the Digital Oman Strategy, the Sultanate of Oman has elevated its levels of ICT literacy so as to enable all citizens to fully participate in its e-Government initiatives. Education clearly plays a critical role in helping Oman to achieve its two major aims of developing greater awareness and building capacity in ICT. Basic computer literacy is now a compulsory subject at school from grades 0 - 10 in Basic Education. ICT was first introduced into the basic education system with the first cycle schools in 1998 through the school's learning resource centre (LRC) when students visited the LRC once or twice a week and were familiarized with basic computing skills and learning software (Al Musawi, 2014). The first batch of second-cycle basic education schools (grades 5 - 10) was opened in 2001-2002 and ICT syllabus was introduced for this cycle (Al Musawi, 2014). Since classrooms were equipped with computers at that time, students had greater access to technology and were encouraged to use computers and LCD projectors to make presentations in classrooms. In Grade 11, the ICDL (International Computer Driving Licenses) was a required course which provided each student with the opportunity to learn IT skills and applications. Many of the concepts and skills introduced in the ICDL curriculum were complemented by curriculum units in other subject areas. (MOE, 2008; Al Musawi, 2014).

The strategic planning of introducing ICT undertaken by the Ministry of Education directed its impact on higher education level. That is to say, Omani students have been equipped with ICT skills during basic education and secondary education school years. This is advantageous as it has prepared students for any form of e-learning or online distance learning at higher education level. Likewise, all higher education institutions (HEI) have worked on providing the required equipment and facilities all over their premises. In addition, the Internet and Intranet links, e-mail facilities and learning management Systems (LMS) were provided. (Al-Musaawi, 2007; MidaseBook, 2014). The MoHE emphasized the importance of improving the learning methods through the implementation of

Learning Management System (LMS), which intended to improve e-learning. (Gattoufi, Al-Naabi, and Gattoufi, 2007; MidaseBook, 2014). Many of these institutions have their own video-conferencing facilities and service centers of educational and information technologies with skilled technology staff who offer training, instructional design and media production services for faculty members. As far as academic programmes are concerned, a foundation program has been introduced in all higher education institutions in Oman and 'Basic Computer Skills' is one of the major components of this program. Also, the majority of public and private institutions offer programs and majors in IT or Computer Sciences. According to statistics by the ITA, there has been a rapid increase in the number of computers used in higher education institutions. In the year 2011, the total number of computers used was 32,721. This included Desktops, Laptops, Tablets compared to 27,665 in 2010. (ITA, 2014)

The above section looked at the implementation of ICT in both school and university level in Oman. The following section looks at Sultan Qaboos University (SQU) and its approach to e-learning.

1.4.1 Sultan Qaboos University

Sultan Qaboos University (SQU), the location of this study, is the only government university in the Sultanate of Oman. SQU is one of the Arab world's leading academic institutions (Omanet, 2014). From the moment it received its first student intake in 1986 the university has endeavored to establish itself as a premier scientific and pioneering academic institution in the Sultanate. Today, SQU offers a wider range of opportunities for general secondary certificate graduates than ever before. The university has nine colleges for Medicine, Sciences, Agriculture and Marine Sciences, Education, Engineering, Arts and Social Sciences, Economics and Political Science, Law and Nursing apart from Foundation Programmes in English, Math and IT. SQU awards higher diplomas, undergraduate bachelors, masters as well as doctorates degrees. In the 2006-2007 academic year, SQU had introduced a bachelor's degree programme in music at the College of Arts and Social Sciences, a higher diploma programme in

vocational guidance at the College of Education and an intermediate diploma programme in applied statistics at the College of Science (Omanet, 2014). According to the latest published statistics, the total number of students enrolled at Sultan Qaboos University during the academic year 2011-2012 was 16,169. (SQU Annual Statistics Book, 2011-2012)

1.4.2 E-learning in Sultan Qaboos University

E-learning has a comparatively short history in Oman. At higher education level, Sultan Qaboos University is the first institution to adopt e-learning in 2001. Since then it has gradually been introduced at other universities and colleges in Oman. It was in the late 1990s that the internet was made available on the SQU campus and all offices and classrooms were provided with an internet connection. In 2001, SQU formally implemented the e-learning management system (LMS), WebCT, which was replaced by the open source Moodle in 2005. The body which took the initiative of introducing e-learning at SQU was the Centre for Educational Technology (CET) which also supervises the implementation of all educational technology in the university (CET-SQU, 2014). The main role of CET is to assist the academic staff in improving the efficiency of the teaching methods by offering them guidance in the design and implementation of a variety of educational technology. The Centre for Educational Technology aims to build up a strategic plan for the implementation of e-learning at the university with the collaboration of the colleges and university departments. It offers and manage the Learning Management System (LMS) to promote the applications of e-learning by buildup technical standards and regulations. The CET also provides technical and human support to faculty members in developing e-courses and e-content, designing and developing e-materials and online exams and offering consultations to lecturers and other faculty members on best practices while using technology. Thus it aids in enhancing learning. It has also been responsible for training faculty members on the use of the LMS in a blended learning delivery mode (CET, 2011).

1.4.3 Approach to e-learning in SQU

The approach that has been adopted by SQU is blended learning which is defined by Garrison & Kanuka (2004) as a blend of traditional classroom and out-of-classroom practices with e-learning activities. Also, it is referred to as a “hybrid structure” in some textbooks (Woods et al., 2004). In this approach several features are possible to employ including the traditional use of paper resources like textbooks and multimedia resources like video, audio, and the Internet. This could happen in a face-to-face teaching setting and/or in a virtual environment using learning management systems and accessing synchronous and often asynchronous interactive communication tools. Thus, e-learning is an integral part of the learning experience in which large numbers of faculty members post their syllabi and grades online. Some courses require students to participate in online discussions. SQU views e-learning as an extension of classroom learning rather than a replacement of face-to-face learning. E-learning is an additional resource intended to enhance the experience of learning by supplementing lectures, applying virtual laboratory experiments and interacting with the curriculum.

Scully (2006), described the implementation of e-learning approach in SQU by suggesting four main components: complementary, supplementary, required and communicative. The complementary component consists of course materials being offered as an alternative mode of delivery through e-learning which allows students with different learning preferences and cognitive styles to choose the mode that most suit them. The supplementary component, in contrast, presents additional materials including texts, graphics, audios, videos and other materials. The required component contains compulsory assessed exercises such as quizzes, tests and writing exercises. Students’ marks are entered on a database that is accessible by both students and teachers. Finally, the communicative component enables students to take part in discussion boards and chat forums, read and send e-mails, circulars, instructions and notices.

1.4.4 Studies Conducted on the Current e- learning Approach at SQU

Several research studies were conducted to evaluate the effectiveness of the current e-learning approach using both WebCT and Moodle as learning management systems at SQU. The main focus was on the features and tools offered by these systems when they were used as a supplementary virtual learning environment for face-to-face classes. A number of studies looked at the systems from a flexibility point of view. For instance, Naqvi (2006) investigated WebCT's impact on students at the College of Commerce and Economics taking a course on "Introduction to Computers in Business". The findings showed that even though students may have had little exposure to WebCT at the beginning of the course, they tended to appreciate its importance and usefulness towards the end as an easily accessible learning platform. (IJEDICT, 2014). In addition, it helped them to better understand and learn the course material. Others investigated WebCT as being a system that facilitated communication among learners. This is evident from the Al Ani (2006; 2008) studies, which investigated perceptions of students who specialized in English as a Foreign Language (EFL) on Moodle's utility as a course management system within the College of Education. The study explored statistically significant differences between student teachers' perceptions attributable to gender, residence, and year in the program, computer skills, and GPA variables (MJLI, 2014). Findings indicated that using Moodle increased student participation in learning, exchanging ideas and knowledge. The findings also showed that most of the obstacles, which students faced, were related to technical issues.

To sum up, it could be argued that the current e-learning approach at SQU leads to strong setup for the success of the innovative approach (online distance learning) suggested in this study. However, even today the implementation of e-learning is still bound to the classic type of supplemental mode of learning although the learning management system was introduced in 2001. There are many factors underpinning this situation. The first and most important factor is that SQU has no clear vision and strategies for the development of e-learning

practices that comply with SQU general teaching and learning vision (discussed above). Secondly, and because of the first factor, SQU has no clear planning and evaluation for the implementation of the existing practices as all initiatives are optional and based on individual, college-specific and program-specific interests, rather than on an institutional vision. These factors lead to a diverse and random performance in the field of online learning at SQU. With the existing evidence from research, concerning “SQU Long Term Strategic Planning” mentioned above, SQU has a vision to implement advanced online education in the future. However, for a successful implementation it needs to be performed within a clear strategy and framework rather than random practices. Therefore, the current study endeavors to investigate and provide more clearly descriptive and prescriptive data with which to make institutionally informed decisions for future strategic planning.

The following section defines online distance learning.

1.5 Innovative Approach Suggested by this Study (Online Distance Learning)

Distance learning is different from conventional classroom-based education in that it offers educational instruction where the learner and instructor are separated by a geographical distance (Petracchi, 2000). It allows students to complete courses and programs without attending scheduled classes in a central location such as a university campus. Through this approach, students can work from anywhere, from home or their workplace at their own pace and on a schedule that suits their individual needs. In addition, distance education can be print-based or technology-driven. With the advancement of ICT, distance learning employs and relies on a variety of information technologies to deliver instruction and course material to students. These may include the use of print materials, CD-ROM, computer software, audio/video conferencing, TV or radio, the Internet, online activities, multi-media web and e-mail. Distance learning has gone through

several stages of development. Taylor (1999) proposes five generations of distance education:

- correspondence education
- integrated use of multiple, one-way media such as print, broadcasting or recorded media such as video-cassettes
- two-way, synchronous tele-learning using audio or video-conferencing
- flexible learning based on asynchronous online learning combined with online interactive multimedia
- intelligent flexible learning, which adds a high degree of automation and student control to asynchronous online learning and interactive multimedia. (Taylor 1999)

At Sultan Qaboos University, the College of Education took the initiative of offering a partially online distance course (on study skills) for first-year students. Students' feedback was collected informally. Students were generally in favor of taking online courses as it enhanced self-confidence and promoted independent learning. Being able to access the course anytime anywhere was another positive feature they had highlighted. Technical hitches and Internet connection were the main drawbacks emphasized by the students. (Al Musawi, 2011). Up until the time of writing this thesis, no formal research had been conducted to investigate the impact of this application. Therefore, lack of initiative in research has provided a niche to fill for this research study on Sultan Qaboos University students' and teachers' attitudes toward online learning. This study endeavors to provide critical insights about participants' perceptions and attitudes/ satisfaction towards the usefulness of online distance learning at SQU.

1.6 Significance of the study

More studies of the main stakeholders' perspectives of online learning practices in SQU are needed in order to build more effective online instruction that can optimize their learning experience. It is through such research findings and

understanding that online learning implementation specialists, as the Centre for Educational Technology in Sultan Qaboos University, can increase their percentage of success in the implementation of strategic plans at the institutional level. The main expected outcome of this study is local, institutional-related standards, including success factors/ for the design and implementation of online distance learning in SQU. This is a unique study for several reasons. First, it includes several stakeholders' views in the same study; second, it employs a qualitative exploratory approach with mixed methods for data collection such as document analysis, interviews, focus groups and online surveys; third, it is the first study conducted in SQU and in Oman towards meeting this objective.

1.7 Research Objectives and Questions

Research objectives:

1. To reinforce the need for transformation of the educational delivery methods at Sultan Qaboos University.
2. To explore students' and teachers' perceptions on online distance learning at SQU
3. To identify the successful factors or proper characteristics necessary to implement online distance learning at Sultan Qaboos University.

Research Questions

- Q1. What are learners' perceptions of their abilities to learn autonomously through online learning?
- Q2. What are learners' perceptions of their interaction with content, instructors and each other in online learning?
- Q3. What are learners' perceptions on the flexibility of access in online learning (anytime, anywhere)?

Q4. What are learners' and teachers' perceptions of barriers facing online learning at SQU?

Q5. What are learners' perceptions of the feedback available in online learning?

Q6. What are students' and teachers' perceptions of the multimedia simulations used to enhance the representation of the content?

Q7. What are learners' and teachers' preferable modes of study at SQU?

Q8. What are learners' and teachers' attitudes towards accepting the implementation of fully online learning at SQU in the future?

Q9. What are learners' and teachers' perceptions of the level of demand in online learning as compared to traditional learning?

1.8 Limitations

The main limitation of this study is that it is a single case study on the Foundation Program at SQU. Although it is an in-depth study at SQU, it would have been an added benefit if it were a multiple-site case study. For example, there would be a great benefit in capturing the situation in colleges at the university and possibly other higher education institutions in Oman using the same approaches and methodologies. With a cross-case research study, the results could be compared across different colleges, programs, courses and sites. However, factors such as time, resources, budget and access also limited this research to a single case study design.

1.9 Researcher Stance and Position/ Personal motivations

Online distance learning was officially discussed at several levels. It was discussed among faculty members and e-learning specialists who are interested in its application in some colleges. Also it was discussed at the institutional level by the committee writing the strategic plan for SQU 2015. Being a member of the team responsible for the development of e-learning implementation in SQU, I found myself in a position to evaluate the implementation of the e-learning

practices at SQU. I believed that suggesting online distance learning solely based on the recommendations of the SQU Long Term Strategic Plan, without backing it up with empirical data from an actual practice was not adequate. Therefore, I decided to take the initiative in offering this mode of learning for the first time at SQU and evaluate it in order to examine its effectiveness and usefulness from learners' and teachers' perspectives.

My intention was to find more realistic and genuine feedback, concerning the implementation of online distance learning in SQU. This would work as guidelines for decision making at both institutional level and the Centre for Educational Technology in the near future. In collaboration with the Foundation Programme and the IT department at the university, I was given the privilege to design and develop an online course and offer it to the first year students for two semesters. After that, I collected the students' and teachers' feedback on the course and their experience of taking it from distance. In this study I intended to research SQU learners' and teachers' perceptions and attitudes towards online distance learning. I decided to implement qualitative case study because a case study presents an excellent opportunity to gain deep insights into my own 'case', as a novice researcher. It enabled me to collect data from a variety of sources to answer "how" and "why" questions as well as suggest better practices within the context of my own workplace.

However, it is worth noting that the process and interpretation of any inquiry can be subjective in any qualitative research study, which seeks to give meaning to participants' voices. This is because it can be influenced by the researchers' social and cultural identities. Therefore, it is important to introduce myself and my relation to the research.

I worked as an English Language teacher at the Language Centre in SQU for about ten years during which I developed an interest in instructional technology, and encouraged me to use technology in my teaching. This has also led me to

pursue my masters in Media Assisted Language Teaching. Then in 2009, I moved to the Centre for Educational Technology and joined the team, which is responsible for offering instructional design of e-resources, conducting workshops on the utilization of educational technology and managing the learning management system used at the university.

Because of my background as a teacher and an educator, and my research in the field of instructional technology, I think I have a strong bias toward integrating technology in education. I believe that instructional technology is a way to address students' various learning styles and contribute to better teaching and learning. In addition, having graduated, taught, and held an administrative position in the same institution for several years, has given me an advantage of being as an insider to my own research. I am in a position to know the participants as well as the setting of the research: the country and the institution. All this made it difficult for me to separate myself with this bias from myself as a researcher, consequently, at some points, I felt I was assertive predicting participants' response and assuming outcomes. Although, I realized that I must control this bias in order not to interfere with the data, it was difficult to achieve a fully objective research process as Creswell explains, "Qualitative researchers approach their studies with a certain world view that guides their inquires" (1998, p. 74).

It is true that researchers are biased in their values, which influence the process of the research they conduct. These values are governed by the researcher's ontological and epistemological assumptions. Based on these assumptions, researchers form a basic set of beliefs or 'paradigms' which guide their decisions to use particular research methods, procedures and processes. These paradigms not only guide researchers' direction towards the end of the research, but also influence their aims, design, and methods of data collection, analysis of the data, explanation of and finally the write up of the research. In studying a social phenomenon to understand why people behave in a certain way (as in the

current research) researchers become co-creators of meaning or as Carr and Kemmis (1986) explained 'insiders to the research'. They bring their own subjective experience to the research and try to develop an understanding of how each part relates to the other and to the whole. After all, I hope that the experience I gained from my professional life helped me as a researcher to better understand the advantages and challenges of online distance learning at SQU from the viewpoints of both learners' and teachers'.

1.10 Conclusion

This chapter gives a background of the setting in which this study took place. An introduction to this educational study in the Sultanate of Oman, evaluated online distance learning from multiple perspectives of learners' and teachers' perceptions, and necessarily involved contextualization of topographic, demographic, technological, and institutional factors which influenced effective implementation and development. A number of points emerged in relation to these factors and the topic of the research. First, the population in Oman is randomly dispersed all over the country, in high mountains and remote desert areas. These tough topographical features hinder the public services like roads, universities and the internet from reaching to all people. In spite of that, the development of ICT in Oman is adopted, encouraged and financially supported by the government in a strategic manner in all sectors including education. This is evident from the early adoption of SQU, the first established university in Oman back in 1983, which took the lead among all higher education institutions to accelerate the utilization of ICT and the Internet in teaching and learning. Due to all of the above, this study is situated within the national planning of the advancement of ICT and it should contribute to the development of higher education through the best utilization of ICT in online distance learning. According to the above data, among all groups surveyed, the highest computer and the internet use is among school and university students. However, although the randomly dispersed population may create a high demand for online distance

learning in universities in Oman, the internet coverage in remote areas could be a big challenge.

The subsequent chapter of this study focuses on online learning instructional design attributes which are interactive, autonomous, and flexible, offering effective feedback and utilizing multimedia. This is followed by an overview of empirical research, which analyzes the instructional design of the model online course used in this study. Qualitative and quantitative methodology is integrated to ensure validity and reliability of data collection and analysis. It is also supported by extensive secondary research pertinent to this study. The results are analyzed from a variety of perspectives and discussed in terms of emerging patterns in consistent evaluation of a model online course and suggests implications for future implementation and program development of online learning at SQU.

CHAPTER TWO: E-LEARNING

2. Introduction

2.1 E- learning Aspects

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2.6.1 Research examining perceptions and trends

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2. Introduction

In the field of education, a single definition of e-learning cannot be found due to the fact that all groups of researchers and educators define it according to the way they perceive it based on their own context. Many synonymous terms have been used over the years to define e-learning which include: computer-based or computer-aided learning, computer-assisted instruction, electronic learning, learning technology or technology-enhanced learning, technology-based learning, web-based learning, internet-based learning, advanced distributed learning, web-based instruction, online learning, network learning, distance learning and distributed learning (Waight, Willging, et al.; Romiszowski, 2004; Khan 2005). Fundamentally, all refer to educational processes that facilitate asynchronous as well as synchronous learning and teaching activities by employing information and communication technology. (Tecnia Institute, 2014).

2.1 E-learning aspects

As illustrated in Fig. 2.1 below, the study discusses intensive literature review on e-learning in higher education in four main conceptual aspects as suggested by Bates (2009): technology, mode of study, pedagogy, and andragogy.

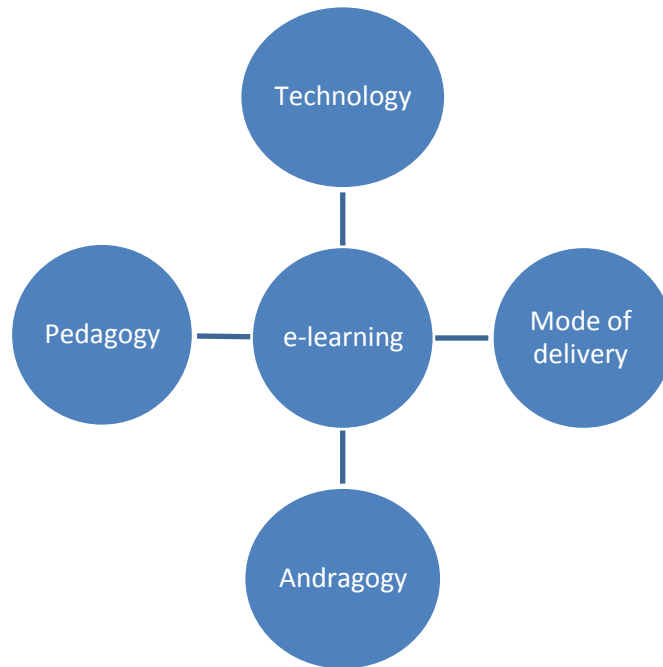


Fig. 2.1
Aspects of e-learning

2.1.1 Technology

Regarding technology, educators such as Jones (2003) and Rosenberg (2001) have specifically focused on the use of Internet technologies, while many others have focused on wider and more inclusive definitions. For instance, e-learning is defined by Rosenberg, (2011) as “the use of Internet technologies to deliver a broad array of solutions that enhance knowledge and performance” (p. 28). In 2003, the department for education and skills in the UK (2003) stated in its consultative document *Towards a Unified E-learning Strategy*, that learning which utilizes information and communication technologies (ICTs), is e-learning (p.4). Nichols (2003) defined e-learning as “using a variety of web-based, distributive and capable technological tools for the purposes of education (p.2). In spite of the argument that the efficiency of e-learning cannot be associated with the multiple technological applications used for its delivery, the report of DfE in

(2008) confirmed that any learning which uses information and communication technologies (ICT) is 'e-learning'. Many educators followed the general and broad definitions of these reports and asserted that e-learning implements the use of several tools and facilities such as the Internet, intranet, e-mail, satellite broadcast, CD-ROM, audio and video materials, for both content delivery and participant communication. (Industry Canada, 2001; Hughes, M. & Daykin, N., 2002); Lehner, Nösekabel and Lehmann, 2003; Ong, Lai and Wang, 2004). E-learning is further identified as:

"A term covering a wide set of applications and processes, such as web-based learning, computer-based learning, virtual classrooms, and digital collaboration. It includes the delivery of content via internet, intranet/extranet (LAN/WAN), audio and video, satellite broadcast, interactive TV, CD-ROM, and more" (Watkins, 2005, p.17; Southern Business School, 2014).

An even more inclusive definition is offered by Abed Almala (2006) in which he highlighted the medium of delivery and course management system. In this definition, he described e-learning as "an internet-based instructional program distributed electronically to learners using resources which include Web features, (e.g., synchronous, asynchronous, hypermedia, and e-searching), course management systems and technologically interactive tools, such as e College, or Blackboard". (p. 33).

As means of delivering e-learning, the above list was further expanded by Allan (2008) to include television, DVD/CD, telephone, mobile phone, computer, website, e-mail, webcam, audio and video conferencing, multimedia and animation. Sawaan (2005) analysed the phases of development of distance learning. The first phase started back in the nineteen fifties when radio, then correspondence, audio and video recordings were used. This was followed by the phase of the 1980s when 'computer based learning' started and open universities were established. During this phase, the computer based learning became a complementary method to traditional education. Based on Sawaan analysis the next phase includes the 1990s, which he called the 'internet-based-

learning'. During this phase, the learning management systems WebCT and Blackboard emerged and learners played an active role in education by interacting online with their teachers and peers. In the beginning of the twenty first century, the advancement of information and communication technology in education led to a change in the concept of e-learning not only in its presentation but also in the level of learners' interaction. The use of the latest technological devices like iPad, iPod Wikis, and social media such as blogs, My Space, Facebook and You Tube have enabled the learners to play a more active role in their education.

2.1.2 Mode of delivery

The mode of delivery, as illustrated in Fig. 2.2 below (see page 41), is an important dimensional aspect in e-learning which has been classified by the extent of such features as “adjunct mode”, “mixed or blended mode” and “totally online mode” This is found in Harasim (1993); Romiszowski (2004) and Zeitoun (2008).

2.1.2.1 Adjunct mode

This mode continues the traditional face-to-face learning process between the learners and the teacher and it accepts assistance of technology to allow communication between the learners and the teacher beyond school hours. This happens through the use of computers, and online networking which enables handing in exercises, e-mailing and holding online discussions. This is the most common model in the world, and as early as the 1970s, it was used by integrated e-mail within the traditional learning process (Rashty, 2014). Later, possibilities embedded within the Internet enabled teachers to provide students with information-based tasks .

2.1.2.2 Mixed or blended mode

In the mixed mode, online networking is used as a significant component of the traditional method curriculum and course grade (Harasim, 2006). It is an integral

part of the curriculum and assessment of students. There are several utilization possibilities for the Mixed Mode in which network for simulation and role-playing, or mutual evaluation of students' work with tools such as e-mail, video conferences and the LMS are used.

2.1.2.3 Totally online mode

This mode can be described as the most complete innovation, entailing mainly the use of network for learning, in which online networking is the major form of discourse and in-class delivery may be used to supplement the course (Harasim, 2006). In the online mode, most of the course interaction takes place at the interface of the communication network and the computer. Meetings, which are face-to-face, may occur only for introducing the course and learning the practice of using computer communications (Rashty, 2014). Course tasks are usually communicated to groups of a number of students, encouraging them to pool resources among fellow group members. Usually, students take an active part in discussions, characteristically responding to shared messages within the study group so as to stimulate discourse pertinent to the raised issues. These interactions arise mainly from students' capability to freely express themselves simultaneously with others in the absence of any time restraints (Rashty, 2014).

Online mode in the corporate educational and training environment is one of the latest developments; it is the most recent advancement of distance learning which facilitates learning with the use of interactive network technologies, anytime and anywhere (ISETL, 2014). Online learning is not entirely novel, it is a gradual extension of the distance learning method which started back in the early nineteenth century (Cavanaugh, 2004). According to Kaufman (1989), there have been three generations of distance learning. The first generation learnt by correspondence was based on the absence of direct interaction between the learner and the instructor. In the second generation, distance learning was supported by the use of content that is designed for independent learning and enhanced with multimedia. Finally, the third generation is defined as the method

which enhanced interaction between the learners and the instructor and among learners themselves through the use of the Internet and relevant communication technologies.

As for delivery, the totally online mode can be synchronous or asynchronous depending on the required timing of interaction. In terms of synchronicity, an e-learning course component can be synchronous (real-time) or asynchronous (flexitime). Synchronous e-learning requires learners to be present at the time of content delivery. It allows learners to get into active instant discussions with the instructors and among themselves using tools such as the chat room, video-conference and similar means. The main advantage of this synchronous type is that it offers immediate feedback facilitated by technology such as a lecture module delivered via e mail, video-conferencing and electronic whiteboards (Romiszowski, 2004).

On the other hand, asynchronous e-learning allows learners to work through screens at their own pace and at their own convenient time. This mode enables learners to interact with the instructors and among themselves over the internet but at different times, using techniques such as webcast thread discussion and email. However, a disadvantage of this mode is that learners do not receive immediate feedback on their learning. Both synchronous and asynchronous learning modes can be employed inside the classroom under the supervision of the instructor or outside the classroom with a distant indirect supervision from the instructor. (Almosa and Almubarak, 2005, Greenagel, 2002).

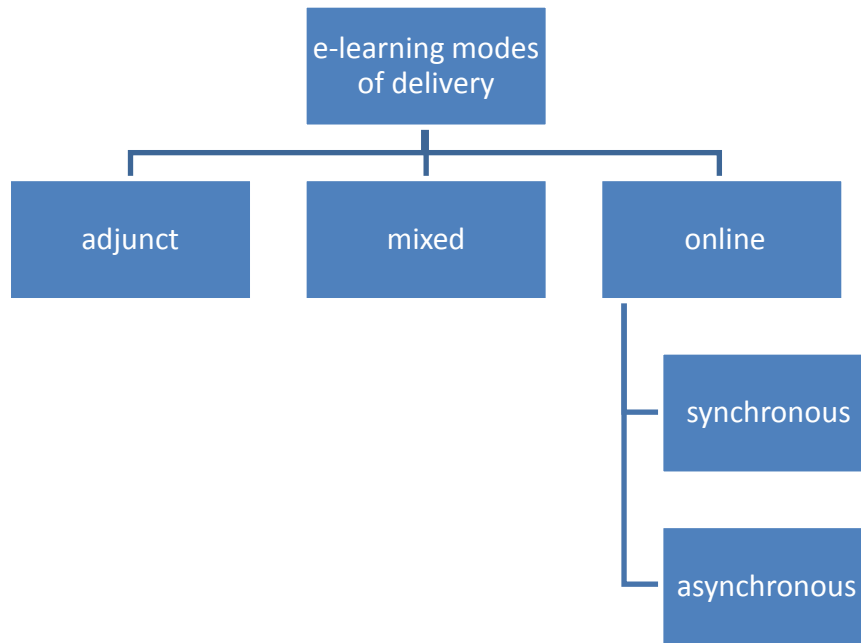


Figure 2.2

Three models of e-learning in education

2.1.3 Andragogy

According to Malcolm Knowles, andragogy is the art and science of adult learning; therefore, andragogy refers to any form of adult learning (Kearsley, 2010). Knowles (1978) emphasized that adults are self-directed and expect to take responsibility for their decisions, “andragogy assumes that the point at which an individual achieves a self-concept of essential self-direction is the point at which he psychologically becomes an adult” (p. 56). This also explains that andragogy means that instruction for adults needs to focus more on the process and less on the content being taught. Instructional designers and course developers must understand that learning for adults differs from learning for young learners. This stresses the important role they play in the adult learners’ understanding of new material. Cercone (2008) stated that “adult learners have greater responsibilities with families, careers and situations; for example, transportation, childcare, the need to earn an income, etc. that normally interfere with any learning process” (Cercone, 2008, p. 139). An adult learner is also

inclined to be extra intrinsically motivated that is because the content which is self-paced in online learning is directly applicable to his / her everyday life, promoting greater job satisfaction. Brookfield (1995), Lieb (1999), Knowles (2005) and Hsiu-Mei Huang, (2002) described unique and exclusive adult learning characteristics. Hsiu-Mei Huang, (2002) gave a brief theoretical summary of andragogy for adult learning which is based on six characteristics. First, adult learners need to know the purpose of their learning, how learning will be conducted, and what learning should take place. Secondly, adult learners are self-directed and capable of taking control of the techniques and of the purposes of their learning. Third, adult learners have their own self-identities, prior experience and individual differences, which cumulatively influence and provide rich resources for learning. A fourth characteristic is that adult learners are ready to learn because the nature of adult life situations always creates a need to learn. A fifth characteristic is that adult learners tend to prefer and may learn best in implementation of a problem-solving orientation to learning when knowledge is presented in a real-life context. Finally, adult learners are motivated to learn and gain new knowledge and experience for different academic, social and career purposes (Hsiu-Mei Huang, 2002). From these characteristics, it could be summarized that adult learners are often portrayed as those capable of thinking independently by evaluating their choices positively and solving their problems collaboratively. They usually accept diversity and creativity, possess motivation, think critically and are able to guide their own learning by knowing how to manage, analyze and transform information into valuable knowledge (Schweitzer, 2008). To sum up, in the design of online learning for adult learners, the principles of andragogy must be recognized and applied (Digital repository, 2014, Cercone, 2008; Dobrovolny, 2006; Klopfenstein, 2003; Huang, 2002).

2.1.4 Pedagogy

Technology per se is not adequate to guarantee successful implementation of e-learning. Nor should it be considered a magic wand by which educators could solve learning challenges. In fact, there are two key factors that contribute to the

success of any technology-enhanced learning setting. The first factor concerns with the power of technology as discussed in the previous section and the other factor is the application of technology considering the pedagogical aspect. From this perspective, some definitions of e-learning focused on the educational notion by describing e-learning as "pedagogy empowered by digital technology". (Alonso, F. et al., 2005, p.218). From this definition it could be argued that what is important in the field of e-learning is not how much technology is used, but rather how this technology is used. (Jones and O'Shea, 2004; Laurillard, 2002 and Sharpe et al., 2006). Despite the fact that technology is progressively exploited for learning and teaching in higher education, the key issue is whether or not there is a clear basis for any use of technology in an application of pedagogy (Woodill, 2004). According to Strommen and Lincoln (1992), successful implementation relies upon "finding the appropriate points for integrating technology into a new pedagogical practice, so that it is a more deeply reflective and self-directed activity" (p. 473). Therefore, to ensure that instruction is attached to an appropriate technology and mode of study, an effective use of this technology should always be based on pedagogically effective learning theories embedded within an effective instructional design (Conole and Oliver, 1998; Ferdig, 2006; Koohang, 2004).

Ketterling and Januszewski (1991) asserted, "Learning theory in application provides the identification process whereby the learning process is controlled so as to predict specific learning outcomes" (p. 404). Nevertheless, learning theories would have no contextual meaning without the existence of settings that support such learning known as 'learning environments'. When a learning environment takes place on the World Wide Web, it is known as an e-learning environment, which must be based on proper principles of instructional design for e-learning.

The following section gives a preview of the most common learning theories used in instructional design for the e-learning environment.

2.2 E-learning: Instructional design

Research indicates that many interpretations for the term 'instructional design' exist. An instructional designer is often called 'curriculum developer', 'learning specialist', or even 'instructional technologist' (McBeath and Atkinson, 1992). At the time when the World Wide Web was introduced, the term instructional design was sometimes used to refer to computer-human interface design or visual interface design that included the design of web pages' navigational instructions. According to West, et al. (1991) instructional design is defined as the process of planning instruction in a manner that encourages the learner to actively learn the materials through using cognitive strategy. Moreover, Smith & Ragan (1993), defined instructional design as a systematic process of infusing learning and instructional principles into plans for course activities and instructional materials design. Instructional design has also been defined as the process of providing a link between learning theories, or in other words, the way people learn. It is also explained as the practice of structuring instructional systems as arrangement of resources and procedures in order to promote learning (Gros, et al, 1997). According to Reiser (2001), "a comprehensive definition of the demanding process of instructional design and technology encompasses the analysis of learning and performance problems, along with the design, development, implementation, evaluation and management of instructional and non-instructional processes and resources intended to improve learning and performance" (Reiser, 2001, p. 57).

Reiser & Dempsey (2007) further defined instructional design as a systematic process, which consistently and reliably facilitates development of education and training programs. In addition, instructional design models or theories may be conceptualized as frameworks for developing modules or lessons that 1) increase and/or enhance learning possibilities and 2) encourage student engagement so that learning occurs faster and at deeper levels of understanding (Clark, 2014).

The instructional design and development of the 'Online Basic Computing Skills', which is under investigation in this study, is through the ADDIE model. The following section looks at the ADDIE model.

2.3 The ADDIE model

There are numerous models for instructional design in the literature, yet few are specific to online course design. The most popular ones are: ADDIE, Dick Carey & Carey, and Rapid Instructional Design. Each model has its value depending on the context of use; however, many instructional designers adopted the ADDIE Model because of its flexibility. The ADDIE is an acronym for five-phase courseware development program. These phases are analysis, design, development, implementation and evaluation as seen in Figure 2.3 below:

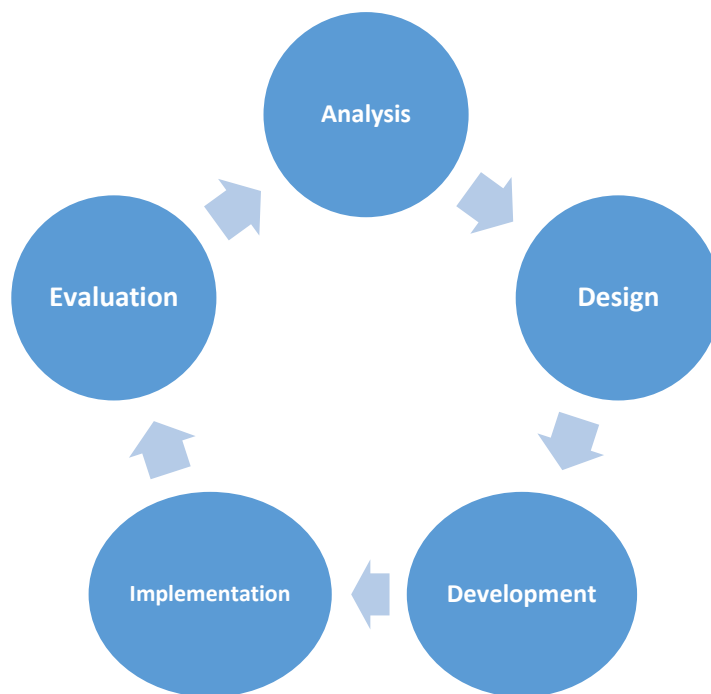


Fig. 2.3
Stages of ADDIE Model

The ADDIE Model of instruction systems design was first developed in the 1970s for the U.S. Army by Florida State University's Center for Educational Technology. Later, all branches of the U.S. Armed Forces adapted it. (Branson, Rayner, Cox, Furman, King, Hannum, 1975; Watson, 1981). Because of its dynamic and flexible guideline for building effective training and performance support tools, it was widely used as a best practice for learning and training environments that are not time sensitive. Educators find this approach very useful having clearly defined stages which makes implementation of instructions effective. Although ADDIE is considered a linear process for instructional design, educators could not always design training in a strictly linear manner. According to Merriënboer, (1997) "The phases may be listed in a linear order, but in fact are highly interrelated and typically not performed in a linear but in an iterative and cyclic fashion" (p.3) The following section is an explanation of the five stages of ADDIE Model:

A. Analysis

In the analysis stage, the instructional problem and learners' existing knowledge and skills are identified. Then the instructional objectives and goals are established with a suitable learning environment.

B. Design

The design stage is systematic and specific. At this stage a variety of concerns are addressed to achieve the best systematic development of courseware design such as learning objectives, subject matter analysis, lesson planning, content, assessment instruments and exercises and the selection media.

D. Development

In the development stage, instructional designers and developers work on assembling and generating the content properties following the blueprint of the design phase. In this stage designer's start with creating storyboards, followed by

writing content. After that graphics are designed and multimedia and technologies are integrated within the content.

E. Implementation

During the implementation stage, both facilitators and learners receive training. Facilitators receive explanation and training on the curriculum, method of delivery, learning outcomes and testing measures. Learners' training includes tutoring on how to register for the courseware and practicing on the use of new software and hardware. This stage also involves preparation and testing of learning materials, tools, software and the website.

F. Evaluation

This is an ongoing stage throughout the process of the design in order to make sure that all stated learning goals have met the specified needs. This is done through two parts of evaluation: formative and summative. The formative evaluation is conducted in each stage of the ADDIE process. However, the summative evaluation contains tests intended to evaluate criterion-related referenced and certain domain specific items. In this stage, feedback from identified users is collected.

After casting light on the definition of instructional design and ADDIE model, the following section gives a preview of the most common learning theories used in instructional design for an e-learning environment.

2.4 E-learning: Learning theories of instructional design

It is worth noting that instructional design for face-to-face learning was first based on Behaviorism by (Watson, 1924) which dominated learning theory for many years. Then, in the 1950's, a group of psychologists revolted against Behaviorism and developed the concept of Cognitive theory by Piaget (1967) and Bruner (1966). At present, a number of educators have adopted a new perspective or a learning theory known as Constructivism by Vygotsky (1980). This new

perspective is very different from the former two, which initiated a debate on the most effective pedagogy for learning among the three opposing and sometimes overlapping perspectives. The debate is even more powerful in the area of e-learning in higher education. This is because the area of Information and Communication Technology (ICT) is undergoing a rapid change. An appropriate utilization of any newly emerging technology in education needs to be based on a suitable learning theory. This has provided a niche for even newer learning theories to develop. In the last two decades, considerable of the attention has shifted toward Constructivism and Cognitive Theory of Multimedia Learning as being the most appropriate match for technology-enhanced learning (Paurelle 2003; Miller and Lu 2003; Harman & Koohang, 2005; Hung, 2001; Hung & Nichani, 2001; Siemens (2004); Veronikas, 2005; Koohang & Harman, 2005 and Koohang, Riley, and Smith, 2009).

2.4.1 Constructivism

Tracing the history of constructivism, Ernst von Glasersfeld (1995) revealed that conceptually it emerged earlier in history in the writing of Vico (1710) who stated, "Humans know only what the human mind has made" (p.21). According to Von Glasersfeld (1995), constructivism is often attributed to the work of Jean Piaget (1972) who believed that learning was not transmitted passively, but attained through well-defined stages by active participation of a learner. Piaget's (1967) theory focused on the active role of the individual in learning, "all knowledge is tied to action, and knowing an object or an event is to use it by assimilating it to an action scheme" (p.14). Piaget's theory focused on the individual and ignored the socio-cultural context. In contrast, Vygotsky (1980) presented a similar idea but focused on the importance of socio-cultural activity in learning as well as the introduction of flexible stages of development. Piaget's and Vygotsky's work acknowledged two constructivist learning views: individual constructivism and social constructivism.

Individual constructivism emphasizes that learning is at its utmost when learners actively process the information in a way that is meaningful to them. Therefore, learners do not absorb information passively but rather build upon what they already know by reflecting, imposing and organizing meaning (Reiser & Dempsey 2002). From its name, this view of constructivism sees the learner as the centre of the learning experience and highlights two crucial aspects namely, the learner's active role and his/her previous experience. According to Driscoll (2000), "constructivist theory rests on the assumption that learners construct knowledge in attempting to make sense of their experiences" (p.376). After constructing knowledge, learners then apply their understanding to a new situation, and integrate their newly gained knowledge with the prior existing knowledge. (Martin, et al., 1997).

Social constructivism, on the other hand highlights the importance of culture in understanding what happens in society with learners when they construct knowledge based on their understanding (Derry, 1999; McMahon, 1997). According to this theory, learning does not take place only within an individual. Conversely, it occurs when individuals are engaged in social activities with other learners as practitioners in society (Lave & Wenger, 1991; McMahon, 1997).

Educators such as Vygotsky (1962), Dewey (1966a), Freire (1972), Brookfield (1986), Knowels (1998) and others drew from a combination of both individual and social constructivism. For instance, Cobb (1994) scrutinized whether the location of the 'mind' is in the head or in social action. Based on Cobb's argument both perspectives should be used, as they are equally beneficial. Salomon and Perkins (1998) suggested that 'acquisition' was based on the concept that mind was located in the head and 'participation' was based on the concept that mind was located in social action were metaphors for learning that interrelate in complex ways. To sum up, constructivism represents the understanding that knowledge is constructed within the cognitive structure of every individual and is

reliant on experiences gained from the social structure and environment of each individual. (Grabinger & Dunlap, 1995; Lebow, 1993 and Bostock, 1998).

2.4.2 Cognitive theory of multimedia learning (CTML)

Mayer designed cognitive Theory of Multimedia Learning (CTML). Mayer is well known in the field of educational psychology and developed a theory founded upon research-based principles that explain the way people construct knowledge and understand from multimedia learning environments. It is based on the assumption that people process audio and visual input differently, in limited elements at one time, and that effective education occurs when learners are presented with the right kind of cognitive processing. (Mayer in Veronikas, 2005, p.180). Robert Gagné (1977) also recommended the use of various media in instruction to ensure that information can be presented in a variety of different ways to achieve effective retention (Driscoll, 1994). Gagné believes that various media are effective in reaching different outcomes (1994). For instance, models can explain difficult technical concepts visually as compared to textual description. The cognitive load theory, as described by Sweller, et al. (1998) supported Gagne's claim on multimedia usage in instruction which according to this theory, could cause unnecessary memory load on the learners depending upon the presentation format of instructions. These pointless memory loads were also referred to as extraneous load. However, by simply changing the presentation format, the extraneous load could be reduced, thus enhancing the retention rate of instructions amongst learners. Another study by Mayer (2001) showed how learners built mental representation of multimedia instructions. Additionally, Mayer outlined that one of the most important steps in this process was the integration of both verbal and visual information in the learner's working memory. In the scenario where the instruction consisted of an image and an explanatory text; for instance, the learner had to switch between the two media elements and integrate them mentally which made this process cognitively demanding and wasteful. This was because the mental resources spent could otherwise be channelled into the learning process itself. Instead, if the text was

replaced by voice-over and visual cues were added, the effectiveness of the instructions would increase in terms of better learning results, as less mental effort was spent. Gagné's visionary recognition of exploiting various media in instruction rendered it perfect for use in e-learning since it propagated the use of digital multimedia content (Mayer, 2001). Multimedia programs were regarded as capable of providing an almost unlimited variation in presenting instructional content to learners (Driscoll). Kruse (2006) described an example of how Gagné's nine principles of instructional design could be implemented in e-learning, which are as follows:

Gaining attention: Before any learning begins, the initial step is to capture the student's attention. Utilising animation accompanied by sound effects may startle the senses with auditory and visual stimuli of an individual. Another option might be the use of thought-provoking questions or interesting facts to capture student's attention. Curiosity acts as an excellent motivation for students to learn.

Informing learners of the objective: Students should be provided with a list of learning objectives to help them expect what is to be learnt and encourage them to complete the lessons. However, these objectives should be used as a basis for lesson-assessment. Usually, the learning objectives are presented in the form of 'Upon completing this lesson you will be able to...'

Stimulating recall of prior learning: If learners are able to associate new information with prior knowledge and as a result store this information in the long-term memory, then the learning process could be made easier. The most practical and simple way of accomplishing this task is to stimulate previous knowledge by asking questions and probing for further details.

Presenting the stimulus: Various media including text, graphics, audio narration, and video are essential tools to enhance content appeal to learners. It

is always effective to present new content to the learner. Content presentation, however, should be organised and chunked meaningfully.

Providing learning guidance: When presenting new content, additional guidance should be provided in order to help the learners retain information for long-term storage. Implementation strategies include several techniques like presenting illustrations, examples, models, case studies, analogies and graphical representations.

Eliciting performance: The new skill acquired by learners needs to be practised, which allows them to confirm their understanding of the subject. Additionally, continuous repetition further increases the retention rate among learners.

Providing feedback: While new skill is being practised, it is crucial to provide explicit and immediate feedback to learners concerning their performance. Accompanied exercises and tutorials used at this stage should be tailored for comprehension and encoding purposes rather than for formal scoring. Formative feedback may also be given for additional guidance and answers.

Assessing performance: Upon completion of a module by the learner, he or she should be asked to take a final assessment. However, learners should sit for the final test without additional support, training, or intimation. Only if the learner achieves a certain score, a certification of mastery of the material is granted.

Merging principles of instructional design from the theories discussed above namely Constructivism and Cognitive Theory of Multimedia Learning (CTML), the following section suggests the most important attributes of instructional design for e-learning.

2.5 E-learning: Attributes of Instructional Design

From the above discussion of the main aspects of e-learning, the main attributes of online learning for adult learners in higher educational settings are illustrated in the following diagram (Fig. 2.4):

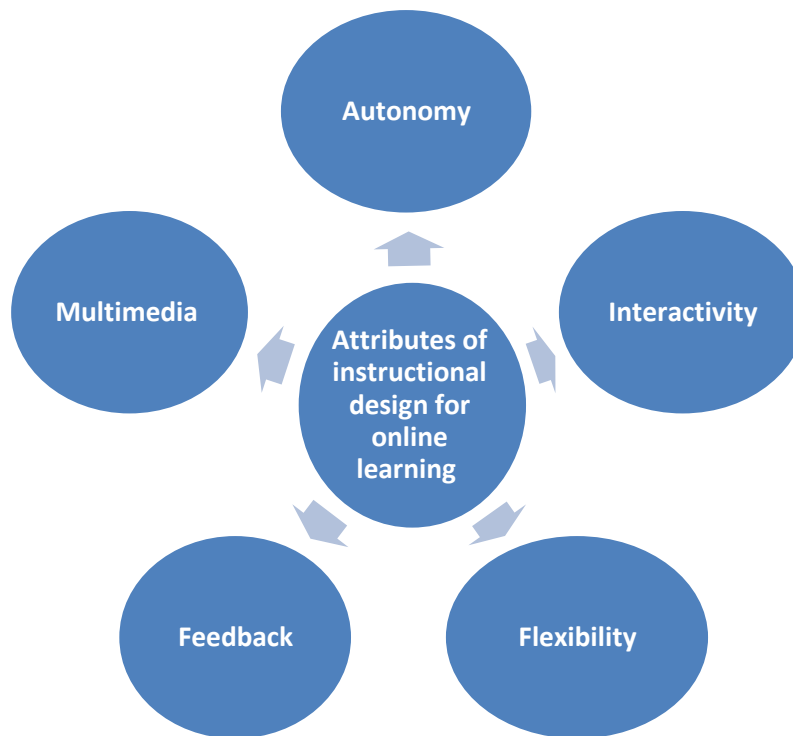


Fig. 2.4
Main attributes /qualities of e-learning

As shown in Fig. 2.3 above, in higher educational settings principle design for fully online environments could be based on essential attributes of e-learning to enhance learning through autonomy, interactivity, flexibility, multimedia, and feedback. Each attribute will be discussed in detail.

There are a variety of principles or attributes that heighten the probability of success factors in the implementation of a fully online learning environment. Suggested attributes, which online environments should enhance or provide are the following

1. Autonomous learning
2. Learner interactivity with the content, instructor and other learners
3. Flexible access for learning (anytime anywhere)
4. Effective feedback
5. Variety in multimedia material

These attributes are discussed in turn in the following sections.

2.5.1 Online learning environments should be autonomous

Conceptually central to the primary research question of the current study is the measurement of autonomy. In attempting to define autonomy, I perceive it as representing the principle of self-sustenance in which the learner has the ability to pursue an independent course of study competently without a needing to be directed by another. The degree of freedom that the individual learner has is mitigated by environmental and relational factors such as previous instruction and preparation to become increasingly independent. Self-direction and self-regulation are other elements of autonomy, which imply that a person must be reasonably competent, confident and motivated to pursue a course of thought or action alone with an expected degree of success (Saks and Leijin, 2013). One's intrinsic motivation combined with knowledge of skills and experiences of successful interaction with others helps to form the learner's sense of purpose and desire to be autonomous.

Autonomy ensures that learners have the ability to participate actively with the content by being able to practice and decide independently upon what is useful for them. It stresses the importance of individual needs and considers learners' capabilities and pace to achieve the learning objectives (Almosa and Almubarak, 2005). There is a general failure to define autonomy within the context of higher education, which has resulted in a consistent lack of consensus in discriminating between autonomy as a studious activity and as an ability, which requires development. Consequently, the process by which a student becomes adept at self-directed study is serendipitous (Knight, 1996, p. 35). In an attempt to overcome this definitional obstacle, the current study uses a strategy, which

defines the term 'autonomy' as the capacity or ability to take charge of one's learning (Holec, 1979:3). A literature review of adult education validates this perspective with an emphasis upon learning activities that develop the autonomous learner as reaffirmed by Boud (1988), Brockett and Hiemstra (1991) and van der Veen (2006).

Learners become autonomous in five stages involving components of distinct actions, content and process as proposed by Nunan (1997). In the first stage, the action is "awareness" which begins with the learners' understanding of learning objectives and the use of content materials. The initial process within this stage helps learners to identify the relation between learning tasks and their preferred strategies. In the second stage, the action is "involvement" in which learners select their own goals from a variety of alternatives undergoing a selection process. The third stage of autonomy consists of "intervention" where learners modify and adapt content in a process of realigning tasks. In the fourth stage, the act of "creation" allows the learners to be innovative and create their own objectives and tasks. Finally, in the fifth stage of "transcendence" learners go beyond the classroom making connections with the real world and such an application lead toward the process of research and teaching.

In seeking further qualitative criteria for measuring the degree of autonomy in students and evaluation of online distance learning effectiveness, I explored widely accepted attributes of autonomous learners. Omaggio (1978) and Wenden (1998) propose seven characteristics of autonomous language learners, which consist of:

1. Having insights into their learning styles
2. Taking an active approach toward the learning task
3. Are willing to take risks
4. Are good guessers
5. Pay attention to form as well as content

6. Developing the target language as a separate reference system
7. Having a tolerant and outgoing approach to the foreign language.

This study focuses on the technology-based method of supporting autonomy, which promotes independent interaction with educational technologies (Benson, 2001). Learners differ in the way they interact with technology as they relate new learning to their own needs and past experience. Research shows that technology has reformulated education by promoting self-learning and help learners use technology to meet their individual needs. According to Drew and Bingham (2001) "autonomous learning is a school of education which sees learners as individuals who can and should be autonomous, i.e. be responsible for their own learning climate" (p.206). In summary, autonomous learning within the developmental framework of Nunan (1997) means that interdependence leads toward greater independence in learning stages to the point where continuous supervision and help from instructors is no longer needed due to the mastery of the student (Fazey and Fazey, 2001).

2.5.2 Online learning environments should be interactive

Online learning is a form of interactive learning as it enables the learner to interact with the content, instructor and peers. This interaction happens synchronously through tools and applications such as video conferencing, chat rooms and shared whiteboards. It can be done asynchronously through applications like the e-mail, discussion forums and group news. This main feature of online learning can be defined as electronic interaction between the learner and the content, the learner and the instructor and learners among themselves. This interaction between learners, instructors, and content has proven to be an important part of the learning process (Allan, 2008; Phillips, 2004). To facilitate quality interactive activities, online learning tools have been developed to allow learners play an active role by managing the content, adding features, modifying interface and prioritizing relevant subjects. Garrison and Anderson (2003)

suggest that this interaction could happen in three stages: first, learners interact with each other, secondly, learners interact with other resources that are available both human or nonhuman. Third, learners interact with the information they have obtained. The options and nature of interaction also vary. For instance, a one way interaction is when learners navigate an internet page while a two way interaction is when learners get into discussion with their instructor. To enhance interactivity and its importance in education, appropriate utilization of technology should take place.

2.5.3 Online learning environments should be accessible / flexible

Online learning is often sold on the basis that learning can occur at "any place, any time". A key attribute of online learning is that it allows individual learners to access information and resources at flexible time, place and pace that are convenient to them rather than the convenience and suitability of the teacher and/or the educational organization. (Willems, 2005). The goal of online learning is to un restrict learners from the limitations of conventional residential educational settings (Edelson, & O'Neill, 1994; Edelson, Gordin, & Pea, 1999). Students would not be required to attend lectures or live in locations away from where they live and work. In this setting, online learning with the help of ICT not only provides learners access to up-to-date information whenever they need it, but also offers them opportunities to get into discussions about this information with their instructors and peers at their own convenience. Online learning enables learners and teachers to engage in synchronous as well as asynchronous interaction across space, time, and pace (Pea, 1994; Gordin, Polman, & Pea, 1994; Gomez, Gordin, & Carlson, 1995).

2.5.4 Online learning environments should offer effective feedback

In online learning feedback is a crucial element for success. Feedback, in instruction, is considered a key element as it is assumed to facilitate learning (Kowitz & Smith, 1987). It is worth noting that the origin of feedback is traced back to the era of communication theorists Shannon & Weaver, 1949 and

Schramm, 1954 whose early work placed the foundation for the understanding of feedback as a main component of instruction. According to communication theory, feedback is a response to a sender's message. In education, feedback is defined as any message or process that is given to a learner in order to inform him/her of the accuracy of a response. This response is usually to some type of instructional question (Cohen, 1985; Sales, 1993). In online learning, feedback takes a variety of methods, including both synchronous and asynchronous forms. In addition, there are two types of feedback in online learning: intrinsic and delayed feedback. On line learning often uses extrinsic feedback such as, "that's correct" or, "the correct answer is ...". Intrinsic feedback mimics real-life, showing learners how they perform based upon real-world measures. This method increases motivation by encouraging students to learn from their mistakes. It also yields a more memorable learning experience than by simply telling learners the correct answer. In the delayed feedback approach, timing of the feedback could be delayed rather than having it provided immediately. This type of feedback provides an opportunity for learners to evaluate and reflect on their choices. A good example of an effective method for the delayed feedback is posting follow-up questions probing learners to validate why they had selected something in a previous response. (Performance online, n.d.)

According to Open University (2006), there were eight distinct advantages of e-assessment, which facilitated more efficient use of time and effective use of valuable feedback for both teachers and students. They are listed below.

- Allowed multiple versions of the same exam (totally randomized – the question and the selections)
- Saved time for teachers by automatically marking and performing an item analysis
- Provided instant feedback to students on performance
- Allowed teachers to easily track performance of individual students
- Provided a greater variety of media (such as video, graphics, etc.) compared to paper-based tests

- Allowed objective marking and reduces human error
- Assembled tests quickly from computer-stored question banks,
- Provided feedback and evaluation data to teachers about their course designs

2.5.5 Online learning environments should be presented through multimedia

Hypermedia and multimedia present massive interconnectivity to information in a variety of probable combinations, mixtures and sequences of resources. (TEOH & NEO, 2007; Franklin, & Peat, 2001 & Kiili, 2005). These resources included still pictures, video, audio, graphics, animations, simulations, hyper-linked materials, electronic databases, online libraries and search engines. Multimedia was capable of transmitting information through its capacity to enliven it. In this way it helped students to visualize real-world situations otherwise unseen. (Spiro, Feltovich, Jacobson, & Coulson, 1991). According to Reeves (1998), multimedia was capable of stimulating more than one sense at a time, and in both getting and holding attention. Neo & Neo, (2009) also showed that students who learned from multimedia had greater self-esteem and motivation. According to them, the retention rate of learning using multimedia surpasses that of traditional means. In addition, they stressed the fact that when learners were engaged in online learning, the probability of retaining information and sustaining the learning process increased.

2.6 Perceptions in online learning

Since this thesis focuses on participants' perceptions, it is vital to define the concept. The definition of perception is complex, with more than one meaning and concept. The Oxford English Dictionary defines perception as the process of becoming aware or conscious of a thing or things in general; the state of being aware; consciousness; understanding (OED Online, 2013). According to Longmans dictionary (2004), perception is the way you understand something

and what you believe about what it is like. An old definition was explained by Hamlyn (1957) “perception as an interaction between the organism and the environment” (p.6). In phenomenology, which is defined by Merleau-Ponty (1962) as a descriptive and not explanatory or analytical study of finding essences of perceptions or consciousness (p. vii), perception is not a science of the world; it is not even an act, a deliberate taking up of a position; it is the background from which all acts stand out and is presupposed by them (p. xi). Therefore, a phenomenological explanation of perceptions reflects that people experience their world through the act of their understanding of perceptions they hold about the world. Thus, perceptions are based on the full extent of an individual’s experience and not just on discrete parts (Drucker, 1967; Hall, 1976; Moustakas, 1994). Relevance to previous experience and knowledge is explained by Moustakas (1994), as being “multiple layers of knowledge and experiences emerging from each perception by connecting feelings and images and by bringing past meanings and qualities into the present” (Moustakas, 1994, p. 53).

In behavioral studies, which determine the position of individuals towards a particular subject, perception plays a vital role. In education, learners' opinions regarding aspects of experience can be used to describe the effectiveness of educational input; therefore, they are very important stakeholders and components in the educational process (Sawaan, 2005; Alomari, 2002). Similarly, in online learning, learners’ perceptions and feedback is considered the best way to evaluate its effectiveness (O'Malley and McCraw, 1999). This is stressed by Reeves and Hedberg (2003), “the learner's experience of online learning usability is an important indicator of its quality” (p.145). Some studies have also used examination scores to evaluate online learning. However, they have been found to give an incomplete picture due to the fact that the measure they offer is limited to the production of knowledge as opposed to the processes of attaining it (Koon and Murray, 1995). Several researchers stressed the importance of perceptions over exam scores by revealing that when perceptions were used instead of scores, the data provided more information about learners' responses to the

procedures by which knowledge was gained. (O'Connell and Dickinson, 1993; Ryan and Harrison, 1995; Cashin and Downey, 1992, 1999; Koon and Murray, 1995).

2.6.1 Research examining perceptions and trends

In the field of on line learning, many studies on online learning have examined learners' perceptions to evaluate different applications and practices, both of which occasionally are referred as attitude. Both applications and practices determine the assessment of online learning from the learners' view. Many studies have reported a positive attitude to online learning in which learners expressed satisfaction about the ease of communication in online learning and the usefulness of the Internet services. Conversely, one study, for instance, has determined that this satisfaction level was no more than that in traditional settings. An overview of a prior research involving perceptions similar to this study, in the Arabian sociocultural context, is provided for the sake of comparison with the Kingdom of Saudi Arabia (KSA), Iran, UAE, Egypt and Oman.

The Kingdom of Saudi Arabia (KSA) has been a pioneer in the region regarding web-based instruction. Three major studies have been conducted in this area beginning with Alarfaj (2001). This study looked at college students' perceptions towards distance online instruction and the pros and cons of online learning. Although students generally showed positive perceptions especially towards possession of the internet at home, some negative factors such as technical problems, applicability to all subjects, and waste of time and cost were indicated. The second study by Alferaihi (2003) explored the perceptions of 326 undergraduate students' toward utilizing online courses at King Saud University. Perceptions of students showed slightly positive views towards some variables like geographical location and economic situation. However, weak social relations were rated the most negative aspect in online learning. The third study was conducted by Alaugab (2007). This study looked at Saudi Arab female faculty and students on benefits, barriers, and attitudes towards online learning in higher

education. The results showed that students were more positive than faculty members towards the benefits and barriers of online instruction when correlated with ICT and internet services.

Iran's research in online learning began with Yaghoubi et al. (2008). This study investigated virtual learners' perceptions of online learning throughout the country. Generally, students had a positive attitude; however, their views were negative towards efficiency, the use of technology and the access to the Internet. In the UAE a joint study with Oman was conducted by Elango, R. Gudep, V. K. and Selvam, M (2008) investigating issues related to the quality dimensions of e-learning. The results revealed diverse opinions of e-learners with regard to administrative issues, instruction materials and instructors' support in e-learning. It stressed the relevance of communicating qualitative education through e-learning.

Several studies have been conducted in Egypt on e-learning. First, Dajani (2009) conducted an exploratory case study to characterize Arab perceptions towards e-learning. Participants included 30 Arab students, faculty members, and administrators at the American University in Cairo (AUC). The study described participants' general perceptions of e-learning and indicated that the majority of the participants who had no e-learning experience viewed it negatively, while four participants with e-learning experience had a positive perception of e-learning. The second study was done by Hegazy (2010) investigating learner perceptions, preferences and adaptation of e-learning services in Egypt. Students' perceptions were determined through four variables: access to internet; competency of e-learning, computer and internet usage and higher education system's shortcomings. Results showed that students had positive perceptions towards e-learning in general.

In Oman, several earlier studies were conducted. The first study by Al-Ani (2008) investigated students' perceptions of the use of Moodle as a course management

system in a Foundations of Education (FOE) course at the College of Education, SQU. The results showed that with the use of Moodle students' participation and knowledge exchange had increased. Interestingly, when participants were given a choice, more than half of them preferred to use chat rooms and forums in computer labs to discussions in formal lecture rooms. The findings showed that most of the problems that bothered students while using Moodle revolved around technical issues and frequent computer errors. A second study was conducted by Al-Khanjari (2011) exploring learners' perceptions of Moodle at Sultan Qaboos University, in the Sultanate of Oman. The results revealed that those students who were introduced to an online learning environment through Moodle had encouraging, optimistic and positive attitudes towards Moodle and subsequently had enhanced learning and understanding of the course material.

2.7 Conclusion

In conclusion, this chapter has provided a literature review of previous research on definitions, trends and perceptions of e-learning. It has discussed three main conceptual aspects of technology: mode of study, pedagogy, and andragogy. The literature review of the present study on e-learning in higher education is supplemented by and integrated with a background of research conducted within regional Middle Eastern countries implementing e-learning courses within their educational institutions. Each of these studies has used perceptions, attitudes or achievement to establish the learners' opinions about e-learning within their particular educational contexts. The current study builds upon all this previous research and provides insights in the design of a survey instrument to measure the effectiveness of a model online learning course at SQU. The following chapter provides a basis of empirical research on instructional design from which to engineer an effective course prototype.

CHAPTER THREE: EMPIRICAL STUDY – INSTRUCTIONAL DESIGN OF ONLINE COURSE (BASIC COMPUTING SKILLS)

3. Introduction

3.1 Overview of the course ‘Basic Computing Skills’

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3. Introduction

In this study, learners' and teachers' perceptions are used as a source of data to evaluate online learning in Sultan Qaboos University. In order to achieve the goals of this study, it was necessary to design an online course based on the suggested learning principles in order to simulate the particular learning environment under investigation. A particular focus was upon evaluation of the attributes: autonomy, interactivity, flexibility, feedback and multimedia. To facilitate this evaluation the current chapter bridges the previous theoretical foundation in chapter two to the empirical part, which follows. Specifically, this chapter examines the online course uniquely designed for this study with details and discussion on the process of its instructional engineering and development based on e-learning aspects and the instructional design attributes discussed in chapter two.

The main goal of the study is to elicit learners' and teachers' perceptions of online learning currently applied at SQU. This method is different from the traditional face-to-face learning. Until the time of conducting this study, there was no fully online course offered at the university; therefore, I had to design and offer an online course to meet the purpose of this study. There were two possible options, either to design a totally new course of a generic subject that would interest a large number of students or to design an online equivalent course to an existing face-to-face one which would cater to a large number of students. The second option was found more feasible. Since the study was trying to investigate a large number of students and teachers, the General Foundation Programme (GFP) was targeted as it catered to a population of around 1000 students per year and the course 'Basic Computing Skills' was chosen to be designed and offered online.

3.1 Overview of the course ‘Basic Computing Skills’

This Basic Computer Skills course is a component of the General Foundation Program (GFP), which was adopted by all higher education institutions in Oman including SQU in the academic year 2009-2010 to help students achieve the prescribed student learning outcomes in at least four areas: English, mathematics, computing and general study skills. The learning outcomes of the GFP were based on Oman’s Academic Standards (OAS), which set the minimum structural, and resourcing requirements that programs of study were expected to attain. These standards provided flexibility for the institutions to develop their own curriculum and implement teaching and assessing methods in line with the requirements of these standards. The entry and exit assessments were essentially the same as they were designed to determine whether the student met the learning outcome standards and the final assessment result were either a pass or a fail and there was no final grading shown on the official transcript.

The main aim of the Basic Computing Skills Course was to ensure that students were equipped with the computing and information technology (IT) skills that were necessary to communicate and process information related to their post-secondary or higher education studies in a variety of disciplines. The learning outcome standards were as follow:

1. Computer Fundamentals

Students were required to understand the make-up of personal computer system in terms of hardware and software, data storage and memory. Students also had to understand how information networks were used within computing and be aware of the uses of computer based software applications in everyday life.

2. Basic Computer Operation and File Management

Students were required to understand and be familiar with the basic principles of operation of a personal computer system and with basic principles of file management using a computer.

3. Word Processing

The general objective of this component was to equip students with the essential skills that they needed to create good quality documentation during their studies.

4. Spreadsheets

The general objectives of this component were to equip students with the essential skills that they needed to create good quality spreadsheets during their studies, and to understand the spreadsheet packages so that they could utilize them for data processing tasks during their studies and in the future.

5. Presentation

The general objectives of this component have to equip students with the essential skills that they needed to create professional presentations during their studies and an understanding of presentation packages so that they can utilize them for presenting information in an effective manner during their studies and in the future.

6. Internet, WWW and Email

The general objective of this component was to introduce students to the fundamentals of computer networks and communication systems, which assisted in providing the students with the tools for searching and accessing information remotely and using electronic mails for communicating with other people. (Basic Computing Skills, 2010)

Based on this national learning outcome, an in-house textbook for the computing course was written by instructors and curriculum developers from the relevant department at SQU. The course was written and offered in both Arabic and

English languages. The textbook consisted of six chapters: Computer Fundamentals, Basic Computing Skills, Word processing, Spreadsheets, Presentations and Computer Networks and Internet. A test, for this course, was also prepared by the Foundation Programme.

This Basic Computer Skills course was chosen to be designed and offered fully online for it had the main characteristics, which were suitably converted to an online course. The characteristics of the course were the following.

- catered to a large number of students, around 1000 students per semester
- was a part of the newly established Foundation Program in SQU which was an accreditation requirement for all higher education institutions in Oman
- had an in-house written syllabus based on the ICDL content
- had clearly defined learning outcomes
- was a continuation of a subject that was taken during secondary school years (Grade 11).
- was offered during the Fall, Spring and Summer semesters to maximize its accessibility.
- was not a prerequisite to the other two components of the foundation program, so it was flexible to be taken at either semester.
- was easy in nature and could be learned independently
- could gain accreditation as it was aligned with ICDL international material and tests.

By the time I decided to generate an online version of the course, it had been taught face-to-face for three semesters. Therefore, I met a total of four teachers, including the course coordinator, in order to investigate the teaching and learning hitches that could be eluded and solved using e-learning. Although listening to learners at this stage was valuable, time limitations and some logistics hindered me from interviewing them; therefore, their voice was represented through the teachers. The following issues were found to be of a concern:

- The student/teacher ratio was very big due to shortage in the teaching staff per semester.
- The time allocated for hands on practice with students was inadequate due to the limited number of computer labs on campus
- The practical part of the assessment was time and effort consuming as students were given written instructions on the practical part, which they did in class. This work was saved in flash memories/ CDs and handed over to the teacher. Teachers spent hours marking this work and wrote feedback.
- There were lots of student withdrawals due to clashes in the master timetable.

After the related material was collected and the feedback from course coordinator was acknowledged, I sat with a member of my team at work, an instructional developer who is a staff member at the Centre for Educational Technology at SQU. Together we reviewed the textbook “Basic Computing Skills” from instructional design perspective keeping in mind the coordinators’ feedback. Then we designed of the online version of the course using multimedia and self-learning activities which learners can work independent of the teacher. Due to time constraint we decided to develop four out of six chapters to include in the online version of the course.

The following five components were included for developing effective simulations based on a (Bell, Kanar, & Kozlowski, 2008)

- An introductory session that set the environment for training.
- A sample of a successful interaction was provided for the participants to watch.
- A simulation process in which participants perform by applying the knowledge they gained in the earlier sections.

- Post simulation where participants received feedback and coaching on their behavior in the simulation. If they did not take the best possible course of action through the simulation, they were given an opportunity to repeat it.
- Follow up which provided continuous learning of the program by enabling the participants to revisit the simulation if needed and they could also include new modules to complete the original simulation. It also introduced new challenges to the participants.

3.2 Course Design using ADDIE Model

The 'Online Basic Computing skills course' was designed using the ADDIE model. ADDIE consisted of five stages: Analysis, Design, Development, Implementation and Evaluation. The process of developing the course and implementing the above mentioned stages are explained below.

3.2.1. Analysis Phase

As a starting point, a needs analysis was initially conducted to:

- precisely enumerate course goals by referring to the existing Foundation Program IT Syllabus and CDL (Computer Driving License) references as acknowledged by the university;
- identify whether training materials such as simulation tools would be best to use in order to bridge the gap between a learner's current knowledge and capability and the desired learning outcomes;
- determine whether simulation packages integrated within an online environment would be the best solution to deliver the training.

In addition, the target audience of the first year students in the SQU Foundation Program was carefully analyzed. Their characteristics (e.g. previous knowledge and skills, demographical factors, gender, age, learning styles and access to technology) were all taken into account to be able to effectively proceed with design and delivery of the online course. The needs analysis phase was also

meant to determine the course contents. Four major topics were identified for integration into the experimental online course: Introduction to Computers; Basic Computer Operations and File Management; MS Word and MS PowerPoint. Task analysis was carefully performed to identify job tasks and activities that learners had to learn or improve along with the knowledge and skills, which needed to be reinforced. In the case of Online Basic Computing Skills course, students had to be able to demonstrate competency in two common Microsoft Office applications such as MS Word and MS PowerPoint. Topic analysis was then carried out to identify and enumerate all course contents that had to be integrated in the course.

3.2.2. Design Phase

After completing the analysis phase, the design stage was immediately done by formulating a set of learning objectives required to achieve the general, high-level course objective. It was imperative to define the order in which objectives had to be achieved (chunking and sequencing) as well as to select the right media and assessment activities. The outcome from this stage was used as a blueprint to be used as a reference for the course development. The blueprint illustrated course structure (e.g. its modules, units, lessons, activities); each unit was associated with its learning objectives; and formats (e.g. interactive self-paced materials, synchronous and/or asynchronous collaborative activities). (Brainsalad Software, 2014). The following was course structure for the Online Basic Computing Skills which represented the optimal synthesis of effective online learning factors:

- 1. Welcome Note**
- 2. Course Introduction (Syllabus)**
- 3. Tutorial on how to use the course**
- 4. Module 1 – Computer Fundamentals**
 - a. Unit Syllabus
 - b. Interactive Topics
 - c. Printable Handouts
 - d. Collaborative Activities

- e. Help Section
- 5. Module 2 – Basic Computer Operations and File Management**
 - a. Unit Syllabus
 - b. Interactive Topics
 - c. Printable Handouts
 - d. Simulation Evaluation Tools
 - e. Collaborative Activities
 - f. Help Section
- 6. Module 3 – MS Word 2007**
 - a. Unit Syllabus
 - b. Interactive Topics
 - c. Printable Handouts
 - d. Simulation Evaluation Tools
 - e. Collaborative Activities
 - f. Help Section
- 7. Module 4 – MS PowerPoint**
 - a. Unit Syllabus
 - b. Interactive Topics
 - c. Printable Handouts
 - d. Simulation Evaluation Tools
 - e. Collaborative Activities
 - f. Help Section

3.2.3. Development Phase

In this stage, the actual online course content and activities were produced. The course contained both simple materials (i.e. with less interaction or multimedia such as structured PDF documents) and complex learning tools such as simulations and interactive instructional packages. In this situation, storyboard development and the development of media and electronic interactions were conducted.

The following three steps in Fig. 3.1 below were used for developing interactive multimedia content:

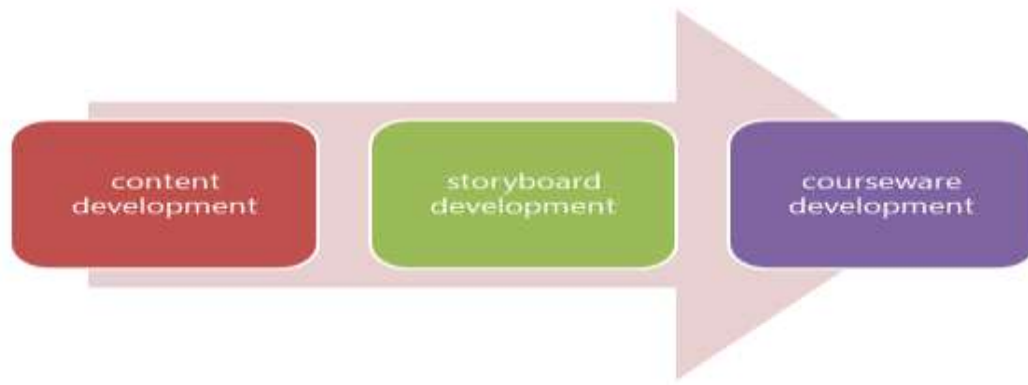


Fig. 3.1
Development Phase

Content Development

All necessary knowledge and information was collected, organized and structured in order to deliver the whole course. Content was based on existing pre-approved course materials used in the Foundation IT Program at SQU.

Storyboard Development

Upon completion of the content development phase, instructional methods and all pedagogical elements needed were combined to support the learning process and media elements. Utilization of a storyboard served as a document, which described all components of the final interactive products. This included images, texts, interactions, assessment tests, simulation behavior and outcomes.

Courseware Development

Media and interactive components were developed using in different formats for Web and Mobile delivery while integrating the content elements into a learning platform that learners could easily access and use as a learning tool.

Structure of the Course

The following page shots describe the structure of the actual course, associated learning contents and simulation assessment activities.

1. Welcome note, course introduction (Syllabus), and tutorial on how to use the course



Fig. 3.2

Welcome Note and Course Introduction

The details of the screenshot in Fig. 3.2 above are described in Table 3.1:

Item	Description
1	The course introduction starts with a welcome message for learners. This message is presented through an animated video supported by text. The video tutorial provides a demonstration on how to navigate through the course, open or play the interactive resources and simulation packages, and access the help section.
2	The introduction also contains a standard forum for the announcements and latest news about the course; a user-friendly tutorial, which provides information to students on how to navigate along the course, and a structured PDF file, which contains the syllabus, and other important information about the course.

Table 3.1



Fig. 3.3
Video Tutorial

In Fig. 3.3 above, a screenshot illustrates the Video Tutorial provided in the course:

This video-tutorial on how to use the course helped the student to learn how to navigate through the course, play the interactive materials and work with the simulation assessment activities.

2. Module 1 – Computer Fundamentals: Unit Structure

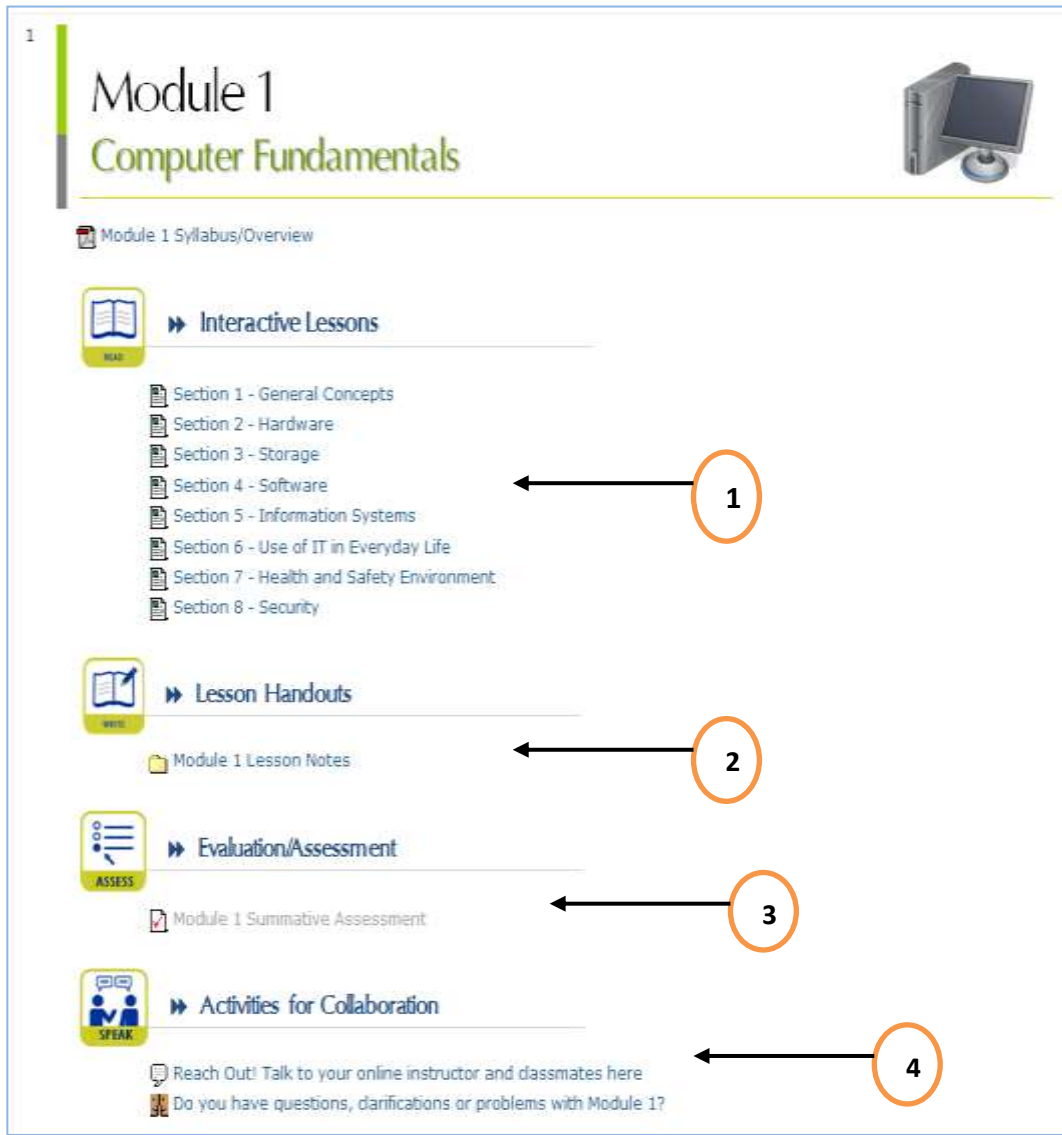


Fig. 3.4
Screenshot of Module 1- Computer Fundamentals

In Fig. 3.4 above, a screenshot illustrates the Module 1 syllabus. Details of the screenshot for Module 1 are described in Table 3.2 below:

Item	Description
1	Each lesson was delivered in the form of an interactive instructional package (SCORM) which utilized rich media elements such as sound, graphics, animation, structured text to enable the learner better comprehend the topic. Self-assessment exercises were given at the end of each lesson.
2	Students were also provided with printable lesson handouts for their reference. These handouts for each lesson were made available through a structured PDF document that contained all the required discussions about a particular topic.
3	To assess students, a summative assessment was given which checked student's understanding of the lessons presented. Formative feedback was incorporated in the assessment to guide students along the suggested ways to improve their understanding of the topic.
4	Students were given an opportunity to express their ideas with classmates and teachers. A standard forum was set up which allowed students to post any of their concerns about the course. A Real-time chat was also integrated for enabling students to communicate synchronously about the course. Through the chat, they could share and exchange real-time answers or ideas concerning the course from their classmates and the teacher.

Table 3.2

3. Module 2 – Basic Computer Operations and File Management

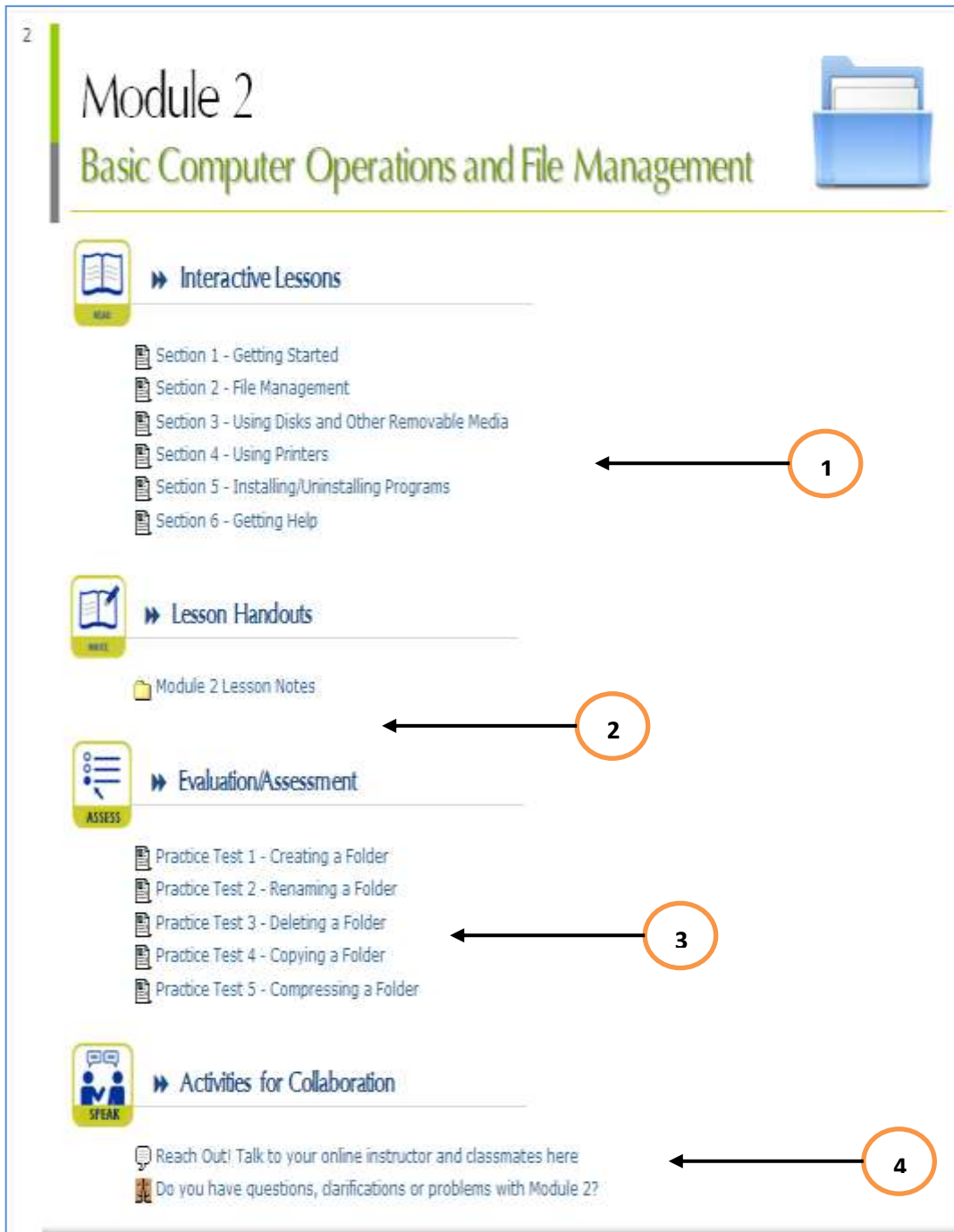


Fig. 3.5
Screenshot of Module 2 – Basic Computer Operations and File Management

The details of Fig. 3.5 above illustrating a screenshot for Module 2 are described in Table 3.3 below:

Item	Description
1	<p>All lessons in Module 2 were delivered in the form of an interactive instructional package (SCORM) which utilized rich media elements such as sound, graphics, animation, structured text that enabled the learner to understand the topic more efficiently. Since the nature of this chapter was practical, demonstration videos were incorporated to enable a better understanding by students. Self-assessment exercises were also combined and given at the end of each lesson.</p>
2	<p>Handouts instrumental to this module were also made available consisting of well-structured PDF documents as shown in Fig. 3.9 below, which contained all required discussions about a particular topic. Refer to Figure 3.10 for the screenshot of an exemplary PDF printable handout.</p>
3	<p>To verify students' understanding, a summative assessment was given over the lessons presented. Formative feedback was incorporated in the assessment to guide students along the suggested ways to improve their understanding of the topic. The types of assessment provided in this module were simulation activities, which presented an actual computer application environment to learners. They were presented with a completion task which they had to solve in that simulated environment. Refer to the following image below for the screenshot of a sample simulation exercise that can be found in this module.</p>
4	<p>Students were also given an opportunity to express their ideas with fellow classmates and teachers. A standard forum had been set up which allowed students to post any of their concerns about the course. A real-time chat was also integrated to enable synchronous communication between students regarding the course. Through the chat, they were able to obtain and share real-time answers or ideas concerning the course from fellow classmates and the teacher.</p>

Table 3.3

4. Module 3 – Word Processing Using Microsoft Word 2010

3

Module 3

Word Processing Using Microsoft Word 2010

Interactive Lessons

- Section 1 - Microsoft Word Fundamentals
 - Lesson 1 - Starting Microsoft Word 2010
 - Lesson 2 - New Features in Microsoft Word 2010
 - Lesson 3 - Understanding Microsoft Word 2010 Interface
 - Lesson 4 - Giving Commands
 - Lesson 5 - Creating New Document
 - Lesson 6 - Opening an Existing Document
 - Lesson 7 - Previewing and Printing a Document
 - Lesson 8 - Saving a Document
 - Lesson 9 - Closing a Document
 - Lesson 10 - Exiting Word 2010
- Section 2 - Getting Started with Documents
 - Lesson 11 - Entering and Deleting Text
 - Lesson 12 - Selecting and Replacing Text
 - Lesson 13 - Navigating Through a Document
- Section 3 - Working With and Editing Text
 - Lesson 14 - Checking Spelling and Grammar
 - Lesson 15 - Replacing Text
 - Lesson 16 - Copying and Replacing Text
 - Lesson 17 - Finding Text
- Section 4 - Formatting Text
 - Lesson 18 - Changing Font Style
 - Lesson 19 - Changing Font Size
 - Lesson 20 - Changing Font Color
 - Lesson 21 - Changing Text Alignment
- Section 5 - Formatting the Page
 - Lesson 22 - Adjusting Margins
 - Lesson 23 - Changing Page Orientation and Size
 - Lesson 24 - Using Columns
 - Lesson 25 - Using Header and Footer

Lesson Handouts

Module 3 Lesson Notes

1

2

(Fig. 3.6 is continued onto the next page)

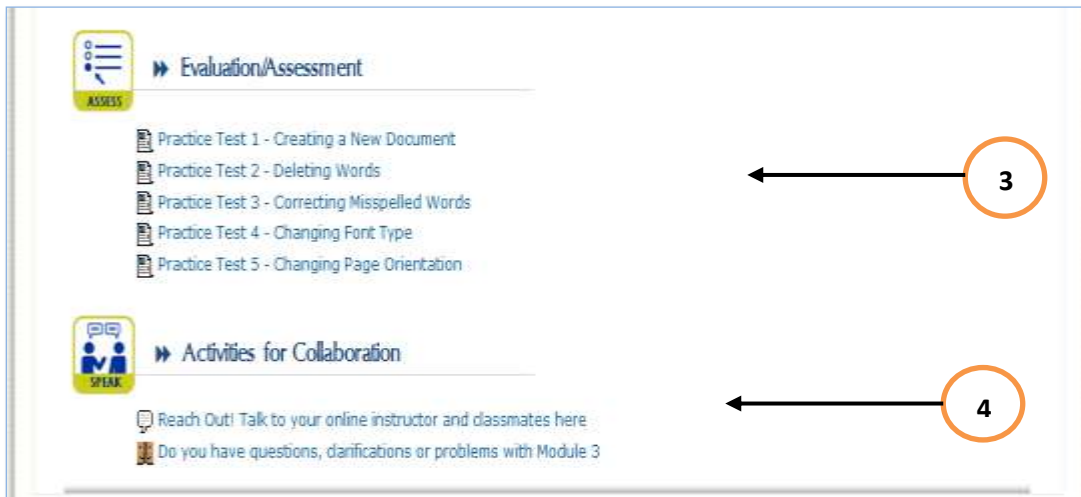


Fig. 3.6
Module 3 – Word Processing Using Microsoft Word 2010

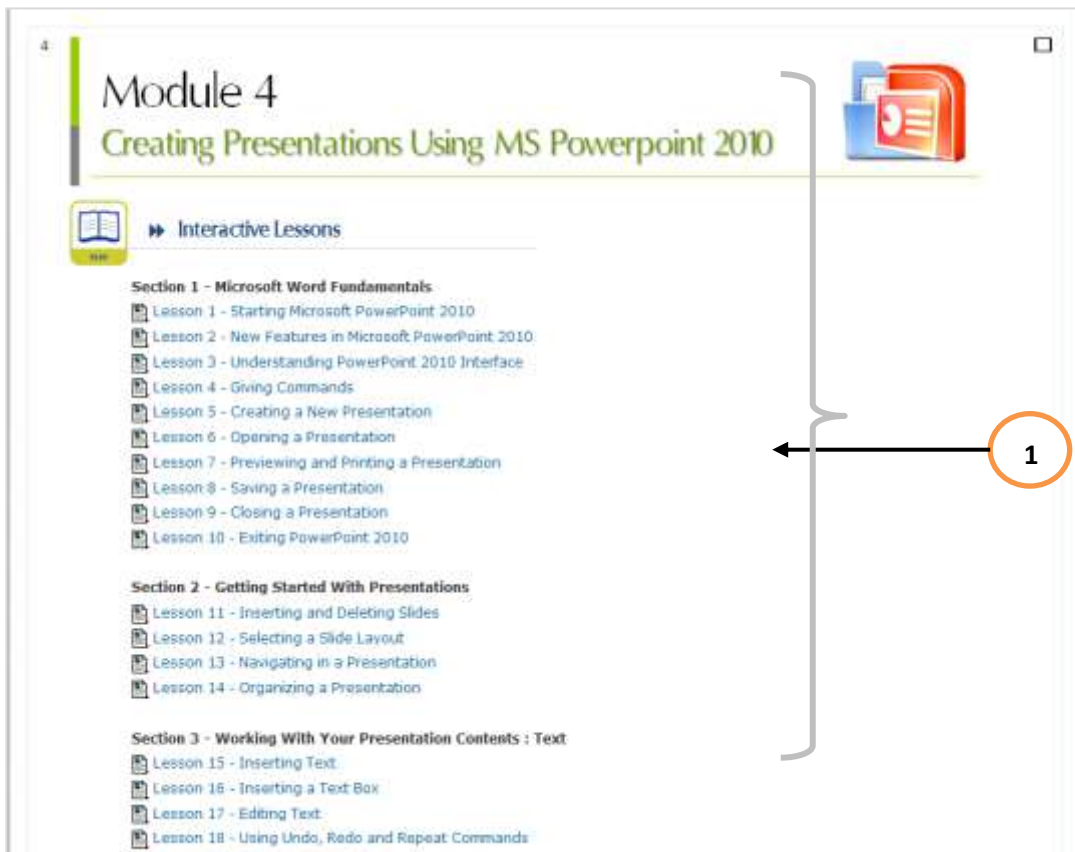
The details of Figure 3.6 above, which illustrates a screenshot for Module 3 – Word Processing Using Microsoft Word 2010, are described in Table 3.4 below:

Item	Description
1	All lessons in Module 3 were also presented to the learners in the form of an interactive instructional package (SCORM) which utilized rich media elements such as sound, graphics, animation, structured text enabling the learner to understand the topic more efficiently. Since the nature of this chapter was also practical, demonstration videos were incorporated to better enable student understanding. Self-assessment exercises were also combined and given at the end of each lesson.
2	Handouts concerning this module were also made available, consisting of well-structured PDF documents that contained all the required discussions about a particular topic. Refer to Figure 3.10 for the screenshot of an exemplary PDF printable handout.
3	Similar to Module 2, the types of assessments provided in this module were simulation activities, which presented a computer application environment to learners. They were presented with a completion task, which had to be solved in that simulated environment. Refer to the following image below for the screenshot of a sample simulation exercise that could be found in this module.

4	<p>Students were also given the opportunity to express their ideas with fellow classmates and teachers. A standard forum was set up which allowed students to post any concerns about the course. A real-time chat was also integrated to better enable synchronous communication between students about the course. Through the chat, they would be able to obtain real-time answers or ideas concerning the course from fellow classmates and the teacher.</p>
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Table 3.4

5. Module 4 – Creating Presentations Using Microsoft PowerPoint 2010



(Fig. 3.7 is continued onto the next page)

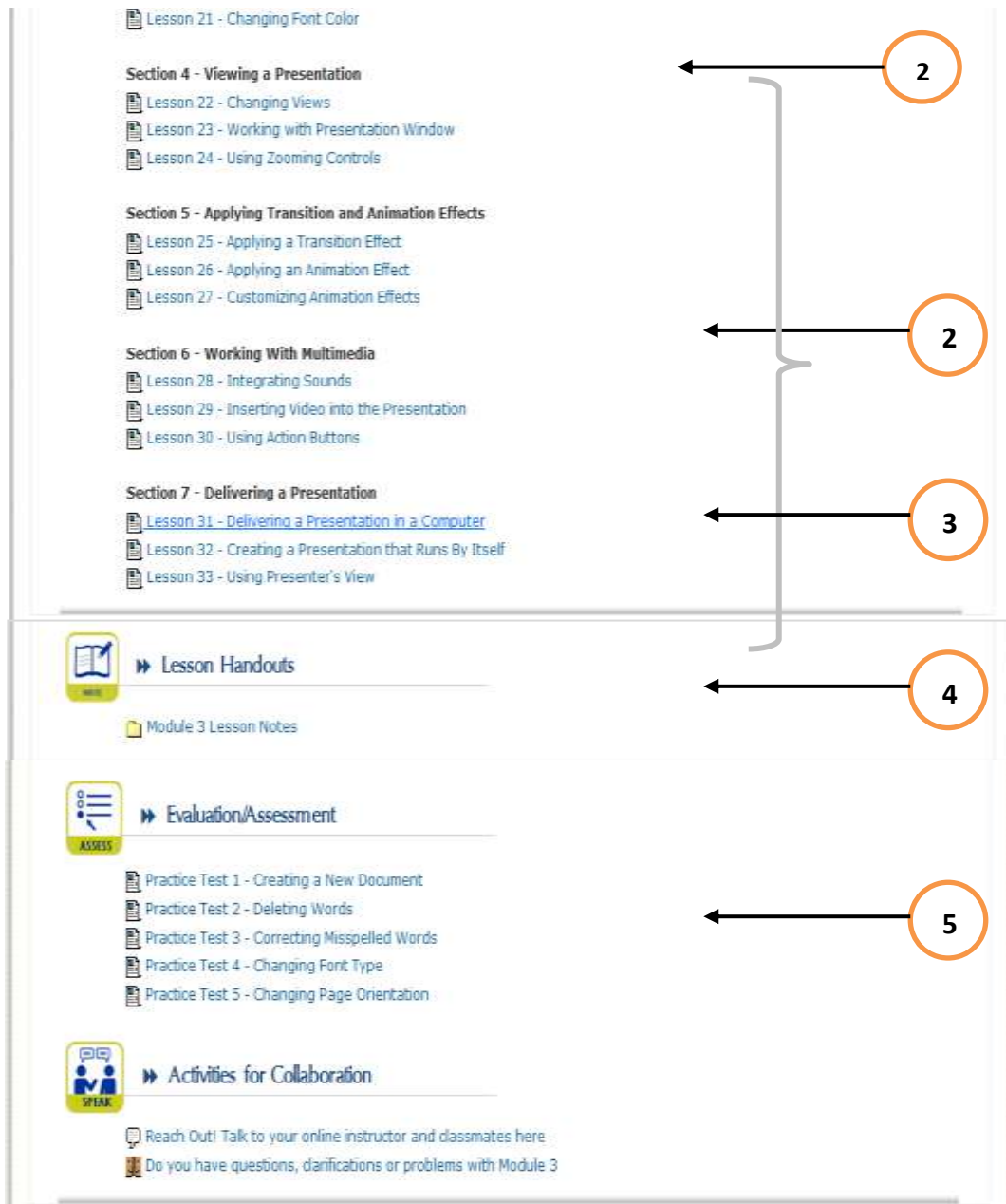


Fig. 3.7
Module 4 – Creating Presentations Using Microsoft PowerPoint 2010


The details of Fig. 3.7 above illustrate a screenshot for Module 4 – Creating Presentations Using Microsoft PowerPoint 2010, are described in Table 3.5 below:


Item	Description
1 & 2	<p>All lessons in Module 4 were delivered to the learners in the form of an interactive instructional package (SCORM) which utilized rich media elements such as sound, graphics, animation, structured text enabling the learner more efficiently understand the topic. Since the nature of this chapter was also practical, demonstration videos were incorporated to enable better student understanding. Self-assessment exercises were also combined and given at the end of each lesson.</p>
3	<p>Handouts for this module were also made available consisting of well-structured PDF documents which contained all required discussions about a particular topic. Refer to Figure 3.10 for the screenshot of an exemplary PDF printable handout.</p>
4	<p>Similar to Modules 2 and 3, the types of assessments provided in this module were simulation activities which presented an actual computer application environment to learners. They were presented with a completion task that needed to be solved in that simulated environment. Refer to the following image below for the screenshot of a sample simulation exercise that can be found in this module.</p>
5	<p>Students were also given the opportunity to express their ideas with fellow classmates and teachers. A standard forum was set up which allowed students to post any concerns about the course. A real-time chat was also integrated to enable a synchronous communication between students about the course. Through the chat, they were able to obtain real-time answers or ideas concerning the course from fellow classmates and the teacher.</p>

Table 3.5

Development tools

The following table 3.6 presents the main tools which were used for the course development:

Development Tool	How it was utilized
1. Moodle	Moodle was installed and customized to serve as the Learning Management System (LMS). All course material and data were uploaded to this LMS. Reporting and other course analytics necessary to evaluate the usefulness of the course were obtained through this LMS.
2. Articulate Storyline	<p>This tool was particularly used to develop intuitive soft-skills training material needed for the course in the format of shareable content object reference model (SCORM) like the slide presentation, case-based scenarios, soft-skills simulation and interactive assessments. This module was then uploaded on the learning management system Moodle. Articulate storyline was selected because it is a rapid mechanism for developing online courses that are interactive and engaging. Its main strength is developing modules that have branched scenarios. Below is screenshot of an Interactive Lesson designed by Articulate Storyline:</p> 

<p>3. Adobe Captivate 6</p>	<p>This tool was used as an alternative tool for publishing content into an flv format. As it was more straightforward to produce a content of different format in the tool, the developer utilized its feature for publishing flv clips required for some screens in the lesson. Below two screenshots of lessons in Section 2 from the course which contains video created by Adobe Captivate 6:</p> 
<p>4. Camtasia Studio 8</p>	<p>As there were video clips in the course which required long time recordings and long synchronized narrations, this tool was used as an alternative tool for producing long video files with narrations. Content produced by Camtasia Studio 8 were embedded in some of the Articulate Storyline screens. Below is an example screenshot of a lesson in Section 2 which contains video created from Camtasia Studio 8</p>



	
5. Natural Reader	This tool was used for producing all the voice narrations required for the video clips and screens.
6. http://www.storyboardth.com/	<p>Storyboarding tool was used to plan the content of the course. It was used to define the structure, sequence and logical branch points for the simulation activities. Below is a an example screenshot of a storyboard created for one of the lessons for Section 2</p> 
7. Notepad	The Notepad was used for text-editing purposes. Exam examples were converted in a csv file using this tool then they were uploaded to the learning management system (MOODLE).

Table 3.6
Course Development Tools

3.2.4. Implementation Phase

In this stage, the online Basic Computing Skills course was delivered to learners through the Learning Management System (Moodle). Details of the course are listed below:

- Course Title: Online Basic Computing Skills
- Course Code: COMFUN101
- URL : <http://moodle.squ.edu.om/course/view.php?id=5145>
- Best accessed on the following browsers: IE 7 above/ Google Chrome/ Mozilla Firefox
- No. of students registered: 2113
- No. of students completed the course: 1087
- No of students who filled in the online survey: 236

3.2.5. Evaluation Phase

An evaluation process was carried out immediately after the implementation process to measure the effectiveness of the course with a focus on its flexibility and interactivity. The evaluation process took two semesters and several data collection tools were used for that like online surveys and there were interviews.



Fig. 3.8

Screenshot of the Survey Links for Teachers and Students

In Fig. 3.8 above, a screenshot of the Survey Links for Teachers and Students is provided.

3.3 Conclusion

In conclusion, this chapter created a bridge between the previous chapter on theoretical foundation for implementing an online course at SQU within the socio-cultural and epistemological context of Oman and the empirical part, which follows. In short, this chapter examined unique instructional design features for the online course in detail along with an in-depth discussion focusing on the process of its engineering and development based on e-learning aspects and ID attributes. The next chapter explores aspects of an ideal research methodology to apply principles of implementation of the model e-learning course and its evaluation.

CHAPTER FOUR: METHODOLOGY

4. Introduction

4.1 Qualitative vs. Quantitative research

4.2 Definitions of a case study

4.2.1 Is there a clear definition?

4.2.2 Types of case studies

4.2.3 Boundary

4.3 Reliability and Validity in qualitative research

4.4. Data collection

4.4.1 Questionnaires

4.4.2 Questionnaire procedure

4.4.3 Cover letter of the questionnaire

4.4.4 Semi-structured interviews

4.5 Translation

4.6 Participants

4.6.1 Recruitment of participants

4.6.1.1 Recruiting learners

4.6.1.2 Recruiting teachers

4.7 Data analysis

4.8 Ethical claim

4.9 Conclusion

4. Introduction

When deciding on the best research methodology, these words came to mind:

"Rarely is there only one way to go about things and most research topics could be approached from a range of different theoretical and philosophical positions and could be investigated by using most of the available methodologies and methods..." (Wellington et al, 2005, p. 99). The approach followed in this study is in full agreement with Wellington that the stance of a researcher determines his/her choice of research methodology. Researchers carry values, which influence the process of research they conduct. These values are governed by a given researcher's ontological and epistemological assumptions. Building upon these assumptions, researchers form a basic set of belief 'paradigms' which guide decisions of research methods, procedures and processes. These paradigms do not only guide a researcher's direction towards the end of the research, but also influence their aims, design, methods of data collection, data analysis, and discursive explanation and finally the writing up of the research. These paradigms are defined according to Sikes (2004) as "a basic set of beliefs that guide action" (p.18).

Retrospectively, as a researcher, my positivist philosophical viewpoint gradually developed after completing a B.A. in Education, M.A. in Media Assisted Language Learning, in addition to a small-scale career-related research. Ontologically speaking, I believed in the existence of reality, which is governed by unchangeable natural laws incorporating external and independent constituents of the world. Theories are tested empirically in a controlled setting, to verify or falsify hypotheses through a process of experimentation. In previous experimental studies, I applied quantitative methodology as opposed to qualitative methodology.

In October 2009, I became engaged in the first assignment for the Doctorate for Education Programme at the University of Sheffield. From that point onward, I began to view educational research from a different perspective. At that stage, I

developed a constructivist stance as opposed to the previously held positivist one. At this point of understanding, knowledge emerged as not only observable phenomenon, but also as a product of subjective beliefs, values, reasons and understanding. Thus, theories are revisable in terms of being built from multiple realities and shaped by socio-cultural contexts. Every researcher has to take into consideration a complex array of different variables in order to understand a particular phenomenon. This philosophical stance also encourages and lays the foundation for qualitative methodology in the current research. The main objective of this study was to investigate the perceptions of students and teachers at Sultan Qaboos University toward online distance learning. Although employing qualitative methods in this case study was initially decided upon as most appropriate for achieving research objectives, I was still partially inclined toward the positivist view, believing that knowledge can be described in a systematic way. It is beneficial to obtain the assurance of numerical representations for validating qualitative evidence. Therefore, to satisfy this paradigm, I decided to make use of a quantitative data collection method (surveys/ questionnaires) supplementary to the structured interviews.

This chapter discusses the methodology chosen to execute this study. An exploratory case study (Stake, 1995) was employed to understand the attitudes and views of the participants. The sampling included purposeful strategies in which data was collected through semi-structured interviews and online surveys. Multiple analytical techniques were applied to create meaning from the collected data. Finally, conclusions were reached and verified. In the following section, an overview of the qualitative and quantitative research methodology is presented followed by a focus on qualitative case studies. In addition the conceptual framework of the research study is presented.

4. 1 Qualitative vs. Quantitative research

In educational research, the terms 'quantitative' and 'qualitative' are used to identify different attitudes toward research. McMillan and Schumacher (1989), Ary, et al (2006); Burgess (1985), and Denzin & Lincoln (1994) outline a few ontological and epistemological differences between qualitative and quantitative approach with respect to the following aspects:

1. *Assumption about the world.* Quantitative research is based on logical positivist philosophy, which assumes that there are social facts with objective reality, separated from the feelings and beliefs of individuals. Qualitative research, on the other hand, is based on naturalistic phenomenological philosophy, which assumes that multiple realities are socially constructed through individual and collective definitions of the situation (UOVS, 2014).
2. *The purpose of the research.* Quantitative research seeks to establish relationships and explain causes of changes in measured social facts. Qualitative research is more concerned with the understanding of the social phenomenon from the participants' perspectives (UOVS, 2014).
3. *Research methods and procedures.* In qualitative research, a set of stages are followed by the researcher allowing for greater flexibility in both the methods and procedures utilized. The types of methods used in quantitative research are survey studies, verifications of hypotheses, statistical analysis and quantitative studies. On the other hand, methods in qualitative research are based upon unstructured observation, open interviewing and discourse analysis. These methods employ qualitative approaches.
4. *Prototypical studies.* The quantitative researcher employs experimental or correlation designs to reduce errors, bias, and extraneous variables. The prototypical qualitative study of ongoing events is vested in ethnography, which helps the reader understand multiple constructions of reality.

5. *Researcher's role.* The quantitative researcher is detached from the study to avoid bias. Qualitative researchers become immersed in the situation and the phenomenon under study.
6. *Importance of context in the study.* Quantitative research attempts to establish universal context-free generalizations. However, in a qualitative case, the researcher believes that human actions are strongly influenced by the settings in which they occur. Thus, qualitative research develops context-bound generalizations.

4.2 Definitions of case study

To define case study within the qualitative approach, a novice researcher would have to answer the following questions: What is a case study? What is the case comprised of: method, methodology or strategy? What different types of case studies are available? Finally, what are the main procedures for conducting case studies?

The following section presents this concept more distinctively so as to both clarify the definition and justify its choice as a research approach for the current study. This review reflects on research conducted by major proponents of this method including among many others: Merriam (1998); Yin (1981, 1984, 1994, 1999, 2003a, 2003b, 2005, 2009); Stake (1978, 1994, 1995, 2000, 2005, 2008).

4.2.1 Is there a clear definition?

Tight (2009, p.2) explains the history of case study as a method by mentioning that it was a popular approach before the Second World War. However, the scholarly community lost interest in the 1950s partly due to the development of more sophisticated quantitative techniques and an associated database. It reappeared only in the 1980s, particularly in the area of educational research. McDonald and Walker (1975) define the case study approach as “the

examination of an instance in action” (p.2). Furthermore, they draw attention to the tradition of social science research that acknowledges the possibility of generalizing from a particular phenomenon, where deep study of a particular case can yield insights of universal significance. In his work on case study methodology, Stake (1978) calls it an ‘approach’. He specifies that “case studies are useful in the study of human affairs because they are down-to-earth and attention-holding” (p. 19). Merriam (1988) emphasizes the particular and singular nature of the case study as well as drawing attention to its major mode of reasoning in making sense of data. Moreover, this view defines a qualitative case study as an intensive, holistic description and analysis of a single entity, phenomenon or social unit.

Each case study by its nature is particular, descriptive, and heuristic, relying heavily on inductive reasoning in analysis of multiple data sources (p.16). Yin (1994) notes that case studies necessarily constitute an empirical enquiry, which explores a contemporary phenomenon within its real-life context. This is especially true when the boundaries are blurred between phenomenon and context (p.13). However, because it is not always possible to distinguish between phenomenon and context in 'real-life' situations, it is pointed out that other characteristics become part of the technical definition. For instance, a case study enquiry would explore many variables of interest, which rely on multiple sources of evidence and data collection. According to Yin (2004), a case study is not defined by an object or a particularity, but is a comprehensive research strategy, incorporating specific data collection and analytical approaches to study phenomena in real-life contexts.

Stake (1995) claims that a case study focuses upon the particularity and complexity of a single case, comprehending its activity within important circumstances (p. xi). In outlining this view of case study, Stake indicates that it is drawn from naturalistic, holistic, ethnographic, phenomenological and biographic research methods (Stake, 1995). Moreover, research, which is qualitative,

emphasizes incidents of nuance, the sequence of occurrences in context, and holistic aspects of the individual (p. xii). In comparison, Bryman (2004) views case study as a research design but contrasts it with experimental, cross-sectional, longitudinal and comparative models. The term case study is most commonly associated with a location, such as a community or organization (Tight, 2009). This approach necessarily involves an intensive examination of the setting (p. 49).

Punch (2005) and Tight (2009) also describe case study as an approach to qualitative research design alongside ethnography, grounded theory and action research. Through a detailed study of one case or a small number, appropriate methods are utilized to fit a variety of specific purposes and illuminate research questions with the general objective of developing the fullest understanding of the case as possible (p. 144).

Simons (2009) defines case study as focusing on the purpose and research. The method involves a multi-perspectival in-depth exploration of the uniquely complex nature of a particular policy, project, institution, program or system in a real-life context. Fundamentally, it is research-based, evidence-led and includes a variety of methods. Its primary purpose is to generate knowledge and inform policy development, civil, community action, and professional practice (p. 21).

The above definitions are provided by scholars from various scientific and educational backgrounds. They have formulated their definitions for different purposes and at different points of time. Their case study approaches have been based on their own philosophical, ontological and epistemological stances, explaining the variation in their individual focus. Despite this diversity, it is obvious that all the definitions agreed upon the major point that case study is committed to studying a case, a situation or phenomenon in its real-life context in order to understand the depth of its complexity. The above review of definitions could be summarized in a postulate that 'case study' applies to a method, approach, style, strategy or design depending on the kind of 'case', context and

the purpose of the research. The following section presents different types of case studies based on their objectives.

4.2.2 Types of case studies

Bogdan and Biklen (1982) classify the form of case studies as historical-organizational, observational, and life history. Stenhouse (1985) categorizes them as historical and ethnographical, stating that history is the work of the insider, and ethnography of the outsider. A more recent classification is provided by Yin (2003, 2005), who utilizes different terms to describe a variety of case studies, categorizing them as explanatory, exploratory, or descriptive. This categorization further differentiates between single, holistic and multiple-case studies. The classification is further clarified and prescriptively summarized below:

Explanatory: This type of case study seeks to answer a question, which explains presumed causal links in real-life interventions that are too complex for survey or experimental strategies.

Exploratory: This type of case study explores those situations in which the intervention to be evaluated has no clear, single set of outcomes.

Descriptive: This type of case study describes an intervention or phenomenon and the real-life context in which it occurred.

Multiple-case studies: A multiple case study explores the differences within and between cases. The goal is to replicate the findings across cases. Since comparisons are to be drawn, it is important that cases are selected carefully so that the researcher can predict similar results across cases, or predict contrasting results based on a theory.

According to Stake (1995, p. 3-4), case studies fall into three categories: intrinsic, instrumental and collective.

Intrinsic: This approach focuses upon the intent to better understand a case. It is used when researchers have a genuine interest in the case, not because the case represents other cases or because it illustrates a particular phenomenon, but because in all its particularity and ordinariness, the case itself is of interest.

Instrumental: This approach provides an insight into an issue or helps to refine a theory. It is used to achieve something other than understanding a particular situation. If a case is of secondary interest, it plays a supportive role, facilitating better understanding of something else. Here, the case is often looked at in depth, contexts scrutinized, ordinary activities detailed, and external objectives pursued (Nova, 2014). The case may or may not be seen as typical of other cases.

Collective: This approach applies to case studies, which are similar in nature and description to multiple case studies (Yin, 2003). It is used when multiple cases are studied to form a collective understanding of a particular phenomenon.

4.2.3 Boundary

This review of case study is also focused on its boundaries. Baxter and Jack (2008) stressed the importance of the establishment of boundaries in a qualitative case study design. According to them, “these boundaries indicated the complexity and depth of the study and not simply the sample” (p. 547). After a researcher decided what the case was, what the case was not should be determined (p. 547). Providing a boundary for the case ensures that the study remains in scope. Simons (2009) agrees that determining boundaries helps to think through what a researcher thinks the study represents (p. 29). A cautious approach is recommended for the researcher so as to be aware of shifting boundaries in the course of conducting the study and engaging in analysis. In

order to set boundaries for any given case, certain parameters are recommended: (a) by time and place, further explained in Creswell (2003); (b) by time and activity, in Stake (1995); and (c) by definition and context as in Miles & Huberman (1994). Further analysis of these phenomena extends beyond the boundaries of this chapter.

With specific application to the field of educational research, the most comprehensive and conclusive definition of the concept of case study is offered by Bassey (2007). This definition is different from others in the sense that it focuses exclusively on educational case study as an empirical enquiry that is conducted within a localized boundary of space and time, analyzing interesting aspects of an educational activity, program, institution, or system mainly in its natural context. It is ethically respectful of persons in order to inform the judgments and decisions of policy makers, theoreticians and practitioners. The researcher is immersed in sufficient data to discover important features of the case, to postulate plausible interpretations of what is found, to test for the accuracy of interpretations, to construct a worthwhile hypothesis, to correlate the case to any relevant research in the literature, to convey results convincingly to an audience, to provide an audit trail by which other researchers may validate or challenge the findings, or construct alternative argument (p. 143).

Since the current research is committed toward exploring the perceptions of SQU students and teachers towards online learning, it is based on Bassey's (2007) definition above. Applying this model, the current case study focuses upon the: *"learners' and teachers' evaluation of the online distance learning in SQU"*. The empirical enquiry regards: *"implementation of an online course in order to elicit learners' evaluation on the design of the course and the experience of online learning in general"*. The localized boundary of space is what this study scans *"one university (SQU), narrowing down the scan to one group of faculty (FP) and to one online course (Online Basic Computing Skills)"*. The time boundary for this empirical study took place during two semesters: Spring and Fall, 2013. The

interesting aspects of an educational activity are focused upon the *"online learning environments"* in its natural context *"during the normal study time with actual students and faculty"*. Operating within an ethic of respect for persons who are working to these ends an *"ethical review was conducted, permissions from officials and contents from participants were granted"*. Sufficient data were collected for the researcher to be able to explore significant features of the case, to create plausible interpretations of what is found, *"the study intends to explore participants' views and attitudes towards online learning in the FP in order to assist decision-makers in drafting plans and actions regarding the enhancement of online education in SQU"*.

Since the current research study employs a case study in the field of educational technology, two key questions arise: when a case study approach should be used and whether or not a case study would be an appropriate method to use in the field of educational technology and e-learning. These questions were best addressed and answered, by referring to Yin (2003) and Benbasat, et al (1987).

Firstly, according to Yin (2003, p. 82), a case study design should be considered when: (a) the focus of the study is to answer "how" and "why" questions; (b) the behavior of those involved in the study cannot be manipulated; (c) contextual conditions are to be covered which are believed to be relevant to the phenomenon under study; or (d) boundaries between the phenomenon and context are not clear.

Secondly, the initial intention was to implement case study in the field of e-learning and educational technology (IT). In this regard, the researcher is in agreement with Gable (1994) and Benbasat, et al (1987, p. 370) identifying three strengths of case study research in the field of information systems: (1) the researcher can study information systems in a natural setting, learn about the state of the art, and generate theories from practice; (2) the method allows the researcher to understand the nature and complexity of the process taking place; and (3) valuable insights can be gained into new topics emerging in the rapidly changing information systems field.

Yin (1984) also supports this opinion, pointing out that case studies are appropriate where the objective is to study contemporary events and not necessary to control behavioral events or variables. This point correlates with my goal to implement case study as a method in the field of educational technology and e-learning as these are rapidly developing fields.

It could be argued based on the above discussion that a case study, particularly the instrumental approach (Stake, 2005) and exploratory method (Yin, 2004), is the right choice for a researcher who wants to conduct a profound study aiming to investigate participants' views and levels of satisfaction toward online learning. This method helps to discover the types of decisions made by SQU administration and faculty regarding the implementation of online learning. Understanding the factors that influence decisions and attitudes of practice would be of invaluable assistance to revise and develop institutional strategic plans relevant to the integration of online distance education at SQU.

4.3 Reliability and Validity in qualitative research

The concepts of reliability and validity are commonly used to reflect multiple ways of establishing truth in quantitative rather than qualitative research. However, both reliability and validity have been reconsidered lately in the qualitative research paradigm. Despite the fact that reliability is commonly used for testing or evaluating in quantitative methodology, the idea is often used in all other kinds of research, as well. To be more specific, reliability in quantitative research closely corresponds with the notion of, “dependability” in qualitative research as asserted by Lincoln and Guba (1985, p. 300). This can be used to examine both the process and the product of the research for consistency (Hoepfl, 1997). It has been argued by a number of qualitative researchers that the term validity is not applicable to qualitative research. However, there remains the need for some type of qualifying check as a measure for research.

Validity as a concept, on the other hand, is described by a wide range of terms in qualitative studies. According to Winter (2000), this concept is no single, fixed or

universal, but instead is a contingent construct, inextricably bound to the processes and intentions of specific research methodologies and projects (Winter, 2000, p.1). According to Creswell & Miller (2000), validity is affected by the researcher's choice of paradigm assumptions. Consequently, many researchers develop their own concepts of validity while adopting what are considered to be more appropriate terms, such as quality, rigor and trustworthiness (Davies & Dodd, 2002; Lincoln & Guba, 1985; Mishler, 2000; Seale, 1999; Stenbacka, 2001).

The idea of trustworthiness tends to replace discovering truth through measures of reliability and validity (Mishler, 2000), which is "defensible" (Johnson 1997, p. 282) helping to establish confidence in the findings (Lincoln & Guba, 1985). Lincoln and Guba (1985) argue that sustaining the trustworthiness of a research report depends on providing validity and reliability as quantitatively verified. In addition, Davies and Dodd (2002) find that the term rigor in research appears in reference to the discussion about reliability and validity. Davies and Dodd (2002) argue that the application of the notion of rigor in qualitative research should differ from that of quantitative research. Through the acceptance of a quantitative bias in the concept of rigor, the researcher is challenged to reassess his / her preconception of rigor by exploring subjectivity, reflexivity, and the social interaction of interviewing (p. 281).

It is worth highlighting that testing and increasing the reliability, validity and trustworthiness will certainly be important to the research in any paradigm if the issues of reliability, validity, trustworthiness and quality are to differentiate 'good' from 'bad' research. To test or maximize the validity and as a result the reliability of a qualitative study, triangulation is suggested. Triangulation is typically a strategy test conducted to improve the validity and reliability of research or the evaluation of its findings. According to Mathison (1988), "triangulation has risen as an important methodology in naturalistic and qualitative approaches to

evaluation so as to control bias and establish validity and traditional scientific techniques are incompatible with this alternate epistemology (p. 13).

Patton (2001) supports the use of triangulation by asserting that triangulation strengthens a study through combining different methods. This could mean using both quantitative and qualitative approaches (p. 247). Characteristically, triangulation is implemented by researchers through the involvement of several investigators or peer researchers who provide varied sources of data interpretation at different times or locations. Triangulation often includes multiple methods of data collection and analysis; however, it does not suggest a fixed method for all types of research since it depends on the criterion.

In this study, triangulation was employed in the data collection phase within the form of online surveys used in conjunction with semi-structured interviews to maximize the validity and reliability of the results of the study. The following section will look at data collection tools in more detail.

4.4. Data collection

Case study research has its own unique methods of data collection. Yin (1994) identified six primary sources of evidence for case study research which consists of documentation, interviews, archival records, participant observation, direct observation, and physical artifacts. This list could also include films, photographs, videotapes, street ethnography, and life stories (Marshall & Rossman, 1989). Although not all sources are essential in every case study, it is well specified by scholars that in order to achieve reliability of the study, it is important to multiply sources of data. (Stake, 1995; Yin, 1994). This study adopted mixed methods of data collection using both quantitative (predominantly closed-response questionnaires) and qualitative (semi-structured interview) data collection methods. By using multiple sources for data collection, I was able to use different data sources to validate and crosscheck findings.

The following section introduces the three data collection methods in detail.

4.4.1 Questionnaires

According to Nick Pratt, (Mole, 2006) questionnaires are not among the most prominent methods in qualitative research, because they are unnatural in their requirement for subjects to respond to a stimulus. Yet, the advantage of using them lies in collecting information from larger sample populations than can be accessed by personal interviews. They are a good and efficient way of collecting information quickly and relatively cheaply. Questionnaires are used by researchers to gather information by utilizing different question types: verbal; open; list; category; rank; scale; quantity; and grid (Bell, 1997). Questionnaires provide many advantages for researchers, such as: efficient use of time, anonymity, possibility of a high return rate, and standardization (Munn and Drever, 1996). In this study, the online student and teacher surveys consist of a set of questions, which indicate helpful components and perceived challenges in their experience of taking an online course. The questionnaire design was based on multiple insights from the instructional designer of the course and myself as the researcher to validate initial research questions focused upon the main elements of instructional design in an online course. Both surveys cover the same elements or components. However, each is custom tailored to the relevant group. The surveys were also tested on a small sample of learners. Then prior to full implementation, revisions were made based on the feedback from the sample. (Refer to Appendices A, p. 209 and B, p.213 for both teacher and student surveys).

4.4.2 Questionnaire procedure

This section looks at the process of constructing the instrument of this research, which is the questionnaire. The first step in constructing the questionnaire was to divide the research questionnaire into parts based on five attributes of instructional design of online learning environments: Learner-centered,

Interactivity, Flexibility, Effective Feedback and Multimedia Content. Each question was answered through several items. No demographic information was requested, as there were no such variables.

Some precautions mentioned in the literature were taken into consideration while constructing the questionnaire. For instance, the questions were written in the respondents' own language, Arabic in the case of students and English in the case of teachers. The items were arranged logically in going from generalities to specifics with each focused on a specific item. The items were concise, meaningful and led to definite answers. The questions were easy to answer and did not force the respondents to think too deeply. They left respondents free to depict their own reactions while yielding appropriate information to the researcher.

Prior to being distributed to the respondents, the pilot survey was evaluated by specialists and experts in the field of research and field of study, to ascertain its validity. In a pilot study, I distributed the survey to a small sample population, to make sure that the questions measured what they were intended to measure in order to establish strong validity and a high degree of reliability (Alashari, 2007; Cohen et al. 2004; Robson, 2002; Oppenheim, 2001; Gay and Airasian, 2000; Aweys, 1999; Alassaf, 1998; Obedat et al. 1996).

Having designed and translated the questionnaire into Arabic, I uploaded it on the online course for easy access. The procedure for this step is outlined below.

4.4.3 Cover letter of the questionnaire

To seek securing the largest number of participants, I prepared a cover letter for enclosure with the questionnaire. The letter mentioned the subject of the research and the method of answering questions as well as asking for respondents' cooperation by replying quickly (Refer to Appendix C, p.217).

The letter concluded by providing assurance that the answers would be strictly confidential and used for research purposes only. Respondents were also thanked, in advance, for their cooperation. Cohen et al. (2004) stated that “the purpose of the cover letter was to indicate the aim of the survey, to convey to respondents its importance, to assure them of confidentiality, and to encourage their replies” (p.97).

4.4.4 Semi-structured interviews

Questionnaires have their advantages; however, “they also have severe limitations when information which is collected tends to be a description rather than a clarification of the reasons why things are a certain way” (Munn and Drever, 1996, p. 5). For this reason, the questionnaire was supplemented with semi-structured interviews. Interviews are chosen as a tool so as to obtain evidence regarding the participants' perceptions of the online course. Interviewing facilitates faster data collection and enables the researcher to probe motivations and use follow up questions. (Simons, 2009, p. 43). “The interviewer aimed to elicit self-reports from participants about their opinions, attitudes, values, beliefs and behaviors” (Sproull, 1988, p. 161). Moreover, the interview is one of the most common and flexible data-collection tools used in educational research, through interviews, researchers can gather information in a face-to-face situation (Drever, 1997).

In spite of the advantages interviewing has in educational research, researchers must be aware of its distinct disadvantages. Some of the disadvantages of interviewing are related to the limitations of time taken in the preparation and analysis process along with the possibility of collecting inaccurate data (Sproull, 1988; Drever, 1997). This study used a semi-structured interview to elicit comprehensive information from the groups of participants.

Different techniques of interviewing are implemented. When one-to-one interviews with students are found to be difficult, group interviews are conducted

instead. Such patterns of interviewing have several advantages: less stressful for students, provide a sense or degree of agreement on issues and provide a cross-check on the consistency of perspectives and statements of certain individuals. A certain degree of difficulty may arise in cases when dominant individuals take over the interview and block diverse responses. As a result, such respondents can also be difficult to transcribe (Simons, 2009, p. 49).

All interviews in this research were audio-recorded for a number of reasons: to ensure the accuracy of reportage and facilitate more concentration on the social interaction during the interview. The interview sessions were recorded using a digital voice recorder, and lasted 30 to 45 minutes. Collected data were reviewed, translated (in the case of students), coded, and placed in summary sheets and matrix displays for analysis (Refer to Appendix D1, 218). Surveys were made available online for a period of time and responses were analyzed and illustrated in the form of graphs.

4.5 Translation

Since the language of respondents is Arabic, I had to translate the questions into Arabic. This procedure was done through many stages. Initially, it was translated by myself, followed by separate consultation reviews from two specialists in Arabic/English translation. This was conducted to obtain different versions, which were later matched and integrated within a single format, which was closest to the original intended meaning.

4.6 Participants

The rationale for utilizing the case study strategy was to reach an in-depth understanding of the perception of learners and teachers towards online distance learning. The participants were selected utilizing purposeful sampling strategies. These sampling strategies are described in Table 4.1 below: Data collection was administered in the form of interviews and online surveys, which developed deep

insights into the participants' perceptions, disclosing their views of online learning.

Category Group	Data Collection Method	Size of Sample
Students	Online survey	236
	Interview	12
Teachers	Online survey	14

Table 4.1
Participants Category

Table 4.1 above shows the category of participants, data collection method, and the size of the participant sample.

4.6.1 Recruitment of participants

The following steps were taken over the course of two semesters to engage participants in this study to recruit learners and teachers.

4.6.1.1 Recruiting learners

At the beginning of the Spring semester (2013) I requested the Foundation Programme to allow me to meet students at least once in the first week to conduct an introductory orientation session to show the students how to handle online assessment activities and the online survey.

I manage to meet all students with the help of the instructional designer of the online course and a technical support staff from CET.

After these points were covered, students were informed that the course would be available till the end of the semester. They were encouraged to take the course and make use of all its components before completing the online survey.

The last question in the survey requests that students submit their contact details should they be interested in taking part in a face-to-face interview with the researcher to further explain their views on the experiments. It was made clear to them that participating in the survey and follow up interview is voluntary and will not have any direct influence on their official assessment and grades.

Two weeks before the end of the semester the students received an announcement in the course and by e-mail that the online survey was made available. One week later students were sent a reminder via e-mail.

Consent forms outlined the purpose of the research and its expected duration, described the procedures to be followed and stated the manner in which confidentiality of records identifying the subject were maintained. All survey questions, including all consent and assent forms, were made available in both English and Arabic in the Online Basic Computing Skills Course on SQU Moodle (www.squmoodle.com). In addition, students were given a choice to complete the survey in the language they preferred (Arabic/ English).

The student questionnaire was completed by 236 students during two semesters (Spring, 2012 and Fall, 2013). I managed to interview 12 students who volunteered to participate in a follow-up interview (8 girls and 4 boys). Interviews were conducted to obtain more in-depth information with regard to learner perceptions of their experience taking the online course. They were also conducted to solicit any suggestions and feedback they might have had for future development in the design of the online course and online practices in Sultan Qaboos University. Students who indicated in the online survey they would be available for an interview provided their contacts either an e-mail address or a mobile phone number. I then communicated with them and set a schedule for possible slots to choose from. Interview slots were scheduled to take place in the last week of the semester, timings ranged from 2:00 to 6:00 pm to give flexibility to students. The interviews took place in a room in the same teaching block where classes were held to save students time and encourage them attend the interview sessions. The same procedure of introducing the course and

interviewing students was repeated for the second semester (Fall 2013). Below is the interviews schedule for Fall 2013:

Date	Time Slots	Interviewee
Sun 15/12/2013	2:00 - 4:00 pm	Student A
	4:00 – 5:00 pm	Student B
	5:00 – 6:00 pm	-
Mon 16/12/2013	2:00 - 4:00 pm	Student C
	4:00 – 5:00 pm	Student D
	5:00 – 6:00 pm	-
Tue 17/12/2013	2:00 - 4:00 pm	Student E
	4:00 – 5:00 pm	Student F
	5:00 – 6:00 pm	Student G
Wed 18/12/2013	2:00 - 4:00 pm	Student H
	4:00 – 5:00 pm	Student I
	5:00 – 6:00 pm	-
Sun 22/12/2013	2:00 - 4:00 pm	Student J
	4:00 – 5:00 pm	Student K
	5:00 – 6:00 pm	-
Mon 13/12/2013	2:00 - 4:00 pm	-
	4:00 – 5:00 pm	Student L
	5:00 – 6:00 pm	-

Table 4.2
Interviews schedule for fall 2013

4.6.1.2 Recruiting teachers

At first, 25 IT teachers from the Foundation Programme were contacted via e-mail through the programme coordinator. This was done with the dual purpose of ascertaining their willingness to participate in the research and providing them with an orientation of the nature of the online course and online student and teacher surveys. Through the IT Programme coordinator, an invitation to attend an orientation presentation for the research was sent. Then, the researcher with the support of an instructional designer, held a preliminary meeting with the lecturers of the IT Foundation Program in order to explain the research rationale and its objectives. 25 IT teachers attended the presentation and those who

agreed to participate in the study were asked to read and sign a consent form. A demonstration of the online course and the online survey was given to them. Only those teachers who agreed to participate were logged on the course as viewers. Fourteen out of 25 agreed to participate both in filling in the survey and to be interviewed afterwards in case the researcher needed further clarification of their views (Refer to Appendix E, p. 234 for participants' consent form)

Teachers were then asked to sign a consent form, which outlined the purpose of the research and its expected duration, procedures to be followed, and manner in which confidentiality of records identifying the subject would be maintained. All survey questions, including all consent and assent forms, were made available in English on the online Basic Computing Skills Course on SQU Moodle (www.squmoodle.com).

The online questionnaire for teachers was completed by 14 teachers during the same period of time that the online course was made available for students in Spring and Fall semesters of 2013.

4.7 Data analysis

Data analysis contained multiple tactics, which included data triangulation. (Miles and Huberman, 1994). This research study was exploratory, seeking to understand the perceptions rather than explaining them. Therefore, the findings were presented to readers in great detail, creating a summary and reflection of the whole study experience. Conclusions were drawn and verified as suggestions for better practices based on participants' reflections. Analysis of data varied according to the type of data. Numerical data evolved from the online questionnaire in the form of responses which were presented in the form of figures/ graphs. Qualitative data from the online questionnaire was coded based on the response. Data from the interviews was coded according to the themes/ attributes discussed.

4.8 Ethical claim

Ethical reviews were obtained from both University of Sheffield and Sultan Qaboos University where the partial study took place. I applied for and obtained an ethical review from the University of Sheffield (Refer to Appendix F, p.235). Later, I requested and obtained permission from Sultan Qaboos University to conduct research with administrators, teachers and students in the Foundation Programme (Refer to Appendix G, p. 236). Then, I communicated with the Foundation Programme Director, requesting permission to introduce the research and communicate directly with IT department teachers and students. Permission was granted and the IT department coordinator became the focalized intermediary between the teachers and the researcher. Furthermore, to maintain ethics, participants were provided both ethical reviews mentioned earlier together with a detailed information sheet about the research and participants' involvement to go through them comprehensively prior to taking a decision on participation (Refer to Appendix H, p.237 for Participants' Information Sheet).

4.9 Conclusion

This chapter has discussed the research methodology used to answer the main queries of the study and the instruments used to gather information. To summarize, this study employed a qualitative case study approach to gather participants' perceptions of their experiences taking a fully-online course. Both online surveys and semi-structured interviews were used as tools to gather data. Having discussed methodology, the next chapter presents and discusses the results.

CHAPTER FIVE: FINDINGS ANALYSIS AND DISCUSSION

5. Introduction

5.1 Section One: Participants' perceptions on the five attributes related to the instructional design of the Online Basic Skills Course

5.1.1 Attribute (1): Online learning enhances autonomous learning.

5.1.2 Attribute (2): Online learning enhances interactivity

5.1.3 Attribute (3): Online learning enhances flexibility

5.1.3.1 Technical barriers for online course access

5.1.4 Attribute (4): Online learning should offer effective immediate feedback

5.1.5 Attribute (5): Online learning should be presented in a multimedia simulation based environment

5.2 Section Two: Participants' general attitude on their experience of taking an online course in SQU.

5.2.1 Preferable online mode of study

5.2.2 The level of demand compared to face-to-face learning

5.2.3 Attitudes towards implementing online learning

5.3 Section Three: Students' responses to open-ended survey questions

5.4 Conclusion

5. Introduction

Students' perceptions toward online learning are important in successful development of online learning in higher education. This chapter describes and presents analyses of the students' and teachers' perceptions on the usefulness of the Online Basic Computing Skills course in specific and online learning in general.

The complete results and analysis of the survey and interview outcomes are organized thematically as follows:

- Section One: Participants' perceptions on the five attributes related to the instructional design of the Online Basic Computing Skills Course: autonomy, interactivity, flexibility, feedback and multimedia.
- Section Two: General attitude of participants on their experience of taking an online course in SQU.
- Section Three: Students' responses to open-ended survey questions are then presented.

The qualitative data gathered from participants through interviews and open-ended questions in the surveys, were used to triangulate and validate survey findings. Results from this research yielded insights of SQU learners' and teachers' views of online learning.

5.1 Section One: Participants' perceptions on the five attributes related to the instructional design of the Online Basic Computing Skills Course

This section includes data that represent participants' evaluation and feedback on the design of the online course aspects. This was done by evaluating the five suggested attributes of instructional design for online learning suggested in unit two. Each design attribute was investigated by a question which in turn was

answered by several items. The following figure shows the five design attributes discussed in unit two.

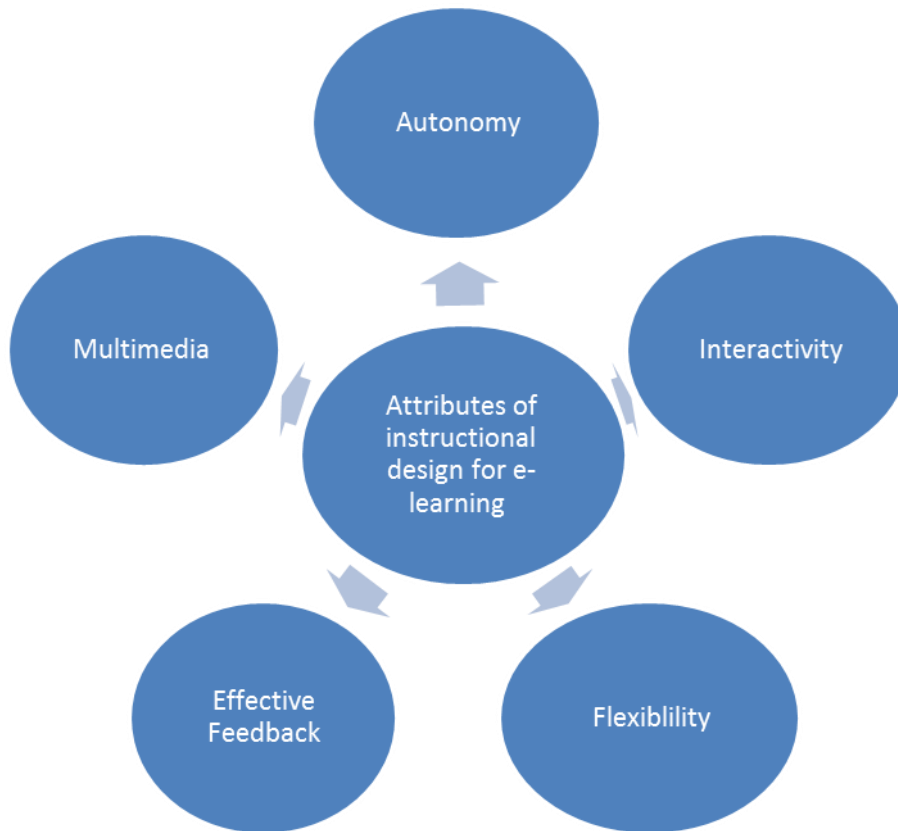


Fig. 5.1
Attributes of Instructional Design for Online Learning

The following section presents a detailed analysis of learners' perceptions on the five attributes.

5.1.1 Attribute (1): Online learning enhances autonomous learning.

This was the most important attribute or success factor of online learning. Since this factor was more directly relevant to learners rather than teachers, only learners' views were examined. This question was answered by several items listed in Table 5.1 below, followed by a thorough discussion of each of the item.

Attribute	Question	Items	Agree %	Not-Sure %	Dis-agree %
1. Autonomous learning	<i>Q1. What are learners' perceptions of their abilities to learn autonomously through online learning?</i>	a. can learn anytime & anywhere.	81	15	4
		b. learning is personalized	51	44	4
		c. can learn at my own pace.	64	33	3
		d. better able to manage study time.	47	38	15
		e. can review what I learned any time.	71	23	6
		f. able to access online supplementary resources.	55	34	11
		g. able to self-evaluate my progress.	50	34	16
		h. am more confident to learn.	58	32	10
		TOTAL	477	253	69
		Cumulative Average	59.6	31.6	8.6

Table 5.1

Attribute (1): Online learning enhances autonomous learning

Discussion of results

The eight items above investigated learners' views on one of the most important attributes in online learning, which was "autonomous learning". For an online course to be successful, it should offer the capacity to engage in the learning process anytime, anywhere and at any pace independent of the teacher. The eight items provided a cumulative framework of reference to answer the question *what are learners' perceptions of their abilities to learn autonomously through online learning?* As discussed in the literature chapter, autonomy was perceived as representing the principle of self-sustenance in which the learner has the ability to pursue an independent course of study competently without any need to be directed by another. Autonomy ensured that learners have the ability to participate actively with the content by being able to practice and decide independently upon what is useful for them.

Table 5.1 shows that (59.6%) of total responses agreed that the online course enabled them to learn independently and they perceived themselves as being able to participate actively in online learning. An interesting finding was that a significant percentage of learners (31%) were unsure of their ability to learn autonomously online. Learners who revealed clear disagreement with the statements, make up (8.6 %) of the total number of participants. From the findings above, learners could be categorised into three groups: "enthusiasts", "non-enthusiasts" and "oppositionists".

"Enthusiasts" comprise an average of 59.6% of students who characteristically perceived that learning in an online environment was a positively personalized experience, which fostered learner autonomy in a wide variety of skill sets. This group's comments exhibited a pattern of setting their own goals, going at their own pace, and communicating with instructors and other students in forums. They felt that they were able to learn according to their own pace by choosing

what and when to learn the content as well as performing any online activity or practice. They consistently exhibited proficiency in managing their study time more efficiently with online learning and enjoyed the flexibility of learning anytime and anywhere. This allowed them to manage and organize their learning tasks in a way that suited their preferences and pace themselves with respect to choosing the best time to go through animated case studies, exercises and documents provided in the course. Online learning for these students increased productivity in their learning and decreased stress levels, which they usually experienced in the traditional method of study due to limited class times and tutor schedules. Online learning further provided them with the flexibility of reviewing their productive work, course content or progress in self-assessment activities at any time allowing them to monitor their learning progress. These students benefitted from the online course through learning a variety of interesting assignments and activities that utilized images, audio, text, animation, case studies, games, interactive scenarios and quizzes. Despite systemic problems, Enthusiasts indicated that they could receive the desired technical assistance. Moreover, they found that instructional materials and online activities provided in the course were meaningful and useful for them.

"Non-Enthusiasts" comprise 31.6% of students who were characterized as ambivalent and doubtful as to whether their studies would be personalized with online learning as a means toward greater learner autonomy. Their comments exhibited a pattern of apathy toward personalizing and customizing learning through the online environment. They were unaware if they would be able to learn with their own pacing or not and were apprehensive about attempting it. Doubt and apprehension carried over into their consideration of online learning as being helpful to better manage study time. These students were not convinced that it were beneficial to review progress anytime with e-learning and usually did not even attempt working on the review exercises. Non-enthusiasts expressed doubt that e-learning could provide them with supplementary learning resources without even looking at the site. This is evidenced by tracking the numbers of

"hits" when students accessed materials. Non-enthusiasts tended not to do self-assessment activities since they perceived this to be additional work for them. In conjunction with this, they were not confident about getting desired technical support while using e-learning since they had previously faced such difficulties with the Learning Management System and were unable to receive immediate assistance. In general, they were uncertain of the benefits that e-learning could provide for them although not opposed, they were ambivalent about using it as a means toward achieving greater learner autonomy.

"Oppositionists" were those students who exhibited a trend of consistently resisting the use of online learning as a mode of learner autonomy. Their comments depicted a pattern of traditional thought asserting that there was no personalization in online learning and it could not be substituted for face-to-face interactions with the teacher and students in the classroom. They perceived that e-learning did not allow them to learn through their own pacing and preferred depending on the teacher to guide them at a fixed rate. They also strongly disagreed that their study time was better managed through online learning. These students disagreed that in online learning they could review what they had learnt anytime because they often expressed fear of using technology. Oppositionists were pessimistic about the use of e-learning expressing comments that indicated a clear preference to learn through books and other manual references. The underlying problem, which emerged in their comments, was that they lacked sufficient confidence and willingness to attempt using other than conventional ways of learning. This was compounded by the belief that they would not be able to get immediate technical support, resulting in a general reluctance to use e-learning.

5.1.2 Attribute (2): Online learning enhances interactivity

Interactivity is the second learning success factor for effective design of an online course. Interactivity is investigated from three aspects: content, instructor and other learners. Since this dimension concerns only students, it was not included

in the teachers' survey. This attribute was investigated through a main question which elicited answers to sub-items which are shown in Fig. 5.2 below, This question was followed in turn by specific responses and corresponding discussions. Each item was thoroughly discussed too.

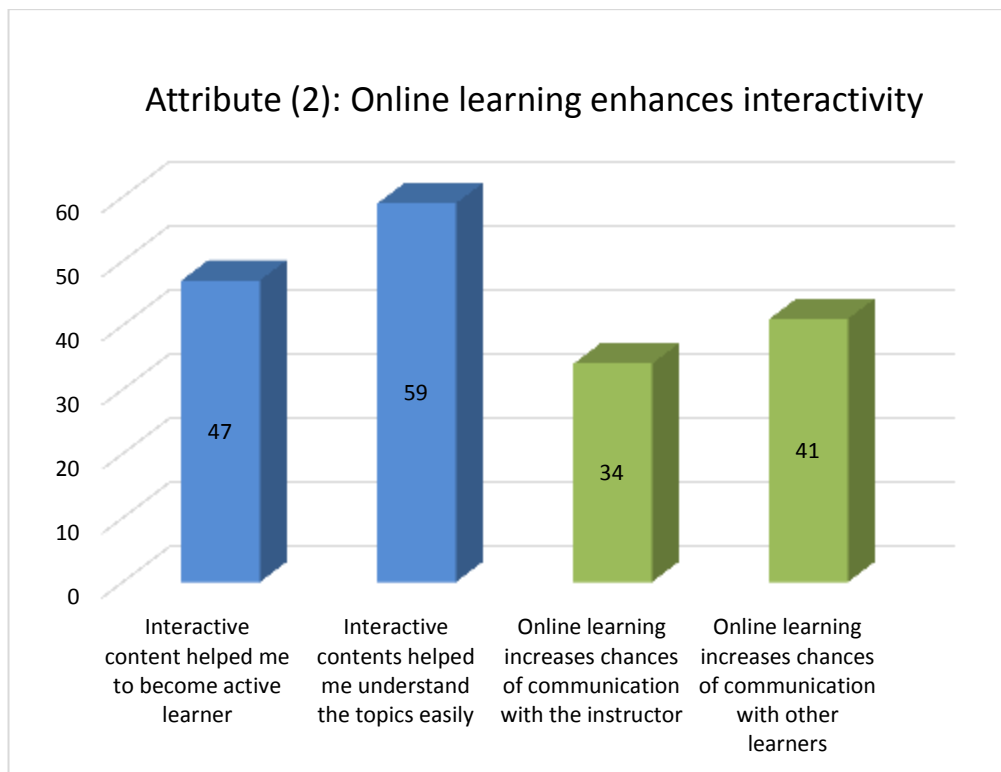


Fig. 5.2

Attribute (2): Online learning enhances interactivity

Discussion of Results

Online learning should be interactive, allowing learners to interact with the content, peers and the instructor. This interaction should be offered synchronously via tools such as shared whiteboards, chat rooms and video conferencing and/ or asynchronously, through e-mail and group news. This essential feature of online learning can be defined as electronic interaction between learner and the content, learner and the instructor, and learners among

themselves (Allan, 2008; Phillips, 2004). To facilitate quality interactive activities, online learning tools were developed in the 'Online Basic Computing Skills Course' that were investigated in this study.

Learners rated the effectiveness of the course in fostering interaction with content as the highest (59%) followed by interaction among learners themselves (41%) and finally with the teacher (34%). As shown in Fig. 5.2 above, the bar graph of data indicates that online learning enhanced students' interactivity with the content, instructor and peers. They ranked effectiveness of online learning in fostering interactivity with the content to be the highest, with 59% of students (139) agreeing with the statement, "The interactive contents helped me understand the topics easily". The second highest agreement was 47% of the students were in favour of fostering active learning: "The interactive contents helped me to become active learner". The third highest score of agreement was 41% of students (96) favoured peer communication, "Online learning increases chances of communication with other learners". In the final place, 34% of students (80) agreed, "Online learning increases chances of communication with the instructor". In summary, students agreed that online learning fostered learners' interaction with content the most, followed by other learners and finally with the instructor.

From interviews and open-ended questions, learners expressed their satisfaction towards the online interactive content, which increased their motivation and interest in the subject. They enjoyed watching the tutorial videos and doing the interactive exercises. Being able to navigate easily and smoothly through the course modules and other features, along with re doing self-assessment activities helped them to understand the subject much better compared to the traditional face-to-face classroom. The results demonstrated that learners enjoyed interaction with each other slightly higher than the interaction with instructor. When comparing online interaction with face-to-face interaction, they preferred to communicate face-to-face with the instructor. Learners felt that they could receive

more attention from their teachers in the traditional face-to-face classroom and they were more secure about the learning they acquired. Concerning interaction with their peers, learners thought that online interaction created a relaxed environment for discussion and helped to encourage inclusion of shy learners as well as encouraged communication between male and female learners. Learners referred to the useful tools they used such as e-mail, forum and chat rooms. Conservative learners thought that electronic interaction might have generated anxiety and tension, which eliminated the benefits of learning.

5.1.3 Attribute (3): Online learning enhances flexibility

Flexibility in is the third attribute in online learning. This factor was investigated by asking a single-item main question, 'Was the online Basic Computing Skills Course flexible and easy to access on campus and off campus?' Results are presented in table 5.2 below. This part requires further analysis of the accessibility issue; therefore, it is followed by Question 4 which investigated the possible challenges and barriers behind hindering a smooth access of the online course, both on and off-campus.

Attribute	Question	Items	Agree %	Not-Sure %	Dis-agree %
3. Accessibility	Q3. <i>What are learners' perceptions on the flexibility of access in online learning?</i>	a. Was the course flexible and easy to access on-campus & off-campus?	10	14	78
		TOTAL	10	14	78
		Cumulative Average	10	14	78

Table 5.2

Attribute (3): Online learning enhances flexibility

As shown in the Table 5.2 above, an overwhelming percentage (78%) of students, did not agree with the statement that 'Online Basic Computing Course' is flexible and easy to access. Only 10% of the learners found the online course

flexible in terms of accessibility on campus and off campus. 14% of the learners were undecided with respect to flexibility and remained uncertain of this statement.

In order to investigate further students' judgment concerning the inflexibility and difficulty accessing the online course, a related question in the survey requested participants to indicate the challenges they faced when accessing the online course both on campus and off campus.

5.1.3.1 Technical barriers for online course access

Since the results showed that course accessibility challenges were mainly technical barriers, those technical barriers were examined from two perspectives: on campus and off campus. Both learners and teachers gave their evaluation on this aspect.

First: technical barriers On-campus

Learners' perceptions

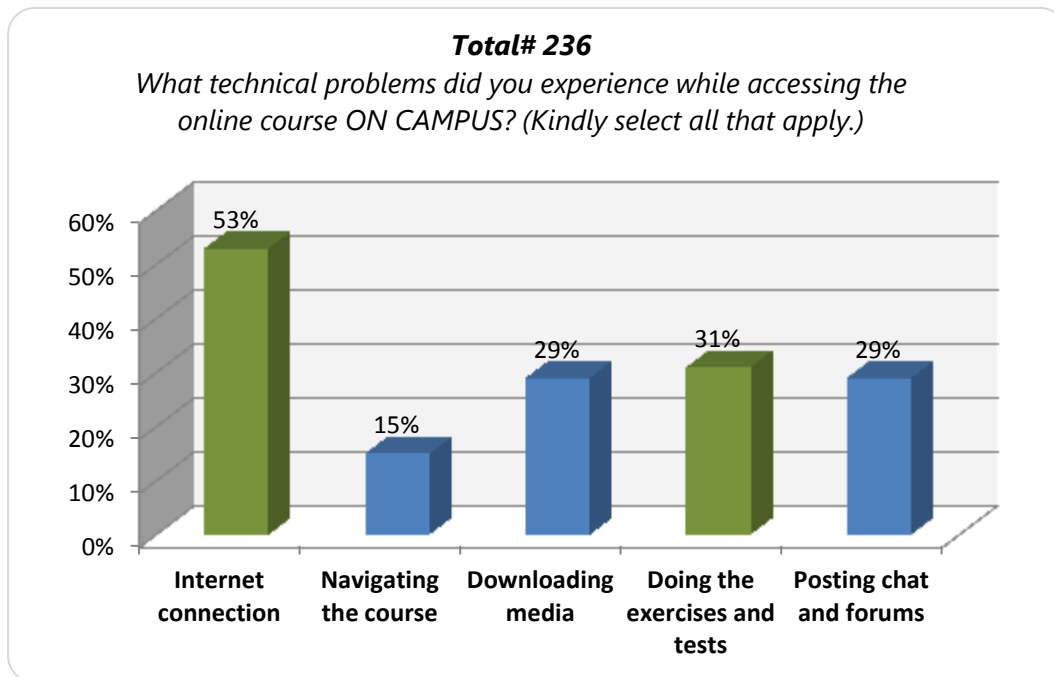


Fig. 5.3

As shown in Fig. 5.3 above, a majority of students (125), about 53% found it difficult to access the online course because of the internet connection within the university. This implies a need for the institution to provide better network infrastructure for students so that they could log on and use the online environment without any interruption or difficulty. There were 31% of the students (73) who also expressed that they experienced some problems while performing the self-assessment exercises. This was caused potentially by the flash player plugins required for browsers in order to run the simulation and self-assessment activities. This also implies that the laboratories must be equipped with the latest software in order to run learning packages like the ones included in the online course. There were 29% of the students (68) who expressed difficulty when downloading the instructional media. This might be due to the fact that the course designer did not intend to make the resources downloadable for copyright issues. As the course was used solely for research, the course designer opted to preserve and limit the ownership of the instructional media only to the author of the course. Furthermore, 15% of the students found some difficulty with the course navigation. This might be due to the fact that this group of students was new to an online environment and that they needed more skills in order to get acquainted with the interface of the online environment. A student also reported that since most of the modules in the course required a headset and that the computer laboratories in the campus did not have such a device. They were not able to play the modules as much as they needed because the audio disturbed other learners within the room. Therefore, this implies that the university should consider providing complete equipment for students in the computer laboratories, which would enable them to perform the required tasks without any technical limitations.

Teachers' perceptions

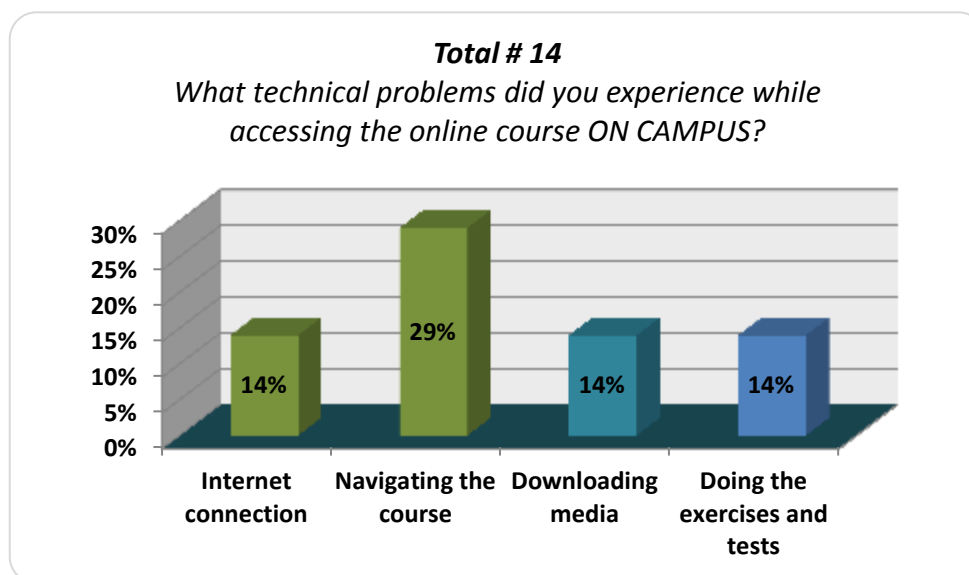


Fig. 5.4

As indicated in Fig. 5.4 above, only a few teachers experienced technical problems while accessing Online Basic Computing Skills course at SQU. Only 29% of the teachers (4) reported that they had difficulty in navigating through the course. While 14% of the others reported problems in downloading media files. According to the respondents, these problems were related to stability of the internet connection, difficulty in downloading media and performing exercises and tests in the course. While performance of the internet infrastructure at the university was stable most of the time, sometimes it was undependable. Furthermore, all media packages provided in the course were meant to be used for viewing purposes by teachers and students as well for experimental research alone. This was due to the preference of the instructional designer and the researcher involved to retain the copyright of those instructional packages to the level. However, the possibility of making it downloadable for students would be considered after the university officially recognizes the syllabus and the course materials used in the study. Additionally, the problems related to performing a variety of exercises and tests may relate to the compatibility of the browsers as

opposed to the minimum required browser requirements necessary to run the simulation packages. At the very least, a Flash Player plug in version 6 and above should be installed on the machine to be able to successfully run those above mentioned instructional packages. On the other hand, an additional problem faced by some teachers relates to the absence of headsets at computer laboratories, which were necessary so that students could run the instructional packages without disturbing other learners. This factor was due to the audio integrated within the packages.

Second: Off- campus

Learners' perceptions

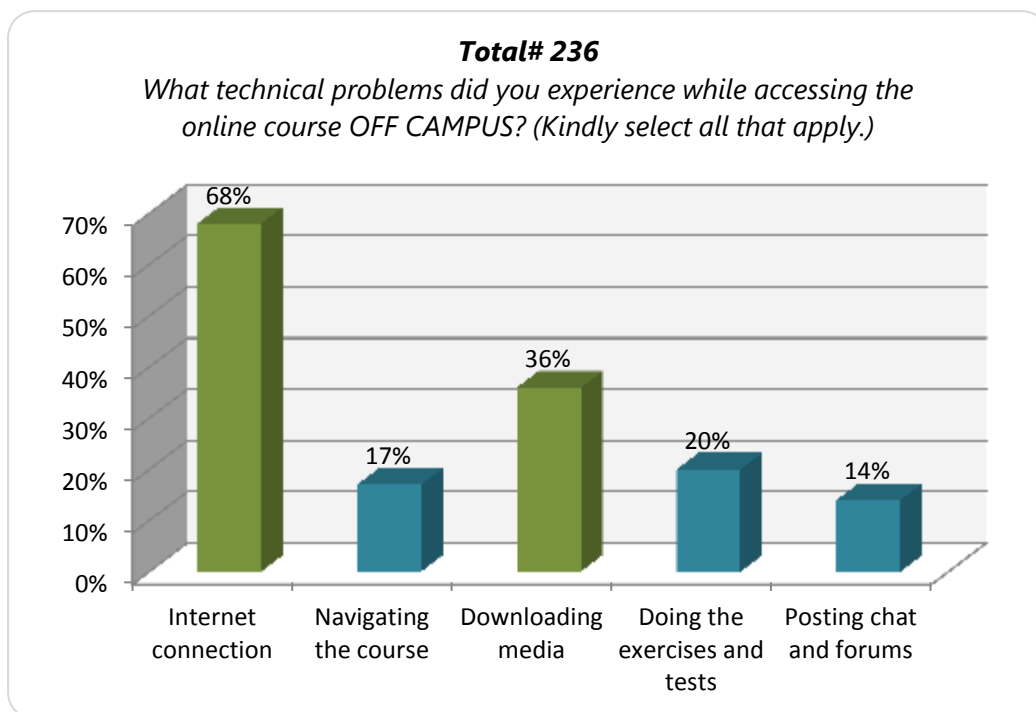


Fig. 5.5

Since the majority of the students resided in remote areas in Oman, the problem of not having a stable internet connection was the most common dilemma for students while accessing the online course, as illustrated in Fig. 5.5. Most

students were able to log in to the course but were not able to run the simulation activities because of the poor internet connection in their places. Similarly, 36% of the students (85) reported that they were not able to download the learning media tools for their own use. This, again, might have been due to the fact that the course designer did not intend to make the resources downloadable for copyright issues. As the course was used solely for research and not officially as an accredited course at the university, the course designer opted to preserve and limit ownership of the instructional media only to the author of the course alone. While 20% of the students (47) found difficulty in performing the self-assessments, 17% of the students (40) experienced difficulty in navigating the course. The reason behind students' difficulty with course navigation lied potentially in the fact that they needed more skills and exposure to the online environment in order to get acquainted with its interface.

One student also reported that her laptop at home was quite obsolete which prevented her from playing the simulations through her current browser. She also relayed that she had only limited technical knowledge and could not perform updates on her machine. She tended not to be interested in using e-learning because of her hardware limitation. Therefore, this implies that the university should expand its services to a greater extent by providing alternative computer kiosks where students could perform their computing needs (e.g. using e-learning).

Teachers' perceptions

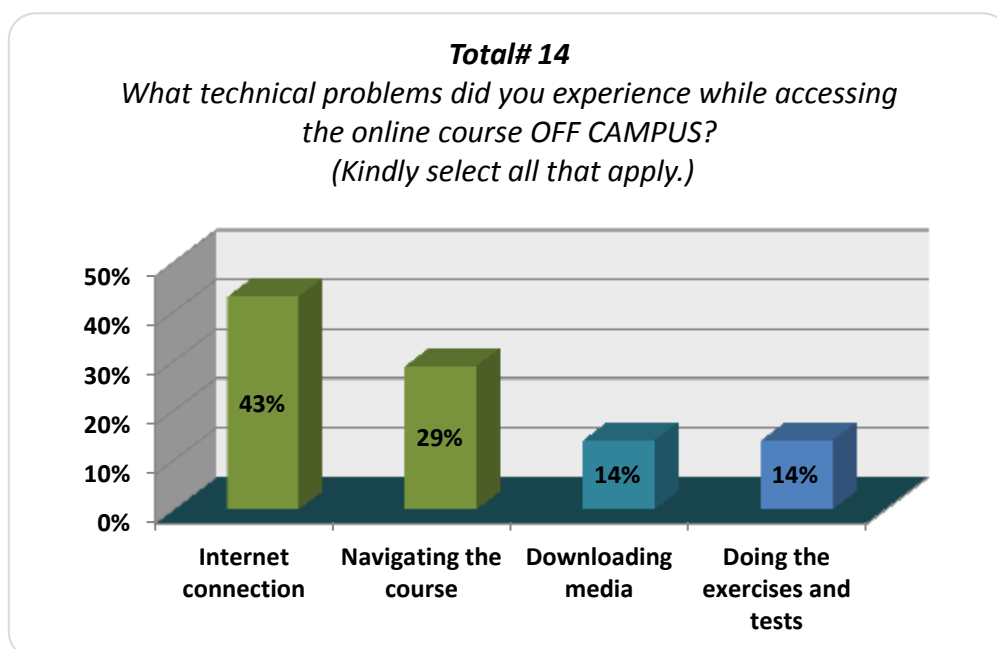


Fig. 5.6

When investigated teacher's perceptions of the technical problems while accessing the online course off campus, the following interesting findings emerged. Fig 5.6 shows that internet connection was the most common technical problem. That is 43% (6) of the teachers expressed difficulties related to instability of the internet connection. While only 29% (4) expressed that they had problems while navigating through the course, 14% of the teachers reported problems on downloading media and performance in exercises and tests. All media packages provided in the course were intended to be used for viewing by teachers, students and for research purposes only . At the very least, a Flash Player plugin version 6 and above should have been installed on the machine to successfully run those mentioned instructional packages. On the other hand, 28% of the teachers reiterated that they did not experience any problem whatsoever while using the course off campus.

To sum up, the results from the above discussion on the accessibility attributes indicate that the online course under investigation has proven to be inaccessible,

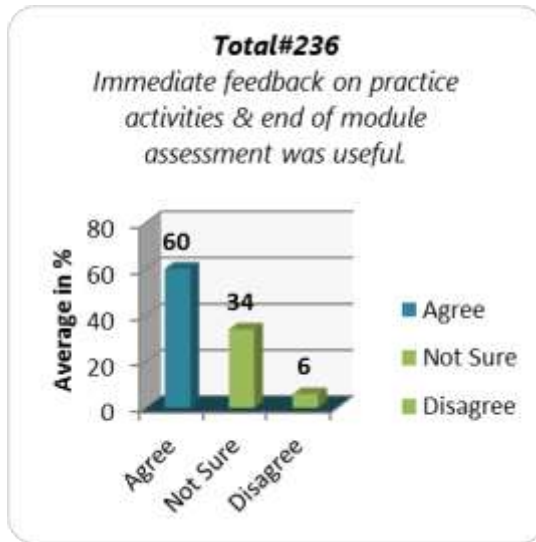
especially for students. This is clear from the overwhelming percentage (78%) of students who did not agree with the statement that the 'Online Basic Computing Course' is flexible and easy to access. The following section examines specific technical barriers for the course accessibility and reveals the internet connection to be the main technical problem hindering online learning accessibility for both learners and teachers. This problem is compared to other possible technical issues like navigation of the course and downloading the material.

It is worth clarifying that Sultan Qaboos University, is located in Al Khoudh in Muscat the Capital. On campus, accommodation is offered only for female students who come from regions outside Muscat. Those who reside in Muscat are not eligible for free accommodation on-campus. All male students live off campus due to space constraints. Only those who come from regions outside Muscat are given a monthly allowance to pay for their accommodation. As more than half of the students are originally from outside the capital, they commute to their villages every weekend. Hence, off-campus indicates areas in Al Khoudh, outside of the university campus and other remote parts of Oman where most learners originally come from. The problems of Internet connection are especially true for students living in villages in regions outside of the capital Muscat. Almost all SQU students who are not based in Muscat and whose towns are close by commute daily to and from the university. Those who commute from far away regions usually go to their villages on weekends, when they prefer to access the online course.

5.1.4 Attribute (4): Online learning should offer effective immediate feedback

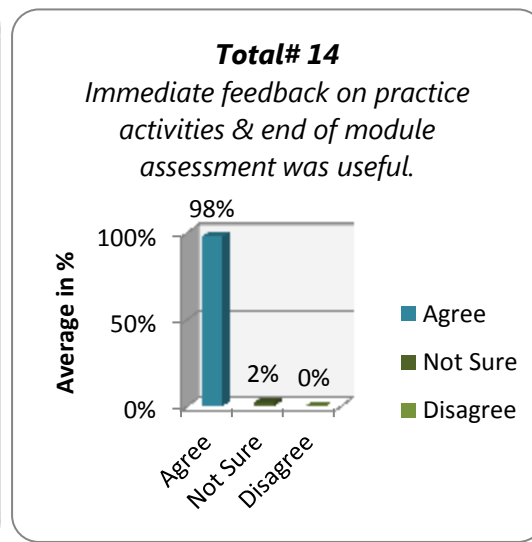
This is a very crucial attribute in online learning which was evaluated by both learners in Fig. 5.7a and teachers in Fig. 5.7b below through the following item. Responses are illustrated in graphs and discussed with the support of verbal feedback from learners' interviews to further clarify their perceptions.

- c. Immediate feedback on practice activities & end of module assessment was useful.



Learners' Response

Fig. 5.7a



Teachers' Response

Fig. 5.7b

Assessment plays a major formative role in driving students' learning appropriately and by measuring whether effective learning takes place or not. The purpose of providing feedback in online assessments was to be able to create a learning experience that aided subsequent knowledge retrieval effectively. The course included practice activities and end-of-module assessments for each chapter involved. Moreover, immediate feedback was offered in an interesting and interactive way motivated by the belief that feedback produced many beneficial effects such as improving learning and guided performance. As shown in Fig. 5.7a above, a (60%) majority of students (142) agreed that they had benefited from the immediate feedback available in the online course. This view was supported by 98% of the teachers who thought that the course offered required self-study exercises in combination with necessary feedback, as shown in Fig. 5.7b above.

All samples interviewed fall into the first category of those who were in favour of immediate feedback. Their testimonies consisted of the following endorsements:

Student (St.) A: *“Feedback was very useful and available for all activities ... it gives the student individual feedback”*. The unlimited number of trials a student could attempt to get the correct answer was another feature highlighted by (St. C). She attested: *“I like the feedback as it is immediate and also it gives me determination to challenge myself by repeating it again and again until I get the correct answer”*. Student E supported the same benefit: *“feedback is more useful for me as I get it immediately and I can repeat my work until get the right feedback”*. Other students compared it to the feedback they got in the classroom from their teacher. According to St. H: *“Feedback was the best thing about online course you get to know if your answer was correct or not immediately ... no need to wait till next day or next lesson to get it from the teacher”*. Also, St. D stated: *“I find it faster compared to the feedback in the classroom”*. St. G found the self-assessment exercises very useful to the extent that he asked for more in the course. According to him, *“I like the feedback and wish to have even more variety of exercises on the same concepts in each chapter to make it more interesting repeating the exercises ... now it is boring to repeat the same exercises several times!”*

However, only a very small number of (6%) of students and no of teachers expressed their disagreement on the usefulness of the online feedback. Nearly one third (34%) of the students (80) stated uncertainty as to whether or not they benefited from feedback provided by the course, which could be accounted for by several possible explanations. Either these students were not independent learners, or they were not able to positively discover and experience the benefits of this feature while learning online independently. Since the course was not compulsory and was offered for the sake of research, many students did not take it seriously. Therefore, they did not avail themselves of the opportunity to

experience the benefits of online feedback. Only 2% of the teachers expressed their uncertainty regarding the benefits of immediate online feedback.

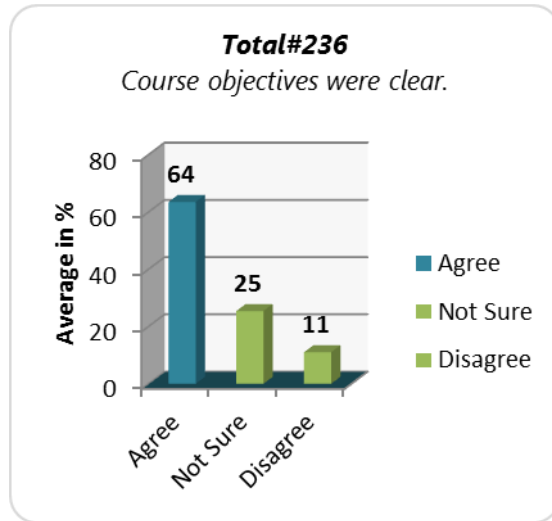
In summary, effective feedback offered by the online course proved to be much more highly valued by teachers than students. While 60% of the students think that the online feedback was effective, 98% of the teachers believed this to be the case too. The remaining 40% of students were either uncertain of the benefits or disagreed that online course feedback was beneficial. This significant group of students might not have been independent learners as indicated by previous responses on learner autonomy.

5.1.5 Attribute (5): Online learning should be presented in a multimedia simulation based environment

Items correlated with this attribute were answered by both learners and teachers through online surveys. Responses were illustrated in graphs and discussed with the support of verbal feedback from learners' interviews.

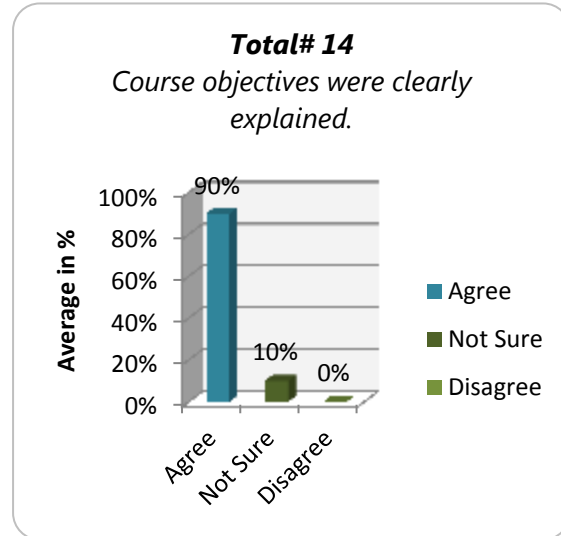
The following items were used to answer the question:

a. Course objectives were clear.



Learners' Response

Fig. 5.8a



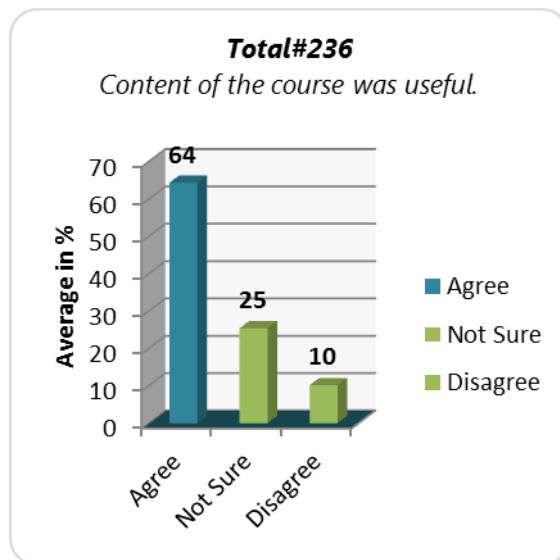
Teachers' Response

Fig. 5.8b

For an online course to be successfully used by students, its instructional designers should be able to write learning objectives, which are observable, measurable, and clearly defined according to a specified course syllabus. A majority of the participants from both learners and teachers agreed that the Online Basic Computing Skills course objectives were stated clearly as evidenced in the above diagrams. Both the learners' feedback diagram in Fig. 5.8a above left and the teachers' diagram in Fig. 5.8b above show that 64% of students (150) and 90% of teachers' (12) responded positively to this particular aspect. Both students and teachers expressed satisfaction on the clarity of learning objectives stated in the course. This is due to the fact that these objectives were clearly written for each lesson, module, chapter, or section of the course. As a result, users were provided with guided learning and enhanced motivation. *St. S: "Objectives are clear ..."* *St. J: "Aims of the course are clear"*.

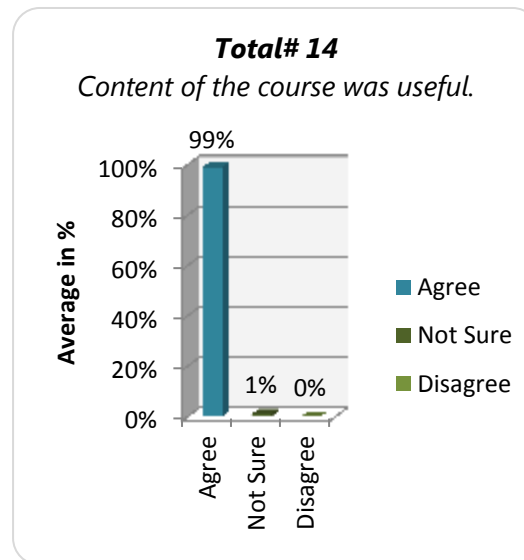
In contrast, 25% of students could not describe whether or not the learning objectives were clearly provided in the course. A possible explanation for this could be that they did not give particular attention to the objectives provided in the course. In all probability, they compared book and course notes on which objectives did not match with the online course syllabus. Furthermore, the remaining 11% of students (26) expressed disagreement with the argument. This could be due to their unwillingness to try out the course since it involved a new method of learning. These were the ones who needed orientation on the importance of learning the main objectives of any course before starting it. The following comment provides evidence that some students were confused between learning objective and the objective of offering the online course as a different medium of learning the same subject. *St. M: "Objectives are not clear I will need more introduction and explanation on how to manage the course"*

b. Multimedia / simulations in the course were useful.



Learners' Response

Fig. 5.9a



Teachers' Response

Fig. 5.9b

The interactive course was divided into four separate modules:

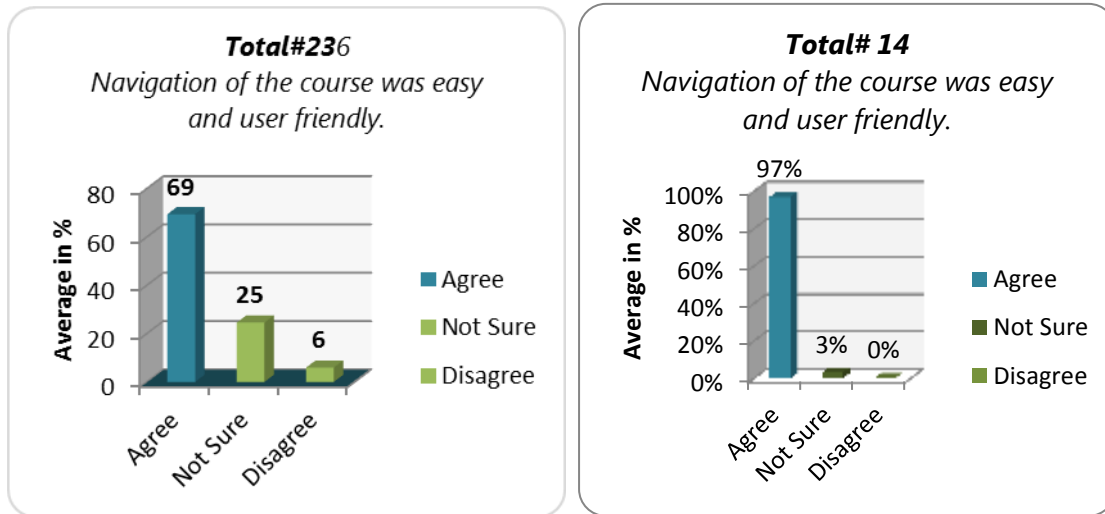
- Module 1 - Computer Fundamentals,
- Module 2- Basic Computer Operations and File Management,
- Module 3 - Word Processing Skills, and
- Module 4 - PowerPoint Skills.

Each module was self-paced and contains rich-media engaging interactive learning materials and simulations. There were also review questions available on each module, which enabled students to check how much they had learned in a particular module. Furthermore, support discussion rooms through forums and chats were also incorporated in the course to allow students to share their insights, queries or difficulties while learning a particular topic.

As shown in Fig. 5.9a above, a (64%) majority of students (152) expressed great satisfaction on the usefulness of the contents provided in the course. This group of students possessed a high degree of optimism in utilizing simulation tools. They perceived that simulation learning could assist their comprehension, understanding and retention of content and thus made their learning a more interesting and enjoyable experience. *St. A: "Online Course helped me to understand better because there is colored representation video and images and interactive activities besides the text and all this is not available in the book only".*

As shown in Fig. 5.9b above, an extremely high 99% of teachers (13) agreed that the content of the course was useful. They found the interactive simulation packages were very useful for their students to learn topics better by being able to immediately try and apply simulated problem solving activities. While 10% of the learners (24) found the content was not clear enough for them, 0% of the teachers showed this concern. The teachers' feedback certified the appropriateness and usefulness of the content as they were the subject matters of the course.

c. navigation of the course was easy and user-friendly



Learners' Response

Fig. 5.10a

Teachers' Response

Fig. 5.10b

One of the most important success factors of an online course was its user friendliness. Within the course, both students and teachers were able to navigate quickly and easily able to search for the topic when required. The course theme and page layout were also designed with a high level of simplicity making the course very user-friendly. As shown in Fig. 5.10a above, majority of the students (164), i.e. about 69% confirmed satisfaction with the course design and navigation. The design features enabled students to use the course with a great ease via user-friendly navigation buttons. According to *St. C*: “*very much interesting and easy to navigate ... to me it is as excellent course in terms of the design*”. Similar to the students' views, 97% of the teachers (13) thought that the design and navigation system of the course was easy and user-friendly as displayed above in the teachers' response diagram in Fig. 5.10b above.

In contrast, 25% of the students (59) were not sure if the ‘design and navigation of the course was easy and user-friendly. Moreover, 6% of the students (14) expressed disagreement that the course was user-friendly. These students were probably those who were either not interested in learning through a screen or did

not possess basic computing skills. Hence, they found it hard to manage and navigate the course. Some students justified their view by asserting: *St. G: "to me the design needs revision because the colour of the interface was not comfortable also the font was not eye catching I suggest the representation of the content (chapters) could be in a more interesting way ... I want easier and clear way of navigating the course."* And *St. I: "everything regarding design was ok and clear, but I will need more guidance and instructions on how to use the course"*.

In comparison, an overwhelming 97% of the teachers (13) thought that the online course was easy to navigate and user-friendly, as shown in Fig.5.10b above. A negligible number (3%) of teachers were not sure and none of the teachers disagreed with this statement.

In summary, both students' and teachers' perceptions of the fifth attribute regarding the presentation of online learning in a multimedia or simulation-based environment were extremely positive. An overwhelming majority of both students and teachers thought that the course objectives were clearly explained with the teachers' perceptions in almost total agreement. Results were almost exactly the same regarding the vast majority of both students and teachers judging that the multimedia / simulations in the course were extremely useful. The pattern of agreement was almost identical to the previous responses in terms of the vast majority of students and teachers assessing that the online course navigation was easy and user-friendly.

From the above evaluation of the online course that is under investigation in this study, it can be concluded that the instructional design of online courses currently available in Sultan Qaboos University proves to be favored by both students and teachers for the four design attributes: autonomy, interactivity, rich multimedia and offering immediate feedback. However, the attribute on accessibility turns out to be unsuccessful due to several technical barriers, where the internet connection is rated as the biggest barrier. The above section has evaluated

participants' perceptions on the instructional design of the online course. The following section presents participants' perceptions and attitudes on some general issues concerning their experience of online learning.

5.2 Section Two: Participants' general attitude on their experience of taking an online course in SQU.

Beyond the five attributes investigated above, the following section presents students' and teachers' perceptions on general matters such as their preferable mode of study, attitudes towards implementing fully online learning and the level of demand compared to face-to-face learning.

5.2.1 Preferable online mode of study

The online mode of study varies according to the objectives of the institution. As discussed in the literature review chapter, there are three main modes of study: face-to-face, blended and fully online. This question investigates learners' and teachers' points of view on a preferable online mode of study at SQU. Responses are illustrated in graphs and discussed with the support of verbal feedback from both learners' and teachers' interviews.

Q7. What are learners' and teachers' preferable online mode of study in SQU?

Scenario A: 100% classroom attendance

Scenario B: At least 75% classroom attendance

Scenario C: At least 50% classroom attendance

Scenario D: At least 25% classroom attendance

Scenario E: No classroom attendance

First: students' perceptions

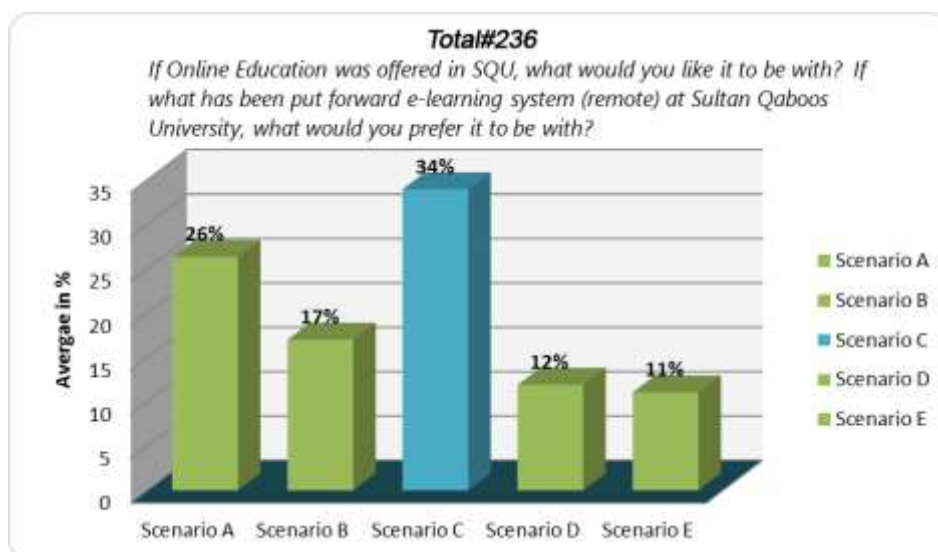


Fig. 5.11a

This question explored students' and teachers' preferences regarding the mode of study for the online distance course. As shown in Fig. 5.11a above, 34% of the students (80) preferred to learn in a blended environment because they chose to have 50% class attendance in combination with online learning practices. They saw online learning as a supportive learning tool in combination with the traditional face-to-face setting. To them, an online course required the physical interaction and guidance of the teacher.

To justify this view (St. A) expressed that: *“I prefer the classroom attendance to be 50% because the student needs to interact with her teacher and class mates face-to-face”*. A male student (St. H) revealed: *“I find it beneficial... I want 50% classroom attendance”*. According to (St. J) *“I prefer the 50% classroom attendance. The fully online is a good idea, but I think if there was no attendance students might misuse their study time”*

According to the survey, 26% of the students (62) were not in favor of fully online learning because they preferred to have 100% classroom attendance and face-to-face interaction with the teacher and other students. Only 11% of students (26)

had shown a preference for fully online learning. The former group of students found the traditional mode of learning to be more effective than an online approach alone. In contrast, the latter group of students totally disagreed with the traditional approach and preferred only a fully online method.

An interesting comment came from a student who was in favor of fully online learning (St. G) *“I prefer 95% of online learning in my study ... only if there was online support to answer users’ questions immediately regarding small components in the course ... if this support was available I would prefer fully online”*

Regarding moderate views, 17% of the students (40) had shown a lower level of preference and acceptance towards fully online learning. To them, online learning still required at least 75% class attendance and participation. This was substantiated by responses that they learnt better by having physical interaction with their teachers and fellow classmates in class. However, almost the same number, 12% of the students (28), perceived that only a small amount of classroom interaction was necessary while learning online. They enjoyed and learned better online, believing that online learning could provide greater flexibility while not increasing the pressure to attend actual classes.

(St. B) I think 75% attendance I wish it to be as supplementary for the actual class. (St. C) I agree with her... I will need the face-to-face lecture... Teacher helps comprehend better ... learning with a tutor is more efficient than learning from a device”.

To summarize students' perceptions on the mode of study, it could be concluded that SQU learners preferred blended learning over a fully online approach. Both students and all teachers reached a consensus that at SQU the blended mode of study implementing technology should be utilized instead of the fully online approach. This is further explained below.

Second: teachers' perceptions

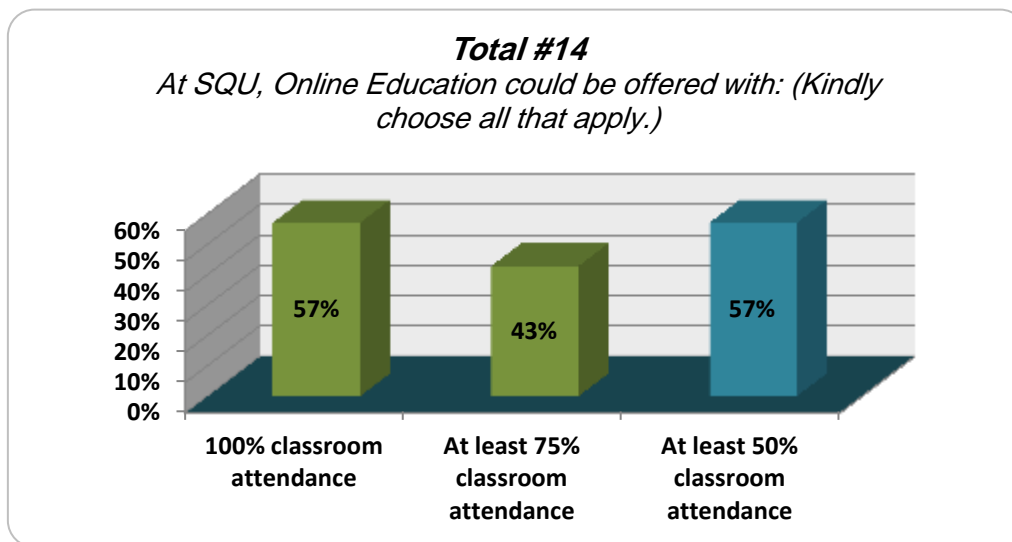


Fig. 5.11b

As shown in Fig. 5.11b above, teachers (14) responding to the online survey chose online learning to be implemented as a supplementary tool of study rather than a fully online mode of study. A majority of 57% of the teachers perceived that online learning could be integrated at SQU through an approach which was supplementary to the current traditional mode of study requiring complete class attendance by students. According to (T1): *“despite online learning serves as a supplementary learning tool that can enhance learner's outcomes, physical presence of students is vital towards successful completion of the course”*. However, 57% of the teachers also believed that a blended learning mode with a 50% classroom attendance would be enough to implement online learning at SQU. This result could be verified by the feedback from some teachers that (T2): *“there are some courses and situations applicable in which students would only be required to physically meet at least 50% class attendance in order to successfully complete the course and the other 50% of the current attendance could be delivered and assessed online*. While the remaining 43% of teachers believed that if online learning would be implemented for some courses in SQU,

75% classroom attendance would still be required. Most of them agreed that *“the amount of attendance would depend on the nature of the course to be taught and level of learning outcomes expected from the students after completion of the course”*.

To sum up, both learners and teachers participating in this study agreed that a blended mode of studying is preferable to a fully online mode. While teachers perceived that blended online education with 100% attendance is equally preferable to 50% attendance, students clearly preferred the 50% attendance.

5.2.2 The level of demand compared to face-to-face learning

Level of demand compared to the traditional approach of study is evaluated as part of participants' general attitudes towards online learning at SQU through the following question:

Q8. What are learners' and teachers' perceptions of the level of demand in the online learning compared to traditional learning?

As shown in Table 5.3 below, learners' perceptions reflect the following answers to the question, which focuses upon these concerns:

Learners' perceptions		Agree %
Study time	a. Online learning requires more study time compared to traditional learning.	30
Effort	b. Online learning requires more effort compared to traditional learning.	33
Technical skills	c. Online learning requires more technical skills compared to traditional learning.	63
Personal interest and motivation	d. Online learning requires more personal interest and motivation compared to traditional learning.	62

Table 5.3
The level of demand compared to face-to-face learning

a. Online learning requires more study time compared to traditional learning.

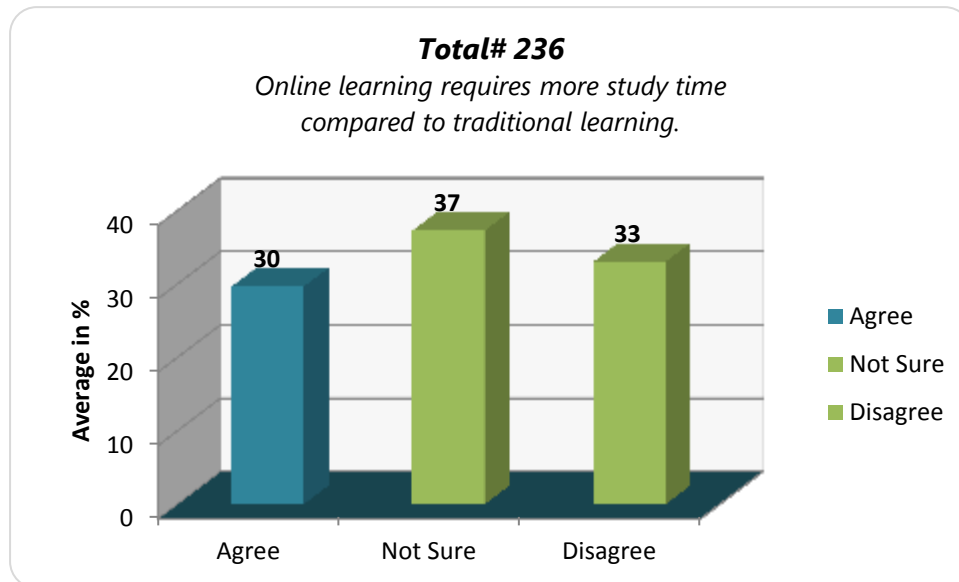


Fig. 5.12

As shown in Fig. 5.12 above, 30% of students (70) agreed that online learning required more study time compared to the traditional approach. This could be due to some reasons such as unfamiliarity with the new online learning mode and/or inexperience in handling the technology for learning purposes. As one student explained: (St. C) *“regarding time if you are committed to class attendance you stick to it, but with online learning you will need to have time management skills to succeed and I am not very good at that”*. Another student explained that: *“to me online learning needs more time as I stayed 4 hours in one chapter, maybe because I am using it for the first time!”*

However, 33% of students (78) believed that online learning is not time consuming as compared to the traditional learning. (St. A) *“Online learning is faster in learning compared to traditional learning”* It appears that these students became familiar with the new learning mode and material very quickly and easily. They enjoyed the benefit of being able to manage time at their own pace. It is evident that this group of students demonstrated the characteristics of adult learners who wanted to take control of their learning by randomly performing any

task of their choice in the course. One student shared the thought: (St. G) *“traditional learning wastes time more than online learning ... for example there might be some students sitting in class but they understand all what is presented when in fact the time could be used for what each individual really needs more.. this wastes some students' time”*. Another student supported this view by revealing that: (St. H) *“traditional is more waste of time as we must sit in class 2 hours but OL we can cover the lecture in half an hour”*.

A significant, 37% of students (88) were uncertain if online learning was more time-consuming than the traditional way of learning or not. It might have been that this group of students had not yet mastered the new mode of learning or may have needed further support and training on how to use it.

b. Online learning requires more effort compared to traditional learning.

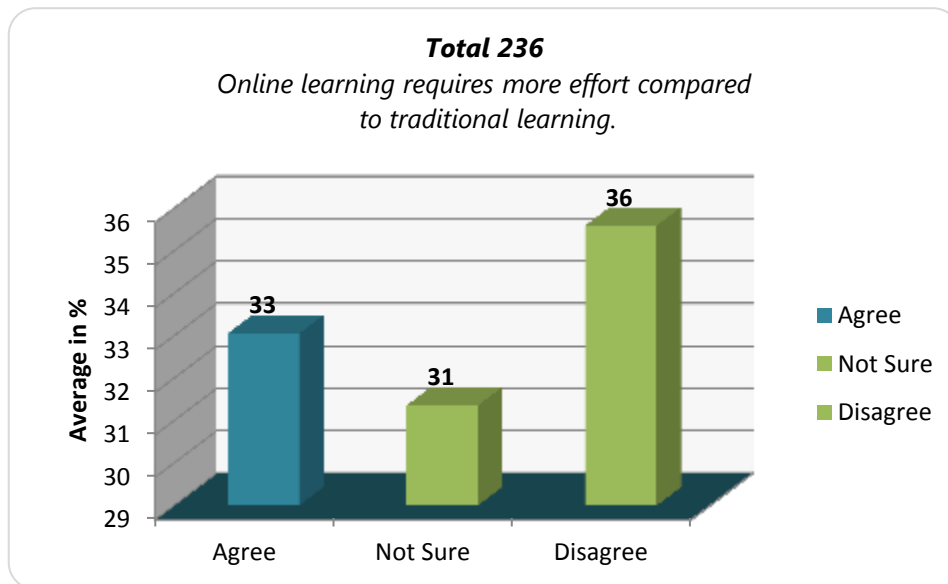


Fig. 5.13

As shown in Fig. 5.13 above, a sizeable 36% of students (84) responded that online learning was easy and did not require extra effort. These were the students who seem to appreciate the benefits they got from the online environment. A characteristic scenario where students found it easier as compared to a traditional learning situation was that they could receive instant

feedback from computer-generated assessments as opposed to getting their scores from the teacher. Another example is that students could submit their work and assignments online instead of handing them in to their teachers.

(St. G) explains *“regarding effort, I think the traditional required more effort for instance physically you need to attend classes and travel to university every day to attend this is very tiring but with online learning all this effort is reduced and you could attend class submit assignment in one place”* . Another student supported this point of view: (St. H) *“regarding effort traditional requires more effort we need to wake up early commute, sit in class ,, but online learning you can study at home in your bedroom ..”*

However, 33% of the students (78) agreed that online learning required more effort than traditional learning. These could be the learners who needed more support and guidance on how to access the online course more smoothly and easily. Students who were uncertain probably those who required more time to become familiar with a new mode of study whenever there was an extra effort required in online learning. This was the case of 31% of students (74).

c. Online learning requires more technical skills compared to traditional learning.

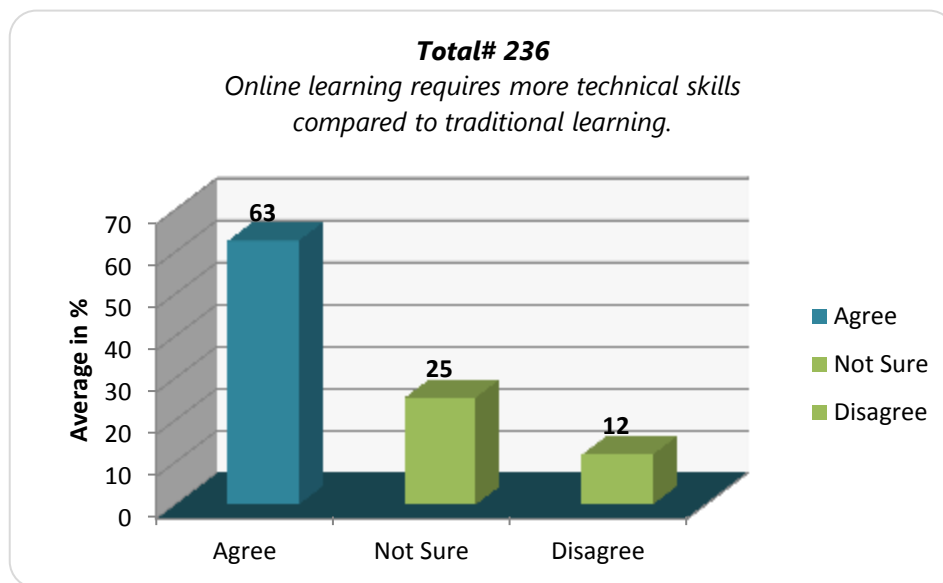


Fig. 5.14

As shown in Fig. 5.14 above, results imply that a (63%) majority of students (148) were still limited in technical capabilities. As a result, they hesitate occasionally to use the online environment. Interviews also support the perspective that online learning required more technical skills as compared to traditional learning. St. A *“Online learning needs more effort and more technical skills”* (St. B) *“it also requires more skills like how to search and deal with the technology”*. (St. S): *“Regarding technical skills, I will need a special course to prepare me for this kind of learning”*. (St. I) *“Regarding IT skill it depends on the person, but SQU should prepare students”*. Since the respondents of this study were a fresh intake of young learners in the university IT Foundation Program, it is both predictable and unsurprising that they still required more training. Specifically, they needed more exposure to the use of technology in their studies so as to be able to use online learning with greater confidence and comfort.

It is not surprising that, only 12% of these students (28) expressed technical readiness in using online learning. Ironically, students thought they came from schools with enough skills to handle the online learning being offered. (St. D) *thinks: “regarding IT skills, I think we graduated from school with good enough skills”* and (St. F) *reveals: “I think that I have enough skills to use the current course”*.

A quarter (25%) of students was not sure whether online learning required more technical skills or not. An explanation for this view could be that this group of learners do not take any opportunity to try to use the interactive resources and activities.

d. Online learning requires more personal interest and motivation compared to traditional learning.

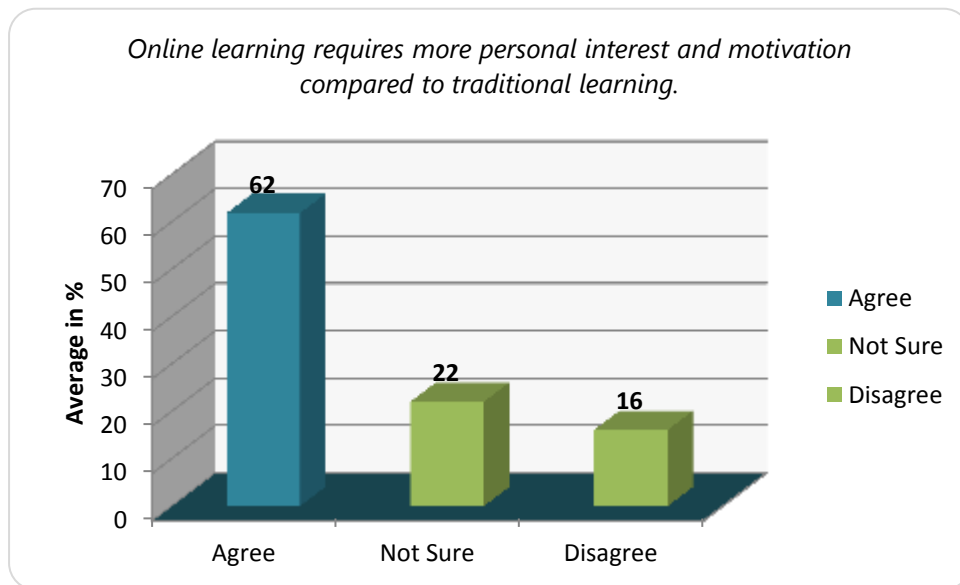


Fig. 5.15

It can be inferred that for any online environment to be successful, students must always be motivated to use the tool as a supplement in their learning. An example of an effective strategy is to be able to design the course by making it as interactive as possible, updating it with rich-media engaging lecture contents and providing necessary on-demand technical support. As shown in Fig. 5.15 above, this view is supported by 62% of students (146) who were very satisfied with the use of e-learning. This was because the course assisted users with various helpful learning tools, media, and student support resources, which helps them to achieve a learning objective. However, 22% of students (52) expressed uncertainty as to whether or not they were sufficiently motivated to use e-learning.

Students thought that in terms of time and effort, online learning was no more demanding than traditional learning. However, it was more demanding in terms of technical skills and levels of interest. An interesting finding emerged from

teachers' perceptions regarding the level of demand online learning might have had on students compared to traditional learning. They thought that online learning might be more demanding.

Although students thought that online learning neither required more study time nor effort compared to face-to-face learning, teachers gave the opposite point of view. Teachers' perspective was that students needed to put more effort into online learning . This is presented in graphs below. Feedback from teachers' interviews is presented to clarify their point of view.

a. Compared to face-to-face course, the amount of effort students required to put into this online course is shown in the graph below:

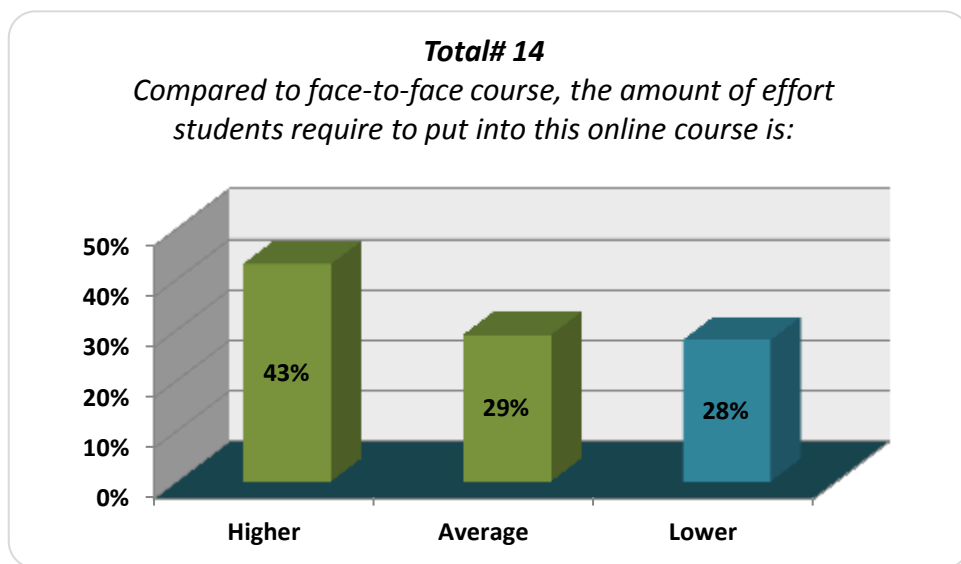


Fig. 5.16

As shown in Fig. 5.16 above, 43% of the teachers (6) believed that the amount of effort students needed to put into studying online was higher than that required for learning traditionally (face-to-face). The following reasons were given by teachers to justify their perceptions:

- *needed to improve their English language;*
- *needed to become independent learners;*
- *needed to become computer literate at least prior to using online learning*
- *Unavailable internet connection in the places where most of the students lived.*

Students who lacked necessary and basic computing skills should have been exposed to an online environment to help students put in extra effort in order to successfully utilize the course. However, 29% of the teachers (4) agreed that the effort was needed by only those students who might have been within the average level. If so, there was not much of a challenge for students when using the online learning environment. Some of the justifications given by teachers for this feedback included, *'the course is useful when students need to repeat performing the simulation exercises and that the course greatly helped the students as a self-tutorial tool which will enable them to become independent learners'*. Almost the same percentage (28%) of the teachers perceived that the amount needed to be given by the students for the online course was lower compared to the traditional face-to-face setting. They justified their feedback by explaining that *'students do not require much effort due to its flexibility and ease of accessibility anytime, anywhere'*. This could explain the reason why students were not committed to an attendance schedule.

An interesting finding that emerges from the above analysis of data is that the teachers disagreed with learners that online learning did not require as much effort from learners as for the traditional approach of learning. Almost half the teachers stressed that learners needed to put more effort into online learning. This suggests that learners at this stage were not sufficiently aware of online learning requirements.

In this regard, teachers were asked the same question regarding the possible effort they needed to put into facilitating online courses as compared to face-face courses. The majority of teachers also thought that an online course definitely required more effort. This is illustrated in the diagram below.

b. Compared to face-to-face course, the amount of effort teachers required to put into this online course is:

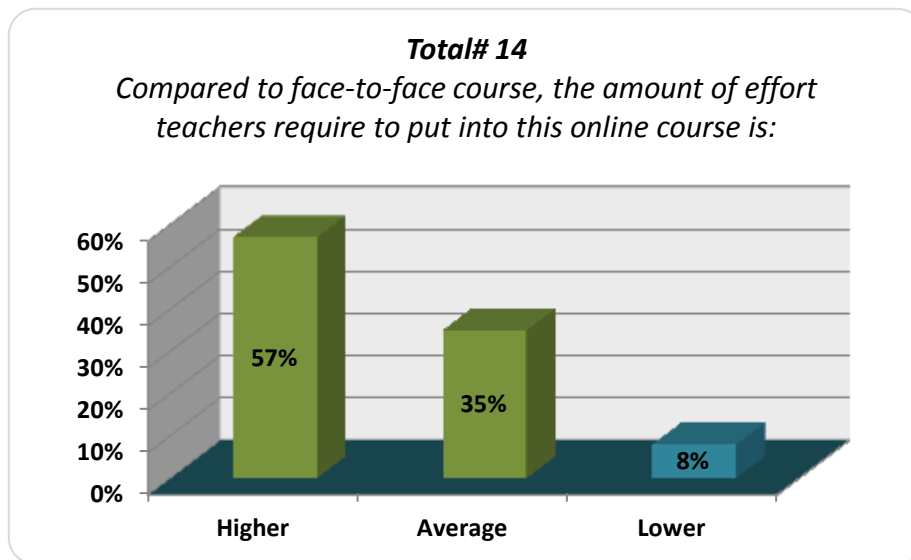


Fig. 5.17

As shown in Fig. 5.17 above, a majority (57%) of teachers (8) expressed that the amount of effort required to facilitate online learning was higher than that for teaching traditional classes. They stated the following reasons: *'preparation of the material to be uploaded on the course, facilitating chat rooms and forums, being able to reply to all students' interactions online and finally all this requires a high level of computer literacy'*. Furthermore, 35% of the teachers expressed that the amount of effort teachers required to put into this online course was within the average level, while 8% of them thought it was lower. These teachers might have been the ones who were computer literate, interested in the use of technology in their teaching and who had good background in e-learning.

To sum up, 33% learners disagreed that online learning approach was more demanding than face-to-face approach in terms of 'study time required' compared to 30% who showed agreement. In addition, in terms of effort, 36% compared to 33% of students disagreed that online learning required more effort. On the other hand, almost all students agreed that compared to the traditional approach, online learning required 'higher technical skills' and 'more personal interest'. A majority of respondents (63%) agreed that "Online learning required more technical skills compared to traditional learning". In addition, 62% agreed that, "Online learning required more personal interest and motivation compared to traditional learning". As far as the teachers were concerned, a consistent majority thought that compared to face-to-face learning, online learning required greater effort from both students and teachers when adopting and implementing it.

5.2.3 Attitudes towards implementing online learning

Q. What are learners' and teachers' attitudes towards accepting the implementation of fully online learning in SQU in the future?

First: students' attitudes

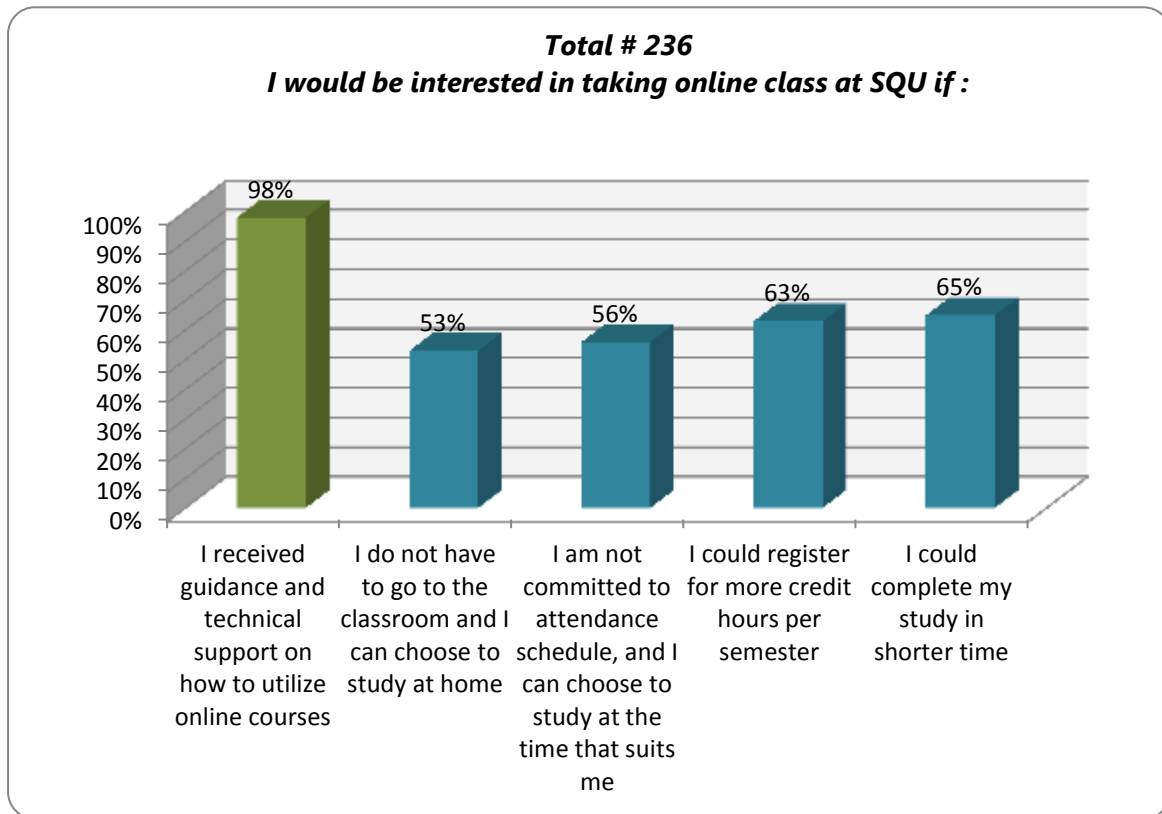


Fig. 5.18

As shown in Fig. 5.18 above, 98% of learners (236) expressed interest in taking online learning courses in the future under the condition that 'they received guidance and technical support on how to handle the course'. This condition made sense since online learning was a novel approach not only for Sultan Qaboos University, but also for the whole country's educational system.

For those surveyed, 65% of the students (153) prioritized the condition, "if I could complete my study in shorter time". This was followed by 63% of the students (148) prioritizing the condition: "if I could register for more credit hours per semester". A slight difference between these two items could be explained by their connection as both related to the 'study period' students spent in pursuing their college degree. It is clear that students would definitely go for online learning if it allowed them to register for more courses per semester than they were allowed to at the time. Consequently, they could complete their degree earlier by 4-5 years. About 56% and 53% of the students responded favorably to the last two conditions related to accessibility and flexibility respectively. These results confirmed that learners liked to have the option for online learning if they could take their courses anytime and anywhere that suited them without being committed to an attendance schedule mandated by the institution. To summarize these findings, training and guidance, fewer years of study and flexibility to learn anytime anywhere would motivate students at SQU to choose online learning.

Second: teachers' attitudes

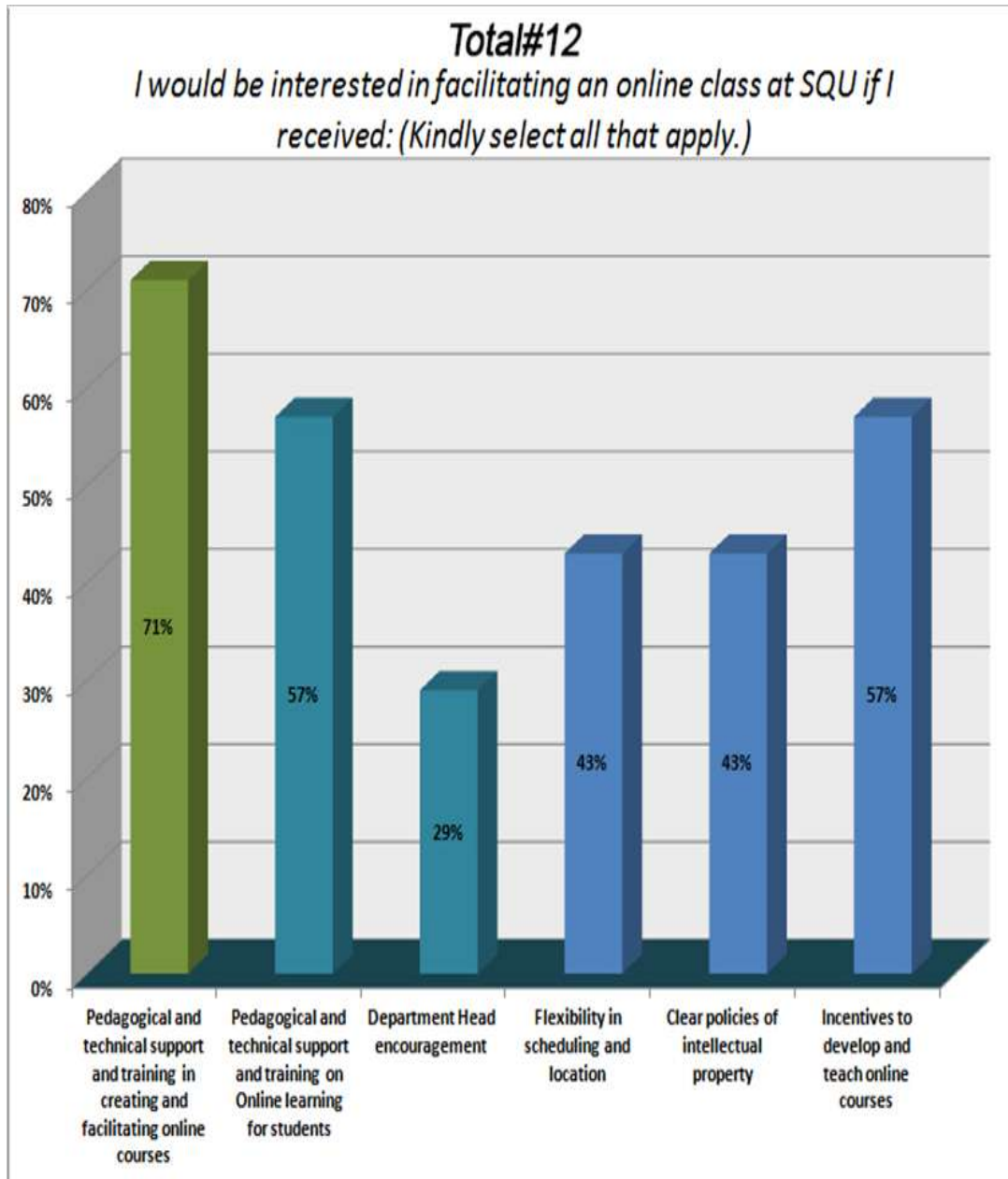


Fig. 5.19

Results in Fig. 5.19 indicated that the most common response (71%) was creating and facilitating online learning at SQU 'if they received support in terms of the pedagogical and technical design of the online courses including the provision of training sessions on how to use those tools'. The second common

responses (57%) were two factors: 'obtainability of incentives' and 'students' support and training'. This was followed by two other factors(43%) concerning the “flexibility in classroom allocation and scheduling” as well as the presence of well-defined policies concerning intellectual property rights”. Finally (29%) the least common factor expressed by the teachers (4) was the encouragement received by the head of department to adopt online learning.

To sum up, both learners and teachers ranked ‘receiving guidance and support’ as the most crucial factor for taking online learning in the future. The second important factor was receiving incentives form the institution for implementing and facilitating online learning. In contrast, for students the second priority was to be able to complete studies at the university in a shorter period of time. This could be considered as a big incentive for learners who ranked this factor as the second most important. Both learners and teachers agreed on evaluating flexibility and accessibility anytime-anywhere as a crucial condition for taking online courses. However, both teachers and students placed it as the least important priority in the ranking as compared to other factors like training, technical support and incentives.

5.3 Section Three: Students' responses to open-ended survey questions

The following section presents and analyses the data collected from the open-ended questions in the online surveys. More detailed responses by a large number of students to open-ended survey questions indicated detailed insights into learners' issues with regard to online courses, as shown in Figs. 5.20, 5.21 and 5.22 below (Refer to Appendix D2, p.227, Results of the open-ended questions in the online survey).

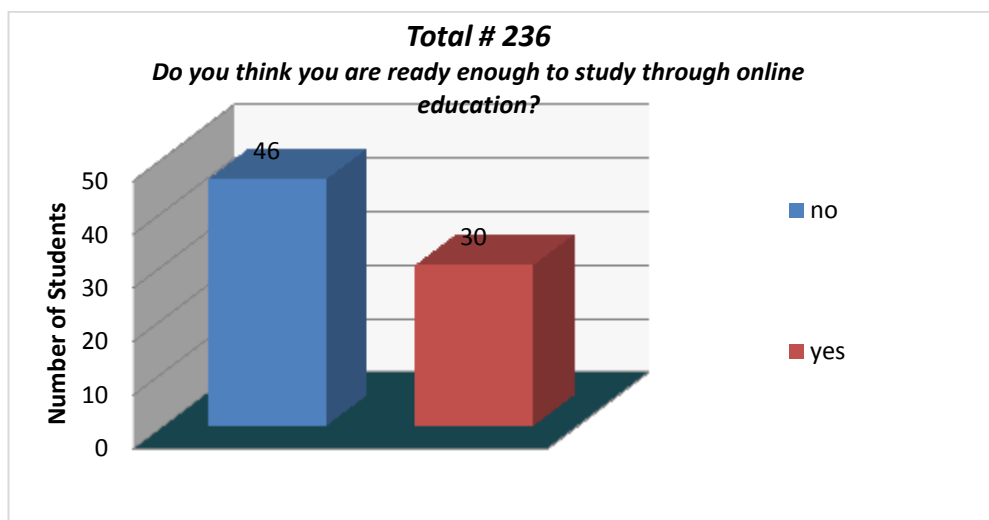


Fig. 5.20

Students' responses to open-ended survey questions

As shown in Fig. 5.20 above, out of a total of 76 students who commented, the majority (46) believed that they were unprepared for the e-learning experience. This was mostly due to the direct help provided by teachers, lack of commitment, and the need to attend in class (Refer to Appendix D2, p.227, Results of the open-ended questions in the online survey).

Representative of these three characteristics had the following comments. A student (31) stated, "No, I think I will need the teacher to explain many concepts". Another student (6) admitted, "No, I'm one of the people who can't commitment!!"

A third student (20) stated, *"Not attending classes make student less serious about their study"*.

The rest (30) believed that the online education system would help them manage their time more efficiently and learn more than what regular class courses could offer.

Representative of these two comments are the following: (Student 7) said, *"No, attending class gives me more responsibility to study hard and organize my time"*. (Student 21) stated, *"I think attending class helps students to comprehend better besides this system is very useful in case students miss the classes for any reason"*.

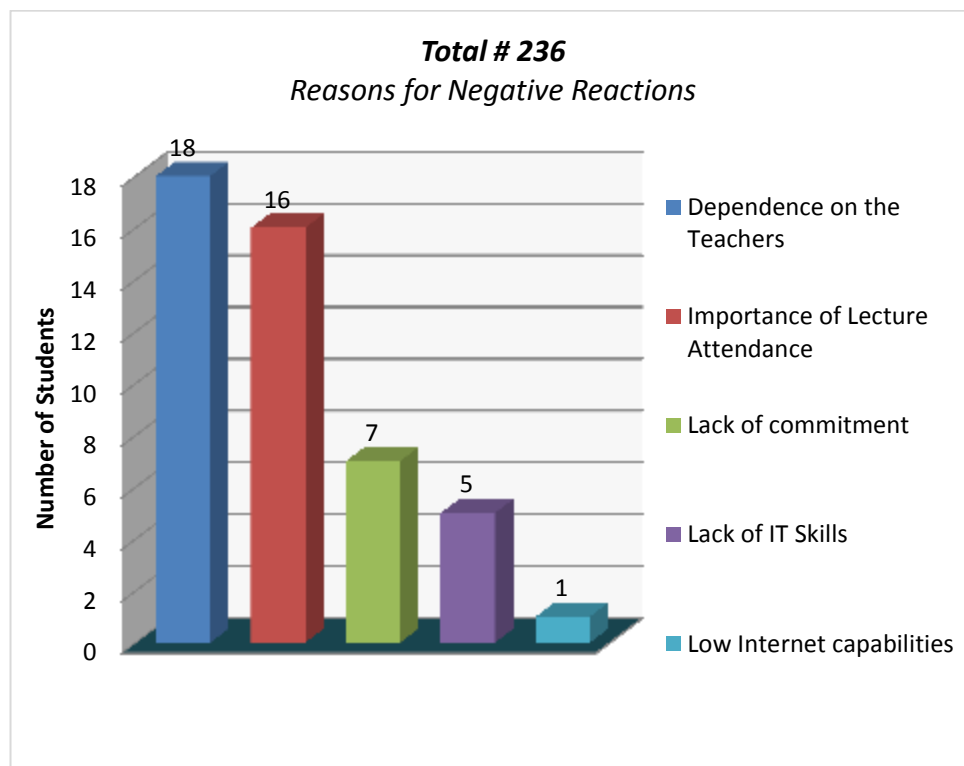


Fig. 5.21
Reasons for negative reactions

As shown in Fig. 5.21 above, the majority of students who commented (18) emphasized teachers' direct role in helping with most of the course material

other than teaching or giving lecture. Another group (16) found it unsettling not to gather in a class or a lecture hall with the teachers and the classmates, which was expected to help the students focus more on the lecture, being physically away from other distractions. Over a third of the students (7) had commitment issues, and mentioned that the attendance system in lectures would force them to go to classes. They further stated that if attendance was not included in the online educational system, most of the students would start skipping their lectures. The remaining 5% of students, who had negative reactions to the course, responded so due to a lack of IT skills (Refer to Appendix F2, p.300, Results of the open-ended questions in the online survey).

The following responses from students explain the above interpretations. A student (16) asserted *"I find the face-to-face classes very useful and the interaction with the teachers very important, however online learning could be used in some subjects but not all..."* Another student (22) said, *"The interest of study remains in the classroom besides getting information and knowledge from the teacher face-to-face is much easier."* Yet another student (17) stated, *"I am not used to this type of learning plus I have issues studying through the PC".*

The rest of the students either could not adapt to the technological parts of the online education and had problems manoeuvring the system, or could not connect because of the unsatisfactory internet service and the low spread of the internet in Oman.

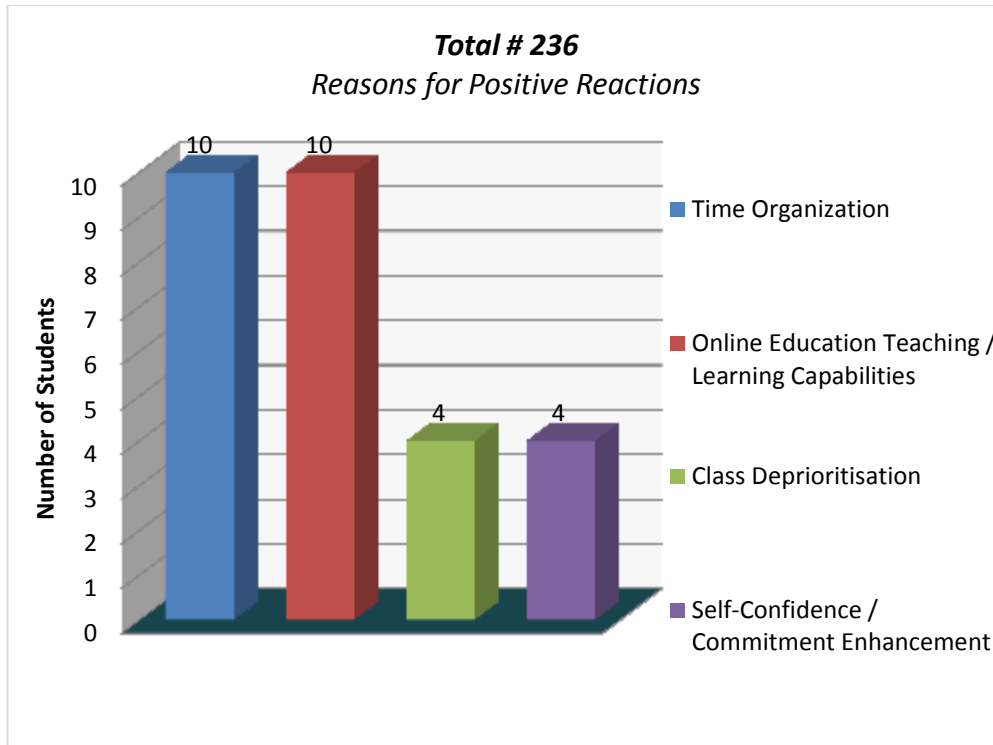


Fig. 5.22
Reasons for positive reactions

As shown in Fig. 5.22 above, one-third of the students (10) focussed on the flexibility of timing in the online educational systems, allowing better time management, easier satisfaction to the daily needs of a normal student. It also provided more flexibility in their degree planning which helped highly intellectually motivated students graduate faster, and eliminated the trouble of traffic jams and unexpected emergencies (Refer to Appendix F2, p.300, Results of the open-ended questions in the online survey).

Evidence of the aforementioned reasoning could be seen in the following responses: A student (40) asserted, " *Yes, I think I can do that because that make me able to organize my time ... and take me do not go to any lectures and that make me more relax and comfortable*". Another student (44) stated, " *It is useful and easy also the study years will become fewer and we can enjoy our life ... life is not study only.*" A third student (5) expressed, " *The hot weather in*

Oman encourages us to go for online learning to avoid commuting to the university and will reduce traffic."

Another third of the students (10) emphasized the learning advantage of the online courses. They stated that it allowed more media into their lectures than just a whiteboard and markers; it was much easier to access the lecture notes and resources throughout the internet, and most of the questions could be asked and answered using the internet than waiting for the regular office hours. Some of the students (4) like the idea of studying outside class due to traffic problems, waste of time, and feeling uncomfortable with the class environment. Another group of students (4) believed that the online courses could help students commit more and be self-motivated to study, which boosted their self-confidence (Refer to Appendix F2, p.300, Results of the open-ended questions in the online survey).

Representative of these types of reasoning are the following responses: (Student 56) state, "*This system includes all chapter content together with all extra activities which helps me to assess my capabilities without the need to attend classes*". (Student 62) argued, "*Yes, that is due to the limited time we have as students... traditional education takes hours from our life whereas online learning could make us finish our study period fast*". (Student 45) stated, "*It is easier to understand compared to the face-to-face classes and it includes exams and exercises which enhances students' comprehension much better than the regular classes. Also, it enhances students' self-confidence because students need to depend on themselves most of the time.*"

5.4 Conclusion

In summary, this chapter have analysed students' and teachers' perceptions of the usefulness of the Online Basic Computing Skills course. The complete results and analysis of the survey and interview outcomes have been presented

according to the five attributes of instructional design for online learning. In addition, the general attitude of the participants on their experience of taking an online course at SQU has been determined by qualitative data yielded through interviews and surveys. Specifically, the results from this research have provided accurate insights of SQU learners' and teachers' views of online learning based on nine questions. It is noteworthy that similarities and differences were shared and contrasted between students and teachers on some of the attribution issues surveyed. Profiles of the learners and teachers emerged collectively as characterized by the nine criteria answered. It is useful to review each group of participants separately.

In terms of the student profiles of attribution model criteria, six interesting facets emerged. First of all learners' perceptions of their abilities to learn autonomously through online learning were somehow relevant to the extent of their flexibility in utilizing online learning in terms of time, place and pace. However, study time management and receiving technical support features are rated on a lower scale by the respondents. An explanation for this could be that these items are not directly relevant to the learners' abilities and skills, but rather reflect services offered by institutions to learners.

The second attribute of the online course focuses upon enhancing students' interactivity with the content, instructor and peers. Learners ranked effectiveness of online learning in fostering interactivity with the content to be the highest in agreement. The second highest is in terms of fostering active learning. The third highest point of agreement was regarding peer communication. In the last place, one-third of the students thought that online learning increased chances of communication with the instructor. Basically, students agreed that online learning fostered learners' interaction with content the most, followed by the with other learners and finally with the instructor.

Regarding the third attribute of flexible accessibility, learners' perceptions of online learning taking place anytime and anywhere was combined with problematic technical barriers facing online learning at SQU. Results indicated that over 78% of the learners thought that the online course was not easy to access because it did not allow flexible and easy access anytime and anywhere at each learner's convenience. Both students and teachers think that the main problem, which hindered access, was the internet connection, particularly off campus. This was especially true for students coming from regions outside the capital, Muscat who usually went to their villages during weekends, when they prefer to access the online course. This specific technical challenge of the internet connection was the main barrier, which impaired online learning accessibility to both learners and teachers, surpassing other possible technical issues like navigation of the course and downloading material.

The fourth attribute of effective feedback available in online learning was perceived by the moderate majority of students as beneficial. Yet, effective feedback offered by the online course proved to be much more highly valued by teachers than students are, by comparison. The remaining 40% of students were either uncertain of the benefits or disagreed that online course feedback was beneficial. This significant group of students might not have been independent learners as indicated by previous responses on learner autonomy.

Regarding the fifth attribute of content presentation in a multimedia or simulation-based environment, students' perceptions were extremely positive. An overwhelming majority of students thought that the course objectives were clearly explained. Results were almost exactly the same regarding the vast majority of students' perceptions that the multimedia / simulations in the course were extremely useful. The pattern of agreement is almost identical in terms of the vast majority of students' perceptions that online course navigation was easy and user-friendly.

In terms of the learners' general attitude to their experience of taking an online course at SQU, three interesting characteristics emerged. First of all, regarding the students' preferred mode of study at SQU, blended learning was chosen over a fully online approach. This was because the blended mode of study combined implementing technology and 50% classroom attendance. The vast majority of students perceived online learning as a supportive learning tool in combination with the traditional face-to-face setting. To them, an online course required the physical interaction and guidance of the teacher. Secondly, learners' attitudes toward accepting the implementation of fully online learning at SQU in the future were surveyed. Almost all learners expressed interest in taking online courses in the future under the condition that they received guidance and technical support on how to handle the course, since online learning is a novel approach not only for Sultan Qaboos University but also for the whole country's educational system. Other important aspects of learners' perceptions of fully online learning at SQU regarded being able to complete their studies in less time, registering for more credit hours per semester, In other words, training and guidance, fewer years of study and flexibility to learn anytime and anywhere would motivate students at SQU to choose online learning in the future. Finally, learners' perceptions of the level of demand in online learning as compared to traditional learning were surveyed. Learners think that online learning approach was less demanding than a face-to-face approach in terms of required study time. In addition, while the majority of students thought that online learning requires less effort, almost all students think that compared to the traditional approach, online learning required higher technical skills and more personal interest.

Further insights in the learners' perceptions of online education were provided by open-ended questions, which yielded detailed comments. A (60%) majority of students believe that they were unprepared for the e-learning experience, mostly due to the direct help provided by the teachers, lack of commitment, and the need to attend to class. Yet, 40% of the students believed that online education system helped them manage their time more efficiently and learn more than what

regular class courses could offer. For the majority of students who felt unprepared, the negative reasons were based on their perceptions of the teachers' direct role in helping with most of the course material other than teaching or giving the lecture. A group of these students prioritised the importance of gathering in a class or a lecture hall with the teachers and the classmates, which helped them to concentrate more on the lecture while being away from distractions. Over a third of these students had commitment issues, admitting that the attendance system in lectures forced them to go to classes. They further warned that if that were not included in the online educational systems, most students would start skipping their lectures. The rest of the students either could not adapt to technological aspects of online education or had problems using the system due to poor quality of service and low-speed internet in Oman.

Those students who were positively supportive of online education at SQU focussed on the flexibility of timing which allowed for better time management, easier satisfaction to the daily needs of a normal student, more flexibility in the degree plan which helped highly intellectually motivated students graduate faster, and removes the burden of traffic jams and unexpected emergencies. These students also emphasized the learning advantage of the online courses which allowed for more media into the lectures, provided ready access to lecture notes and resources throughout the internet, and allowed questions to be asked and answered using the internet rather than waiting for the regular office hours. Other positive reasons given by these students were based on the advantages of studying outside class due to traffic problems, wasting time and feeling uncomfortable with the classroom environment. It was also believed that online courses helped students to be more committed and self-motivated to study, which boosted their self-confidence.

The teachers' perceptions could be summarised as addressing the online educational attributes of flexible accessibility, providing effective feedback and

multimedia content, administration and course design aspects. First of all, flexible accessibility was affirmed by a majority of teachers, while there were admittedly technical problems which teachers experienced with on-campus and off-campus internet connections. Less than a third of the teachers experienced any difficulty in navigating the course. Secondly, effective feedback provided by practice activities and assessment was almost unanimously considered as highly useful for students with ease of administration by teachers. Thirdly, the attribute of multimedia content was highly rated by teachers in affirmations that the course objectives were clearly explained, course content as highly useful, and course navigation extremely easy and user-friendly. In terms of almost unanimous agreement on a blended course design and facilitation, teachers were equally divided on the aspect of either 100% or 50% student attendance as mandatory. Slightly less than half of the teachers thought that students would need to put more effort into an online course than a face-to-face traditional course. The majority of teachers also perceived that it took much more time for them to develop and facilitate an online course as compared to a traditional one. In considering the feasibility of online courses at SQU in the future, the majority of teachers stipulated that all faculty members would require pedagogical and technical support to enable them to facilitate course management. In addition the students needed to undergo additional training in how to use online courses. Moreover, the majority of teachers emphasized the importance of SQU providing incentives to develop and teach online courses, scheduling flexibility and policies regarding intellectual property rights and online courses.

The following chapter focuses upon providing solutions to the problems encountered among students and teachers in addition to administrative policy holders pursuant toward implementation of an effective online educational program at SQU, which would build upon the positive results of the model online course and resolve the initial problems, which this research study has analysed.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

6. Introduction

6.1 Importance of students' and teachers' perceptions

6.2 Recommendations

6.3 Reflections on the Strengths and Limitations of the study

6.4 Recommendations for Further Research

6.5 Final Reflections

6. Introduction

The extensive ICT usage along with readily accessible information emerging through the internet has changed methods of education and has evolved into new networks of communication. One of the most important applications of ICT in education is online learning. This online learning revolution or evolution has enabled universities to go beyond the restrictions of physical wall to become electronically open, linked and virtual. Consequently, interesting learning opportunities are exponentially enhanced by various technology, multimedia and interactive modes which have initiated a gradual shift in the educational paradigm, away from traditional delivery toward more student-centered, autonomous and flexible learning.

The Sultanate of Oman is a country, which has officially adopted ICT for all sectors including education; and in January 1997, the Sultanate of Oman joined the Internet through the official Internet services provider, General Telecommunications Organization (GTO). In this way, the highest level of leadership provided a catalyst to all sectors in the country to take the initiative in adopting ICT within all sectors operations. Above all, Sultan Qaboos University (SQU) in Oman took the lead among all government sectors to accelerate the utilization of ICT and the Internet in education. Since the 1990s, SQU has been subject to numerous changes in essential response to the emerging challenges of continual developments in information and communication technology (ICT). Therefore, Sultan Qaboos University (SQU) realized the need to revise its academic status so as to meet the needs of pressing environmental factors pursuant towards change. In 2009, the SQU university council requested a strategic and visionary long-term plan that would progressively guide the University to the year 2025. This plan emphasizes that:

SQU must look ahead to swiftly venture into future learning and delivery modes print-to-multimedia-to-tele-learning-to-flexible-to-intelligent, Flexible-to-ubiquitous and SQU may start to examine opportunities for "multimedia learning". Tele-

learning, e-learning" ultimately leading to "online and mobile multimedia learning". (Towards a Long-term Strategic Plan for Sultan Qaboos University, 2010, P. 26)

The plan suggests the adoption of online distance learning in SQU, which is different from the conventional classroom-based learning that is applied in SQU now. The online distance learning allows students to complete courses and programs without attending scheduled classes in a central location, such as a university campus. Through this approach, students can work from anywhere, such as home or workplace and at their own pace, on a schedule that suits their individual needs. Online distance learning employs and relies on a variety of information technologies to deliver instruction and course material to students. Up until the time of writing this thesis, no formal research had been conducted to investigate the impact of this application in SQU and in Oman. Therefore, the lack of initiative in research has provided the niche to fill for this research study on Sultan Qaboos University students' and teachers' attitudes toward online distance learning.

The current study has investigated and provided a link between these policy decisions at the highest national and academic levels with current empirical research of descriptive and prescriptive data indispensable in making institutionally well-informed decisions for future strategic planning. In alignment with these goals, this study will contribute to policy formation of the future Sultan Qaboos University Strategic Plan 2016-2040. This study endeavours to achieve its main objectives and provide critical insights about participants' perceptions and attitudes towards the usefulness of online distance learning in SQU.

The current study objectives are:

1. To reinforce the need for transformation of the educational delivery methods in Sultan Qaboos University.

2. To explore students' and teachers' perceptions on Online distance learning in SQU
3. To identify the successful factors or proper characteristics necessary to implement online distance learning in Sultan Qaboos University.

This concluding chapter reviews the research objectives stated in Chapter 1 in conjunction with the participants' perspective results in Chapter 5, to comprehensively analyse implementation problems and solutions according to the five attributes of instructional design for online learning. Embedded between the introduction Chapter 1, which provides the Omani socio-educational context of this study and Chapter 5, which discusses the results, is the systematic integration of Chapters 2, 3 and 4 respectively. Each chapter provides detail in e-learning attributes of instructional design, empirical research within the ADDIE model of skills production and methodology based upon a case study approach (Bassey, 2007) integrated with qualitative and quantitative analysis of a model online course. Chapter 6 provides a summarized overview with the focus on recommendations stemming from a problem-solution analysis of participants' perceptions pursuant toward refining online course implementation at SQU in the near future. Outcomes of the online course were enhanced by various technologies, multimedia and interactive modes, which initiated a shift in the educational paradigm, away from traditional, course delivery toward more student-centered, autonomous and flexible learning. In achieving the main objectives of this study within the Omani context of Sultan Qaboos University, the need for transformation of educational delivery methods, exploration of students' and teachers' perceptions of online distance learning and its successful implementation factors have been established.

6.1 Importance of students' and teachers' perceptions

Students are the primary stakeholders and foundation in every educational model. Their success and the degree to which teachers and educational institutions are effective become the validating determinants by which society

judges pedagogical attributes. This study focused upon an online course design of five attributes applied to students whose feedback was either approving or problematic. While students' perceptions of the online course and e-learning were positive in many areas, the survey questions in which a significant number were either unsure or disagreed with the sub-attributes, identified problematic issues in need of a solution for higher probability of effective future implementation of fully online courses.

Qualitative analysis of surveyed interviews among teachers at SQU provided accurate insights into problematic pedagogical and administrative issues, which influence any potential implementation of effective online learning programs in the near future. The insights of these teachers are tangential to the five-attribute model and are elaborated upon below with recommended solutions that are specific. Teachers at SQU have access to a ready resource in the Centre for Educational Technology (CET), which is currently available to assist the academic faculties in improving effectiveness of their teaching methods by providing the expertise and guidance in the design and use of wide range teaching aids. Yet, despite the availability of these resources for faculty members, those surveyed in this study are either unaware of the services which CET offers, or are unable to benefit from them. Lack of proper incentives, lack of departmental support, and inadequate release time and teacher perceptions of increased workload with online courses could be possible deterrents as expressed by those participating in this study. Other administrative factors may also contribute to the lack of feasibility for willing teachers to avail themselves of CET's services at present. Given the absence of e-learning policy and inadequacy of technological support expressed by both students and teachers, CET is limited by the existing infrastructure and administrative constraints to potentiate its goals to fulfill the needs of the primary stakeholders of teachers and students in delivery and implementation of online courses at present.

To provide a holistically comprehensive and detailed overview of participants' attribution problems and recommended solutions, greater strategic clarity can be achieved by focusing upon each of the five attributes in the model suggested in chapter two. There exists an overlap in many attributes where learners and teachers agree upon the same problems, which have specific hypothetically recommended solutions within the sphere of their particular expertise and level.

The following section summarizes results concerning the five attributes presented in chapter five above.

In terms of attribute one on autonomous learning, students' perspectives of the online course, positive reactions were due to time flexible time organization and education learning capabilities. Negative reactions were primarily due to overdependence on teachers and importance of lecture attendance. Commentary results analysis indicated that 60% of the Foundation students in this case study thought that they were not yet ready enough to study through online education. In addition, findings showed that there are statistically important differences between student responses related to their year in the Foundation program-favoring students in their third and fourth year. As far as obstacles facing students are concerned, the findings showed that most of these obstacles revolve around technical issues and frequent computer errors.

The second attribute of the online course focuses upon enhancing students' level of interactivity with the content, instructor and peers. Learners ranked effectiveness of online learning in fostering interactivity with the content to be highest in agreement. Second highest was in terms of fostering active learning. The third highest point of agreement regarded peer communication. In last place, one-third of the students thought that online learning increases chances of communication with the instructor. Basically, students agree that online learning fosters learners' interaction with content the most, then with other learners and finally with the instructor.

As far as flexibility of access is concerned, as shown in chapter five an overwhelming percentage (78%) of students did not agree with the statement that the 'Online Basic Computing Course' is flexible and easy to access. Only 10% of the learners found the online course flexible in terms of accessibility on campus and off campus. After investigating further students' and teachers' judgment concerning the inflexibility and difficulty in accessing the online course, the results show that course accessibility challenges are mainly technical barriers. Therefore, those technical barriers were examined from two perspectives: on campus and off campus. According to the results, the internet connection proved to be the main technical problem that hinders online learning accessibility for both learners and teachers. This problem was compared to other possible technical issues like navigation of the course and downloading the material.

Effective feedback offered by the online course proved to be much more highly valued by teachers than students are. While 60% of the students thought that the feedback online was effective, 98% of the teachers believed this to be the case. The remaining 40% of students were either uncertain of the benefits or disagreed that online course feedback was beneficial.

Both students' and teachers' perceptions of the fifth attribute regarding the visual impact and the presentation of online learning in a multimedia or simulation-based environment were extremely positive. An overwhelming majority of both students and teachers thought that the course objectives were clearly explained with the teachers' perceptions in almost total agreement. Results were almost exactly the same regarding the vast majority of both students and teachers judging that the multimedia / simulations in the course were extremely useful. The pattern of agreement was almost identical to the previous responses in terms of the vast majority of students and teachers assessing that the online course navigation was easy and user-friendly.

6.2 Recommendations

In order to take online learning to the next higher level, it is necessary for technology to be used in leveraging radical change towards newer and better learning outcomes. The highest level of administrative decision makers in Sultan Qaboos University endorse a transformation in teaching which accommodates diverse learning styles and delivery modes such as those embedded within the attribute model of fully online learning. Strategic planning based on local needs assessment and international standards will then offer effective implementation of online educational practices, which are learner-centered, interactive, flexibly accessible, feedback-responsive, and multimedia-rich. At a national level, Sultan Qaboos University (SQU) should initiate a proposal to the concerned government's officials in Oman regarding the development of online learning in the country in general. This could include the establishment of an accredited national deanship or a centre for online learning that service the whole country. This will apparently require appropriate infrastructure for the implementation of online learning in the country in general especially the enhancement of the internet coverage and bandwidth. The main concerned officials are the Telecommunication Regularity Authority (TRA), Information Technology Authority (ITA), Oman Accreditation Centre (OAC) and Ministry of Higher Education.

At SQU University level, there must be comprehensive strategic plans to introduce and implement online learning in SQU. Planning should involve the formation of a Deanship or an institutional level standing committee that includes expert teams in two essential areas: pedagogy and technology. The pedagogy team is responsible for setting the standards for the instructional design, learning methodologies, and educational psychology for online learning application. The technology team on the other hand is responsible for setting standards and policies for the infrastructure, which includes the software, hardware and network. These teams should work in tandem to accomplish the holistic view of SQU's objectives and vision. The standing committee could be formed of experts from the Centre for Educational Technology (CET), Centre for Information

Systems (CIS), Centre for Excellence in Teaching and Learning (CETL) and representatives from Science and humanities faculties. The suggested Deanship or Standing committee is proposed to administer the following advocated actions:

Action	Responsible Body
Implementation of guidelines, standards, policies, procedures and budget distribution	<ul style="list-style-type: none"> ▪ SQU University.
Employment of the 5-Attribute online learning instructional model substantiated within this study	<ul style="list-style-type: none"> ▪ Centre for Educational Technology (CET).
Approval of professional development programs and incentives/ reward system for faculty members implementing online learning. This could be Excellence in teaching certificates in online learning, Funding research in the area of online learning, Reduction of teaching load and Acknowledgement and incentives.	<ul style="list-style-type: none"> ▪ University Administration. ▪ SQU Academic Council (AC)
Offering of professional development programmes on educational technology advances and practices of online learning and digital material design for higher education to faculty members to enhance their enthusiasm in the implementation of online learning.	<ul style="list-style-type: none"> ▪ Centre for Educational Technology (CET). ▪ Centre for Staff Development (CSD)
Provision of IT technical support staff	<ul style="list-style-type: none"> ▪ Centre for Educational Technology (CET).

to adequately service teachers and students	<ul style="list-style-type: none"> ▪ Centre for Information Systems (CIS)
Increase the hiring of qualified Omani and foreign staff to adequately meet needs under coordinated management of CET.	<ul style="list-style-type: none"> ▪ Centre for Educational Technology (CET). ▪ SQU Administration
Encouragement and funding necessary research in vital areas designated strategically	<ul style="list-style-type: none"> ▪ Centre for Educational Technology CET. ▪ Centre for Information Systems (CIS). ▪ Research Council. ▪ Colleges
establish a site for academic counseling and training on the implementation of online learning	<ul style="list-style-type: none"> ▪ Centre for Educational Technology CET. ▪ Centre for Information Systems (CIS)
Establishment of a sharable resource centre for web-based learning material that could be shared among all faculties.	<ul style="list-style-type: none"> ▪ Centre for Educational Technology (CET). ▪ Expert matters from faculties and academic centres.
Creation of hot lines for technical support concerning issues related to online system accessibility, network problems and any other technical issue.	<ul style="list-style-type: none"> ▪ Centre for Educational Technology (CET). ▪ Centre for Information System (CIS)
Application for recognition and accreditation for online programmes as an equivalent of traditional certificates.	<ul style="list-style-type: none"> ▪ SQU Online Learning Deanship/ Standing Committee. ▪ SQU Academic Council. ▪ Oman Accreditation Centre ▪ Ministry of Higher Education

Table 6.1

Advocated actions and responsible body

6.3 Reflections on the Strengths and Limitations of the study

The main strength of this study is that it elicited perceptions of the students and teachers and compared them by applying a mixed method approach to triangulate their perceptions as expressed through questionnaires and interviews. This increased the trustworthiness of the results as they are strongly supported by empirical evidence. Another chief strength of this study is that it managed to investigate and provide more clearly descriptive and prescriptive data with which to make institutionally informed decisions for future strategic planning regarding the adoption of the innovative approach suggested by this study (online learning) in Sultan Qaboos University. Results of the study will enlighten the strategic vision of the university on the adoption of online learning because at the time this study reached a closing point in October 2014, the draft of SQU Strategic Plan (2016 – 2040) was distributed to all SQU faculty members and departments. This was excellent timing as I, the researcher, (in the capacity of Deputy Director for Instructional development in the Centre for Educational Technology) managed to effectively contribute in suggesting the future action plans for the strategic initiatives; of course, with clearer insights and better understanding that was gained from the different stages of the study and its results. Being a pioneer study in the Omani research that looked at specific aspects of instructional design for online learning from the point of view of learners and teachers is another strength as outcomes and results from the evaluation of the exemplar online course will provide guidelines to instructional developers in the Centre for Educational Technology in SQU and other higher education institutions on the design and standards of online courses and material.

Despite the strengths in this study, there are some limitations that must be acknowledged. The biggest limitation is that the environment of the study was confined. Because this study was limited to one department in Sultan Qaboos University, outcomes and results are context based. For sure, different results could be obtained if the study was conducted in more departments and colleges in the university and with post-graduate programmes as opposed to

undergraduate programmes. In addition, different results may be found when applied to other regions in Oman due to the difference in the availability and accessibility of services and supplies. In other words, the validity of the results is confined to Sultan Qaboos University and should not be generalized to other institutions unless the results are reinterpreted in light of the limitations appropriate to the new situation. Another limitation of this study was convincing some key individuals in decision-making positions to take part in the study. Also, it was not easy to identify and get hold of unpublished official documents. For instance, although the draft of SQU Strategic Plan (2009- 2016) was written at the time of research, it was not communicated to SQU community, which made it difficult for the researcher to discuss and get participants' reflections and feedback on it.

6.4 Recommendations for Further Research

In light of the limitations of this study and other issues arising in this research and in the literature, some possibilities for further study are mentioned below.

1. Comparative studies could be conducted to find out which type of e-learning is most useful and accepted by stakeholders: blended or totally online.
2. Comparative studies could also be conducted between higher institutions in Oman and between them and others in the Gulf countries and the Arab region to see if their stakeholders (learners, lecturers and administrators) express the same perceptions of online learning and why.
3. A development study could be conducted to propose a standardized model for instructional design of online learning in all institutions of higher education in Oman.
4. Correlational studies could be conducted by surveying and recording the elementary and secondary education of students in different Omani regions and institutions to compare optimal curricular prerequisites of successful and challenged students with regards to IT preparation and interactive learning

prior to coming to SQU. These studies could be linked with developmental prescriptions for reform.

5. Studies investigating the impact of some variables like learners' gender, age group and specialization in online learning could be conducted.

6.5 Final Reflections

The main focus of this study has not been technology per se; rather it is the proper planning and integration of the technology in the academic strategy of the higher education institution for the transformation of teaching and learning. That is because the emerging technologies can offer opportunities for improving learning by providing alternatives, and more engaging ways to meet the learning objectives. This study argues and supports the stands that unless higher education institutions have clear vision, objectives, planning and effective evaluation for the implementation of any technology, this implementation will not match expectations and will result in the waste of resources and effort. This study has some pioneering contributions to the development of online learning in higher education in Oman in general and in Sultan Qaboos University in particular. The findings of this research will be relevant and beneficial for the next SQU strategic plan (2014-2018) as guidelines to provide a clearer vision and strategy for online learning. Other higher education institutions in Oman may be able to relate to the findings of the research and learn from it by providing a set of standards and guidelines for the effective implementation of online learning.

I started my Doctorate in Education (EdD) in the University of Sheffield taking the Part-time, distance learning stream as I study on the job. I decided to do this professional doctorate because my aim has been to study and improve the implementation of online learning practices in my university. The process turned out to be a completely different learning experience, as it often felt long and arduous, particularly during the last two years. Although it was very hard to stick

to one topic for four or more years, it helped a lot because I was truly passionate about my topic and wanted my topic area to be connected to my previous academic background and current field of work. The process of reading for a doctorate made me learn a lot about myself, my work habits, and how resilient I can be. Despite all the challenges I faced, my journey has been made smoother because the EdD programme provided guidance and supervision which gave me a better understanding of what the process was like and what skills I needed to develop to succeed. Also, I received constant assistance and guidance from my supervisor who gave me confidence. Having said that, there are many things I will miss, such as managing my own work and study schedules, researching a topic I am passionate about, and travelling to Sheffield to attend the weekend conferences. This has been a unique and unusual time of my life that I will always cherish.

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Appendices

Appendix A. Students Online Survey

12/6/2014

- Questionnaire Preview

View All responses (118) Advanced settings Questions Preview

Survey for Students

Kindly give your opinion on the following statement: أرجو التكرم اعطاء رأيكم بالإجابة على

*1 If Online Education was offered in SQU, would you like it to be with? إذا ما تم طرح نظام التعلم الإلكتروني (عن بعد) في جامعة السلطان قابوس، هل تفضل أن يكون مع

- مع 100% حضور صفي 100% classroom attendance
- مع 75% حضور صفي At least 75% classroom attendance
- مع 50% حضور صفي At least 50% classroom attendance
- مع 25% حضور صفي At least 25% classroom attendance
- بدون حضور صفي No classroom attendance
- (نظام لآخر (أرجو كتابة التعليل Other (please specify)

Kindly indicate to what extent you agree or disagree with the following statements: أرجو تحديد إلى أي درجة تتفق أو لا تتفق مع العبارات التالية:

*2 المحور 1: القدرة على التعلم الذاتي Dimension 1: Ability to learn autonomously

	Agree	Not Sure	Disagree
In online learning my learning is personalized (في التعلم الإلكتروني (عن بعد) يمكنني التعلم تلقيا	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In online learning my memorization tasks are minimized (في التعلم الإلكتروني (عن بعد) تقل أنشطة الحفظ	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In online learning I can learn anytime, anywhere (في التعلم الإلكتروني (عن بعد) يمكنني التعلم في أي وقت وفي أي مكان أرغب،	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In online learning I can learn based on my pace (في التعلم الإلكتروني (عن بعد) يمكنني التعلم حسب قدرتي الخاصة	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online learning helped me to better manage my study time (التعلم الإلكتروني (عن بعد) ساعدني على تنظيم أوقتي درستي	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In online learning I can review what I learnt any time (في التعلم الإلكتروني (عن بعد) يمكنني مراجعة ما تم دراسته في أي وقت	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In online learning I receive immediate feedback on my achievements (في التعلم الإلكتروني (عن بعد) أحصل على تغذية راجعة مباشرة على إنجازاتي	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In online learning I am able to access online supplementary resources (في التعلم الإلكتروني (عن بعد) يمكنني الحصول المباشر على مصادر تعلم مساندة	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In online learning I am able to self-evaluate my progress (من خلال التعلم الإلكتروني (عن بعد) يمكنني تقييم تقدمي الذاتي	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In online learning I can receive suitable technical support (في التعلم الإلكتروني (عن بعد) يمكنني الحصول على الدعم الفني اللازم	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In online learning I am more confident to learn (من خلال التعلم الإلكتروني (عن بعد) أشعر بثقة أكبر في نفسي	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*3 المحور 2 : التفاعلية للمقرر Dimension 2: Course Interactivity

Agree	Not Sure	Disagree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

http://moodle.squ.edu.om/mod/questionnaire/preview.php?id=146289

1/4

Online learning increases chances of communication with the instructor التعلم الإلكتروني (عن بعد) يزيد من فرص التواصل مع مدرس المقرر	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online learning increases chances of communication with other learners التعلم الإلكتروني (عن بعد) يزيد من فرص التواصل مع المتعلمين الآخرين	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interactive contents helped me to become active learner المحتوى التفاعلي للمقرر ساعدني على أن أكون متعلم نشط	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The interactive contents helped me understand the topics easily المحتوى التفاعلي للمقرر ساعدني على فهم الوحدات بشكل أسهل	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*4 **Dimension 3: Level of Demand** المحور 3 : مستوى الصعوبة

	Agree	Not Sure	Disagree
Online learning requires more study time compared to traditional learning التعلم الإلكتروني (عن بعد) يتطلب وقتا أكبر للدراسة مقارنة بالتعلم التقليدي	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online learning requires more effort compared to traditional learning التعلم الإلكتروني (عن بعد) يتطلب جهدا أكبر للدراسة مقارنة بالتعلم التقليدي	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online learning requires more technical skills compared to traditional learning التعلم الإلكتروني (عن بعد) يتطلب مهارات تقنية أكبر للدراسة مقارنة بالتعلم التقليدي	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online learning requires more personal interest and motivation compared to traditional learning التعلم الإلكتروني (عن بعد) يتطلب رغبة ودافعية أكبر للدراسة مقارنة بالتعلم التقليدي	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*5 **Dimension 4: Course Content and Design** المحور 4 : محتوى وتصميم محتوى المقرر الإلكتروني

	Agree	Not Sure	Disagree
Course objectives and were clear أهداف المقرر واضحة	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Content of the course was useful محتوى المقرر واعدادها	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Design and page layout was attractive and comfortable تصميم وعرض صفحات المقرر جذابة و مريحة	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Navigation of the course was easy and user friendly تصفح المقرر سهلا ومرحبا	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Immediate feedback on practice activities was effective التغذية فورية على الأنشطة فعالة	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
End of Module (s) assessment was useful? أشفا التقييم في أواخر كل وحدة كانت مفيداً	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Length of the course (4 weeks) was suitable فترة اتمام المقرر كانت كافية	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online interactive discussions (Forum) was useful عزف المناقشة التفاعلية كانت مفيدة	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The course was suitable to enhance students' independent learning بمؤز للمقرر التعلم الذاتي للمتعلمين	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*6 **Dimension 5: Individual Interest/Preference** المحور 5 : الميول الفردي

	Agree	Not Sure	Disagree
I am interested in doing my Foundation Program entirely through online courses? أنا رغبة في دراسة جميع مواد البرنامج التأسيسي من خلال التعلم الإلكتروني (عن بعد)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am interested in pursuing my Bachelor program entirely through online courses? أنا رغبة في اتمام دراسة البكالوريوس من خلال التعلم الإلكتروني (عن بعد)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am interested in online learning because I learn better independently أنا رغبة في الدراسة من خلال التعلم الإلكتروني (عن بعد) لأنني أتعلم بشكل أفضل وأتمتع بالتعلم الذاتي	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I am interested in online learning because I am good at using technology لدي رغبة في الدراسة من خلال التعلم الإلكتروني (عن بعد) لأنني أوجد استخدام التكنولوجيا	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am interested in online learning because I do not have to go to the classroom. I can choose to study at home لدي رغبة في الدراسة من خلال التعلم الإلكتروني (عن بعد) لأنه لا يتطلب الحضور الصفوي و يمكنني الدراسة من المنزل	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am interested in online learning because I am not committed to attendance schedule, I can choose to study at the time that suits me لدي رغبة في الدراسة من خلال التعلم الإلكتروني (عن بعد) لأنه لا يتطلب الالتزام بجدول محاضرات ويمكنني الدراسة من أي مكان وفي أي وقت يناسبني	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am interested in online learning because I can register for more credit hours per semester لدي رغبة في الدراسة من خلال التعلم الإلكتروني (عن بعد) لأنه يمكنني التسجيل لعدد ساعات معتمدة أكثر في الفصل الواحد	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am interested in online learning because I wish to complete my study in shorter time لدي رغبة في الدراسة من خلال التعلم الإلكتروني (عن بعد) لأنه لدي رغبة في إنهاء دراستي خلال عدد سنوات أقل	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Kindly select all that apply to you: أرجو تحديد الخيارات التي تتناسب مع آراءكم

- *7 **When do you think the online course can be more useful to you?** أن المقرر الإلكتروني يمكن أن يكون أكثر فاعلية للتعلم بالنسبة لك؟

- Before attending the class as preparation
قبل حضور المحاضرة الصفوية كإعداد تحضيرية
- After attending the class as follow-up
بعد حضور المحاضرة الصفوية
- Alternative Learning Tool in case a class was missed
كبدل للمحاضرة الصفوية في حالة تعيبك عن حضورها
- Self-Study Learning Tool (to help me understand the course better)
مادة تعلم ذاتي للمساعدة في فهم محتوى المقرر بشكل أفضل

- *8 **What technical problems did you experience while accessing the online course (ON CAMPUS)?** ما هي المشاكل التقنية التي واجهتها خلال تصفحك للمقرر الإلكتروني وأنت داخل الحرم الجامعي؟

- Internet connection
تعملية الإنترنت الضعيفة
- Navigating the course
تصفح المقرر
- Downloading media
تنزيل وتحميل الوسائط المتعددة في المقرر
- Doing the exercises and tests
إنهاء الأنشطة والامتحانات
- Posting chat and forums
المشاركة في المنتديات
- Other (kindly give examples)
(أخرى) (أرجو ذكر بعض الأمثلة)

- *9 **What technical problems did you experience while accessing the online course (OFF CAMPUS)?** ما هي المشاكل التقنية التي واجهتها خلال تصفحك للمقرر الإلكتروني وأنت خارج الحرم الجامعي؟

- Internet connection
تعملية الإنترنت الضعيفة
- Navigating the course
تصفح المقرر
- Downloading media
تنزيل وتحميل الوسائط المتعددة في المقرر
- Doing the exercises and tests
إنهاء الأنشطة والامتحانات
- Posting chat and forums
المشاركة في المنتديات
- Other (kindly give examples)
(أخرى) (أرجو ذكر بعض الأمثلة)

- 10 **Do you think you are ready enough to study through online education without attending classes? And why?** هل تعتقد أن لديك الجاهزية للدراسة من خلال نظام التعلم الإلكتروني (عن بعد) بدون حضور محاضرات صفوية؟ ولماذا؟

- 11 **Kindly give further feedback about your experience taking the online course.** أرجو تكمم بكتابة أية ملاحظات
ترغبون في إضافتها عن تجربتكم في دراسة المقرر الإلكتروني عن بعد

- 12 **The researcher would like to interview some of you to identify, more closely, your points of view about your experience taking the online course. If you do not mind being interviewed, kindly provide your contact details.** ترغب الباحثة في إجراء مقابلات للاستماع لأرائكم بشكل مفصل
حول تجربة دراسة المقرر الإلكتروني عن بعد، عليه إذا لم يكن لديكم ممانع في المشاركة أرجو إعطاء تفاصيل للتواصل معكم

Name الاسم :

Mobile الهاتف :

Email الإيميل :

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COMPUN101

Appendix B. Teachers Online Survey

12/8/2014

COMFUN101: Survey for Teachers

Online Basic Computing Skills

Jump to...

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Update this Questionnaire

View All responses (7) Advanced settings Questions Preview

Survey for Teachers on the Advantages of Utilizing Online Basic Computing Skills

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Part 1 - About Your Perception for Offering an Online Program in SQU

*1 Kindly tell us in which department in SQU you are working for.

*2 Kindly tell us your position in your department.

*3 At SQU, Online Education could be offered with: (Kindly choose all that apply.)

- 100% classroom attendance
- At least 75% classroom attendance
- At least 50% classroom attendance
- At least 25% classroom attendance
- 0% classroom attendance
- Other (please specify)

*4 To SQU, the main drivers for offering Online education are listed below. Kindly rank them according to applicability to SQU by giving no.1 to the highly prioritized driver and no.11 to the least prioritized driver.

	1	2	3	4	5	6	7	8	9	10	11
Align with government vision e-Oman	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enhance internationalization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enhance SQU reputation nationally	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enhance the quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

http://www.its.squ.edu.om/online/questionnaire/ShowQst?id=144823

1/4

of teaching and learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Generate institutional income	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improve scheduling flexibility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improve space utilization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increase student access to postgraduate programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increase student access to undergraduate programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Outreach to international students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduce educational cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*5 At SQU, discussion and communication regarding policy formation of Online education is the responsibility of : (Kindly choose all that apply.)

- University Council
- Academic council
- Deans of Colleges
- Directors of Support Centres (CET & CIS, Registration, Library)
- Faculty Members
- An E-learning specialized rector/ deanship
- Students
- Other (please specify)

*6 At SQU, the implementation of Online education is the responsibility of:

- Ad hoc committee
- Standing committee
- An e-learning specialized rector/ deanship
- Other (please specify)

*7 At SQU, the strategic plan of Online education can be best implemented:

- Gradually by study structure: Single course(s) to a complete Study program(s)
- Gradually by study program: Postgraduate to Undergraduate
- Gradually by study program: Foundation to Undergraduate to Postgraduate
- Other (please specify)

*8 At SQU, the implementation of the strategic plan of Online education is best designed for:

- 3 year plan
- 5 year plan
- 10 year plan
- Other (please specify)

***9 At SQU, what programs you think would be more popular to study through Online education? (Kindly choose all that apply.)**

- All undergraduate programs
- Some undergraduate programs
- All postgraduate program
- Some postgraduate programs
- All components of the Foundation program
- Some components of the foundation program
- Single courses
- Other (please specify)

***10 At SQU what student population, online education offerings could serve? (Kindly choose all that apply.)**

- Undergraduate existing regular students
- Postgraduate existing regular students
- International students
- National continuing education students
- Non national based in Oman
- Other (please specify)

***11 At SQU, to what extent you expect the following barriers to successful implementation of online education. (Kindly tick the appropriate choice.)**

	High Level Barrier	Low Level Barrier	Not At All A Barrier
Lack of policies and procedures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insufficient funding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insufficient infrastructure (hardware and software)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insufficient quality standards for online courses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faculty resistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faculty effort and time for development of online courses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faculty effort and time for teaching of online courses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insufficient faculty training and support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insufficient compensation for online faculty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students are not autonomous learners	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insufficient students support	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Insufficient students literacy skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students resistance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online programs accreditation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

***12 I would be interested in facilitating online courses in SQU for the following reasons: (Kindly select all that apply.)**

- Departmental emphasis/request
- Desire for flexibility, workload scheduling
- Opportunity to innovate current course(s) by using technology

- Other external incentives (course load reduction, stipends, etc.)
- Pedagogical beliefs
- Perception of student interest in online learning
- Personal and professional growth and achievement
- Other (please specify)

***13 I would be interested in facilitating an online class at SQU if I received:
(Kindly select all that apply.)**

- Pedagogical and technical support and training in creating and facilitating online courses
- Pedagogical and technical support and training on Online learning for students
- Department Head encouragement
- Flexibility in scheduling and location (do not have to be on campus for class, can deliver the course from anywhere with internet access)
- Clear policies of intellectual property
- Incentives to develop and teach online courses (tangible rewards, grants, merits, etc.)
- I would not be interested in teaching an online course at SQU under any circumstances.
- Other areas of concern(please specify)

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Appendix C. Cover Letter for the Survey

Cover Letter

Dear Participants,

Online Education in higher education is becoming very popular mode of study in many countries around the world. This survey investigates the perceptions of Sultan Qaboos University administrative staff and decision makers on the possible future implementation of '**Fully Online Education**' as an alternative mode of study to the traditional face to face education.

Aim:

The main aim is to formulate a tentative framework and set of recommendations that are the result of an evidenced-based approach to policy formation and strategic planning for the implementation of Fully Online Education in SQU. You are invited to be part of this survey for the active role you play in the policy formation in Sultan Qaboos University.

Definition of Online Learning

Online Education is a planned teaching/learning experience that uses a wide spectrum of technologies to reach learners at a distance through the Internet within and beyond classroom walls. Online learning can be fully online or blended with face-to-face interactions. Blended/ hybrid learning allows students to receive significant portions of instruction through both face-to-face and online means. Fully online learning is a form of distance education in which all instruction and assessment are carried out using online, Internet-based delivery. (U.S. Department of Education 2007). **The mode under investigation in this study is the 'Fully Online' Education**

All the information gathered from this survey will be strictly confidential and the full anonymity shall be preserved. It will take you approximately 20 minutes to answer this survey.

Your participation is very much appreciated

Should you have any further enquiries, kindly contact the researcher,

Faiza Amer Al Hosni

Ext: 1546

GSM: 92841444

alhosnifaiza@gmail.com

Appendix D1. Student Interviews Analysis Coding

Students' Interviews Analysis Coding

1. Percentage of classroom attendance

Hajer	A	I prefer the attendance to be 50 percent coz the student needs to interact with his teacher and class mates.... I have no problem of taking a fully on line course but after a good preparation like independent learning skills and resources also I will need to see good plans form HE.
Shamsa	B	I think 75% attendance I wish it to be as supplementary for the actual class
Nouf	C	I agree with her... I will need the face-to-face lecture... teacher helps comprehend better teaching through a tutor is more efficient that learning from the device
Mawada	D	cl attendance 75%
Sara	E	50% attendance because coz some subjects need direct explanation from the teacher... like math I would need my teacher to explain for me rather than the PC Sara sometimes I need to be with the teacher
Safa	F	same as Sara
Sultan	G	I prefer the online 95% ... only if there was an assistance online to answer users question immediately regarding small components in the course ... I prefer fully online
Mutaz	H	I find it beneficial 50%... I want 50% attendance ... I like after the lecture there is activities and questions but I don't like the repetition of the same exercises I prefer studying from the book
Qais	I	I prefer 75% online... Coz it will suite my preference I can access anytime even in after midnight
Sumaya	J	I prefer the 50% attendance... the fully online is a good idea but I think if there was no attendance students might misuse their learning time

2. Online learning allows learning anywhere anytime

Hajer	A	Yes, I totally agree that online learning allows students to learn anywhere and at any time that because students are not restricted to the classroom ... student can plan his or her learning time according to their convenience... I agree that it fits individualization as every learner has his own ability of comprehension and learning capabilities...
Shamsa	B	I agree with her (Nouf) it will be successful only in Muscat because the Internet coverage is strong unlike other parts in Oman
Nouf	C	I am from Nizwa and I think nowadays in Oman OL cannot be

		implemented due to internet coverage
Mawada	D	I don't agree in Oman it can be anywhere anytime due to the weak internet connection
Sultan	G	No I do not agree at all ... in some areas in Oman there is no internet coverage and this method of learning needs good internet coverage. I think this will be successful only in Oman
Mutaz	H	I agree with Sultan
Qais	I	I have no problem with internet connection as I live in Muscat
Sumaya	J	I agree that OL will help me to learn at anytime and anywhere. For example in the classroom I can't concentrate but in OL I can choose my convenient time and place

3. Promotes active learning

Hajer	A	I don't agree that online learning promotes only the comprehension skills and demotivate learning by heart coz I think even in online learning students need to learn by heart some of the information it all depends on the subject studied
Shamsa	B	<i>No comment</i>
Nouf	C	<i>No comment</i>
Mawada	D	<i>No comment</i>
Sara	E	Sara I think sometimes it lessees the learning by heart
Safa	F	Safa it motivates active learning
Sultan	G	<i>No comment</i>
Mutaz	H	<i>No comment</i>
Qais	I	<i>No comment</i>
Sumaya	J	I agree that OL will promote active learning

4. Promotes Independent Learning

Hajer	A	
Shamsa	B	S: For me I think yes it promotes independent learning as if I work on my own on the learning and if I searched for the information myself I will understand better and the info will remain in my memory . The info I search myself will have a value...
Nouf	C	yes, it promotes my independent learning ... for me when I go back to my village during the weekend I prefer spending all my time with my family and friends and I rarely study but if I had a course that is compulsory as self-study I will work on it
Mawada	D	Yes it promoted in depended learning
Sara	E	Safa: yes it makes me more responsible to manage my study time
Safa	F	for me it will make me learning and confused in terms of time

		management
Sultan	G	I love self-study and the course promotes it 100% example as practical aspects of the course learners could learn in a fast and more effective way all the literature aspect of the course and save the rest of the learning time in the practical application... compared to the book this course is more effective coz it uses color audio video you also improve your language by listening to pronunciation of new terminology
Mutaz	H	I see that OL promotes self-study ... promotes understanding..
Qais	I	it promotes my self-study coz you will search for the information you will spend effort finding the info and learn it
Sumaya	J	OL promotes my self- confidence

5. Online learning helps organize study time

Hajer	A	I think yes it helps learners to better organize their study time but it also demotivate those who don't have the skills of time management
Shamsa	B	fully online will be very difficult
Nouf	C	I think it's a two faces coin ... I think if I was committed I would learn better
Mawada	D	I think OL will not give confidence in my learning coz sometimes when the teacher explains he provides some extra info and explanations... so I can rely solely on the course
Sara	E	OL promotes my self-confidence in learning as we have nobody to help other than helping ourselves
Safa	F	I improved in terms of the subject and time management
Sultan	G	<i>No comment</i>
Mutaz	H	<i>No comment</i>
Qais	I	<i>No comment</i>
Sumaya	J	<i>No comment</i>

6. Feedback

Hajer	A	Feedback was very useful and available for all activities ... it gives the student individual feedback
Shamsa	B	same for me ... I agree with Nouf
Nouf	C	I like the feedback as it is immediate and also it gives me will to challenge myself
Mawada	D	I find it faster compared to the FB in CL
Sara	E	feedback is more useful for me as I get it immediate and I can repeat my work and get the right feedback
Safa	F	I agree with Sara
Sultan	G	I like the feedback and wish to even have more variety of exercises on the same concepts in each chapter to make it more interesting repeating the exercises.

Mutaz	H	Feedback was the best think about online course you get to know if your answer was correct or not immediately no need to wait till next day
Qais	I	I agree with Mutaz
Sumaya	J	Feedback was useful and effective

7. Technical and academic support

Hajer	A	Technical support is better in classroom co we can get the assistance from the teacher directly coz it is easy to explain my need face to face to the teacher... but if online I will have problems expressing my need by writing
Shamsa	B	I agree with Nouf
Nouf	C	Tech sup was absent ...the search option for particular was really needed like a search engine as the course was very much intensive...
Mawada	D	I agree with Nouf
Sara	E	We need more technical support
Safa	F	We need more technical support
Sultan	G	There was no technical support... technical support and training on how to handle the course is absent
Mutaz	H	I need a course before I start online course on how to use the internet and the course and how to download things and where I can find information
Qais	I	There was no technical support
Sumaya	J	I don't agree that the tech support was useful

8. Online learning promotes communication

Hajer	A	I do not agree the OL increases communication with the teacher and other learners... coz I think students will remain self-independent
Shamsa	B	S: I disagree that communication through OL will be effective I prefer the face to face communication as I think behind the screen using text it will be difficult to express and ideas might be misunderstood
Nouf	C	I agree that OL promotes effective communication between studs
Mawada	D	I agree with S as we will need eye contact and other visual aspects
Sara	E	Sara: nowadays all people rely on technology and communication tools ... I think that OL will make students relaxed
Safa	F	Yes, it promotes communication with the teacher and classmates... especially with peers. It also helps shy students... OL makes student controls his time and learning environment.

Sultan	G	S: For me I think this method will encourage me to express my ideas behind screen also I can ask as many questions as possible
Mutaz	H	M I think yes it promotes communication as there are shy students who would be more relaxed to communicate via the device... also it creates mean of communication among male/ female
Qais	I	Q : for me face to face is more comfortable and I hate chatting and texting using all devices
Sumaya	J	Chat and forums are effective

9. Design and presentation of content

Hajer	A	Online Course helped me to understand better coz there is colored representation video and images and interactive activities besides the text and all this is not available in the book only also the teacher in the classroom relies heavily on the book and white board and sometime I do not understand well. In the online course I managed to understand the lectures and then do exercises on them
Shamsa	B	S; I agree
Nouf	C	M: very much interesting and easy to navigate ... to me it is as excellent course in terms of the design
Mawada	D	M:I agree ,, I was attracted to all visual media as I am a visual person
Sara	E	They both think that objectives and design is clear and interesting.
Safa	F	They both think that objectives and design is clear and interesting.
Sultan	G	to me the design needs revision coz the color of the interface was not comfortable also the font was not eye catching I suggest the representation of the content (chapters) could be in a more interesting way ... I want easier and clear way of navigating the course. Objective are clear ... feedback was the best think in the course for me... it makes me challenge myself by trying the exercises again and again
Mutaz	H	M: course design and easy and comfortable ... Objectives are not clear I will need more introduction and explanation on how to manage the course... feedback is very effective coz it is immediate
Qais	I	Q everything regarding design was ok and clear... I will need more guidance and instructions on how to use the course
Sumaya	J	Aims of the course are clear and the content and design are interesting The online course is more interesting and it encourages learning as it has colorful images and videos and interactive

		activities compared to using the books as books are sometimes dull and boring
--	--	---

10. Time/ effort/ tech skills

Hajer	A	Online learning is faster in learning compared to traditional learning OL needs more effort and more technical skills... also it requires interest
Shamsa	B	Regarding time, I think OL is better as our class sometimes from 2-4 when we feel lazy and tired but with OL you can learn when you have fill energy. Yes OL need more effort, it also requires more skills like how to search and deal with the technology
Nouf	C	M: time if you are committed to class attendance you stick to it but OL you will need to have time management to succeed – yes students need certain IT skills and In depended learning skills
Mawada	D	M: to me OL needs more time as I stayed 4 hours in one chapter, maybe because I am using it for the first time ... regarding It skills I think we graduated from school with good enough skills ... regarding effort yes I think it requires much effort
Sara	E	Sara and Safa: it depends on the type of the course ... they think that effort more online...Both think OL requires good technical skills...
Safa	F	Safa: I think that I have enough skills to use the current course
Sultan	G	S: traditional learning wastes time more than OL... for example there might be some student sitting in class but they understand all what is presented and the time could be used for what individual really need... Also it wastes some students time ... effort I think the traditional required more effort for instance physically and commuting time coming to class on time.... technical skills are required before the presentation of the OL also we need more
Mutaz	H	M: traditional is more waste of time as we must sit in class 2 hours but OL we can cover the lecture in half an hour same think regarding effort traditional requires more effort we need to wake up early commute, sit in class , but OL you can study at home in your bedroom .. regarding tech skills I will need a special course to prepare me for this kind of learning
Qais	I	Q: for me Traditional requires more time and effort as my colleagues said... regarding skill it depends on the person but SQU should prepare students
Sumaya	J	OL does not need more time for learning nor effort... Like when you learn watching video presentation you comprehend

		quickly and in your place, also it does not need more technical skills that what we have now.
--	--	---

11. Technical Problems

Hajer	A	ON campus there is No enough computer labs available, no enough computers, no headphones OFF CAMPUS I have No problems
Shamsa	B	No problems
Nouf	C	This experience added a lot to me... it promotes myself study skills. Also it promotes my practice skills ... I need the balance and will never go for fully online course ...
Mawada	D	Distraction in the labs... outside no problems I'm not very good with computers using this course encouraged me to like PC and work independently ... I liked the experience but will never go for fully online course I can't risk it
Sara	E	On Campus... I have no problems other than the availability of enough labs and headphones Off Campus ... no problems
Safa	F	I agree with Sara
Sultan	G	We need laptops
Mutaz	H	We need more computer labs only for student use... no lectures to take place
Qais	I	
Sumaya	J	On Campus Internet connection in my laptop (registration) Connection is slow ... no problems in other technical issues Off Campus... no problems

12. Personal Interest General / Reflection

Hajer	A	I do not agree that I would want to learn all subjects in the FP online coz Math for example would need the teacher. For the Bachelor programme, not sure maybe I would want to learn Some courses online yes like the easy subjects YES, I think I am ready to study online ... I am eager to study through this method coz we are in the era of technology
Shamsa	B	S: as a medicine student I would prefer traditional method of learning Yes, this experience made me know more about the online learning method and it makes more want to take more course on line For me... I had no idea about online learning and I think I gained a lot... and I congratulate you as a researcher for introducing this to SQU... I believe it is for our benefits
Nouf	C	In FP only IT could be taught online English and Math must be

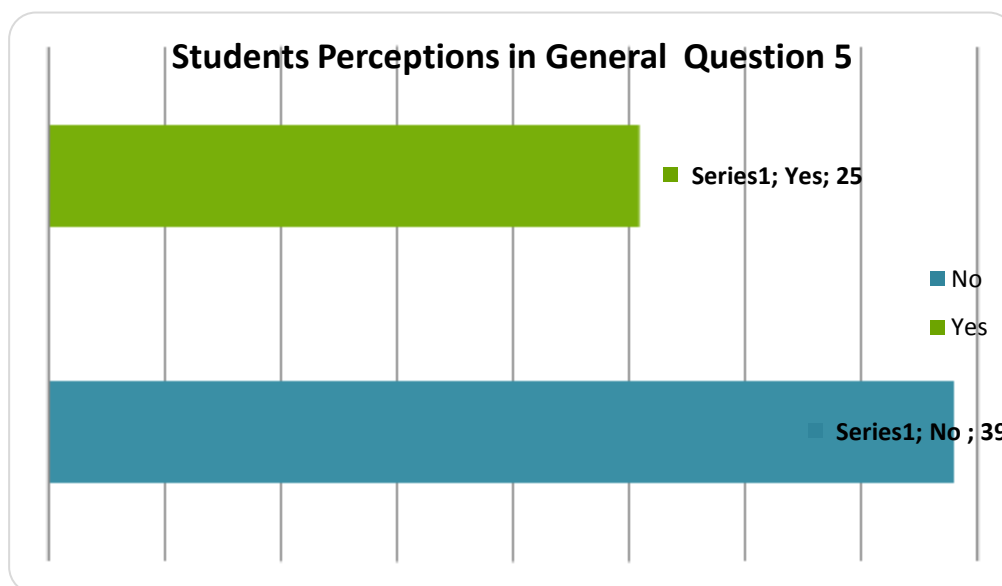
		in CL
Mawada	D	M It depends on the subject ... if the sub was lit I could go 50%v online but if it was more practical subjects and more difficult sub I would go for traditional learning I prefer to use it as a preparation for my exam... others agree
Sara	E	FP components online Safa: not all FP courses could be studies online... IT is Ok English 50 % but Math no we would rather study it in class. Bachelor online Regarding Bachelor Program we would prefer to have some subjects as online and even most of the subjects 50/50
Safa	F	Yes this experience made me know more about the online learning method and it makes more want to take more course on line
Sultan	G	in case all I asked for was available, I would prefer to study course fully online I want to add that we should start Mobile learning ... We need laptops We need more computer labs only for student use... no lectures to take place
Mutaz	H	No, I do not want OL to be implemented as a way of learning in SQU I want it to be as supplementary material... however, in case its application will help me finish my study earlier like in 3 yrs. or so I would agree.
Qais	I	To me it depends on the subject if it is an easy subject like Arabic Social studies li would register in the OL course rather than the traditional method ... I agree with Mutaz that if I will finish my study degree early I will accept and register in as many course as possible
Sumaya	J	FP / Bachelor online Not sure I want to study all FP components online as it depends on the subject Bachelor not sure ... however some subjects like IT I am independent learner and have the skills I agree on all so far.... I think I am ready to study through online learning... Yes, this course prepared me for this type on learning and introduced so many advantages of OL... IT online course convinced me on the benefits of online learning as the subject is related

Appendix D2. Results of the Open-ended Questions in the Online Survey

Results of the Open-ended Question in the Online Survey

(All are quotations- some are translated from Arabic to English)

General Question 5: Do you think you are ready enough to study through online learning without attending classes? And why?



Results from this question indicate that majority of learners (39%) are not yet ready in relying completely in the online environment to do their learning. However, there were 25% of them who expressed their readiness to go for online learning. Below are the justifications for the responses:

No, because	Yes, because
<ol style="list-style-type: none"> 1. I think the attendance to the lectures is very important. I think we should use online education and attendance to the lectures. 2. I think that the disadvantages of online education might be stronger than the advantages. Because if we don't have limited time, the student will delay them works , that might affect them study . 3. I can't understand anything without a teacher 	<ol style="list-style-type: none"> 39. Me as a senior student i am ready to study without attending the class because all the education material is uploaded in the Moodle 40. I think I can do that because that make me able to organize my time . and take me do not go to any lectures and that make me more relax and comfortable 41. This system will reduce a number of classes, also some of these

4. *I don't like that way of learning may be because i don't know enough things in the computer system itself*
5. *I do not know all lectures and some lecture is very difficult.*
6. *I'm one of the people who can't commitment!!*
7. *Attending class give me more responsibility to study hard and organize my time.*
8. *It is better to be 50% of the total of classes.*
9. *We need teacher to explain*
10. *I prefer to have 50% of study time face-to-face. I prefer the online course to be a material for preparation before the class time or as revision material.*
11. *Student needs human support and guidance*
12. *Internet services is very poor in Oman*
13. *Classes are still more effective*
14. *If online learning took place, I will not take my study seriously*
15. *I believe the teacher has a more useful and effective role*
16. *I am not used to this type of learning plus I have issues studying through the PC*
17. *I find the face-to-face classes very useful and the interaction with the teachers very important, however online learning could be used in some subjects but not all*
18. *I don't think so because this is a new system*
19. *Not attending classes will make student less serious about their study*
20. *I don't want to deal with technology and I find lecturers at University very qualified and I want to make use of their experience and knowledge*
21. *I think attending classes helps students to comprehend better besides this system is very useful in case students miss the classes for any reason*

- classes on 8 am and not all students can come quickly*
42. *I can manage my time well also i can use a suitable time for every subjects.*
43. *Online education enough to teach us.*
44. *It is useful and easy also the study years will become fewer and we can enjoy our life ... life is not study only*
45. *It is easier to understand takes compared to the face-to-face classes and it includes exams and exercises which enhances students' comprehension much better than the regular classes. Also, it enhances students' self-confidence because students need to deepen on themselves most of the time.*
46. *I have the willingness and readiness under one condition that is in case I face any difficulty I will find the teacher ready to provide me with the needed assistance and support*
47. *For online eLearning some characteristics such as helping students become more independent but I think classroom interaction and communicating with others provides students with whole lot of information and knowledge...from other side online learning need a well-studied plan in which students' required skills for this type of learning is identified to help the face any problem they may face*
48. *To organize my time comfortably*
49. *Learning through online is my ambition*
50. *I find it a substitute for the face-to-face lectures and it will allow me to do my learning anytime and anywhere wish*
51. *For some subjects only others will definitely need tutor like Mathematics*

22. The interest of study remains in the classroom besides getting information and knowledge from the teacher face-to-face is much easier

23. There is no enough practice chances in the online learning

24. I will definitely need to ask the teacher for clarifications and assistance

25. I believe that independent learning could take 50% of the study time and the other 50 should be at classrooms. Therefore, I don't find myself ready for the online learning without any classroom attendance.

26. Not attending any face-to-face-classes will make me less serious and not wanting to study. I learnt better when I feel I am committed

27. I feel more secure with a teacher in case I needed to ask about anything that I don't understand the teacher will be available

28. The face-to-face classes help me understand lessons better

29. I think I will need the teacher to explain many concepts

30. As there are some components in the course that cannot be studied online and they need teacher's explanation

31. Because teacher explanation is very important and I see online learning as a supplement

32. I think attending classes is very important but online courses can be used as supplementary material for the face-to face classes

33. I prefer attending classes

34. I find online learning very difficult

35. Online learning will make me lazy and less serious in my studies also I hate studying with technology. The teacher is an important source of information and I can't study without him

36. Sometimes online learning cannot deliver information in an effective way. And sometimes we need assistance and feedback which is

52. All required logistics are available like computer labs, PCs and the Internet

53. But not for all subjects; some subjects don't require class room attendance like the IT but others require attendance like Mathematics

54. It helps me organize and manage my time and at the same time it helps me accept the subject and build interest

55. The hot weather in Oman encourages us to go for online learning to avoid commuting to the university and reduce traffic

56. This system includes all chapter content together with all extra activities which helps me to assess my capabilities without the need to attend classes

57. It is comfortable

58. I can always go back to the content

59. It will allow me to study at any time I wish without time restrictions

60. I am confident I can do it

61. That is because of the good experience I have in this field

62. That is due to the limited time we have as students... traditional education takes hours from our life whereas online learning could make us finish our study period fast

63. But I am a bit concerned about some courses I might take in future as I might not be able to comprehend and grasp the content easily if they were offered online

64. I want to break the routine of the lectures which go for long hours without enough breaks; these lectures obligate us to attend. and from other side if we get to miss a class the consequences will be really bad as we will be in trouble as we will lose all that was said in the lecture and

<p><i>not available in online learning</i></p> <p>37. <i>I believe attending classes is more effective</i></p> <p>38. <i>We have to attend class to ensure that we have studied the lectures</i></p> <p>39. <i>I comprehend better when I am in the classroom</i></p> <p>40. <i>I might need the teacher in some cases</i></p> <p>41. <i>I don't have the willingness because I believe the teacher presence is more important</i></p> <p>42. <i>I don't have the interest in the fully Online learning because there are some learning difficulties that cannot be solved without a teacher</i></p>	<p><i>cannot retrieve it</i></p> <p>65. <i>It saves students time</i></p> <p>66. <i>I can attend some online courses that are easy in nature and do not require teachers... but for the scientific subjects I prefer the face to face course</i></p>
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Students Comments and Reflections from the online course survey

(All are quotations- some are translated from Arabic to English)

Do you think you are ready enough to study through online education without attending classes? And why?

1. *No, I think the attendance to the lectures is very important. I think we should use online education and attendance to the lectures.*
2. *No*
3. *No. because I think that the disadvantages of online education might be stronger than the advantages. Because if we don't have limited time, the student will delay them works , that might affect them study .*
4. *no because i can't understand anything without a teacher*
5. *no because i don't like that way of learning may be because i don't know enough things in the computer system itself*
6. *no i cannot.... because i do not all lectures and some lecture is very difficult.*
7. *No i do not think so because I'm one of the people who can't commitment!!*
8. *No, because attending class give me more responsibility to study hard and organize my time.*
9. *no, it is better to be 50% of the total of classes.*
10. *No, we need teacher to explain*
11. *NO, I prefer to have 50% of study time face-to-face. I prefer the online course to be a material for preparation before the class time or as revision material.*
12. *No because student needs human support and guidance*
13. *NO*
14. *No because Internet services is very poor in Oman*

15. *NO, because classes are still more effective*
16. *No, because if online learning took place I will not take my study seriously*
17. *No, because I believe the teacher has a more useful and effective role*
18. *No because I am not used to this type of learning plus I have issues studying through the PC*
19. *No, because I find the face-to-face classes very useful and the interaction with the teacher is very important, however online learning could be sued in some subjects but not all*
20. *NO I don't think so because this is a new system*
21. *No because not attending classes will make student less serious about their study*
22. *No, because I don't want to deal with technology and I find lecturers at University very qualified and I want to make use of their experience and knowledge*
23. *No, because I think attending classes helps students to comprehend better besides this system is very useful in case students miss the classes for any reason*
24. *NO, because the interest of study remains in the classroom besides getting information and knowledge from the teacher face-to-face is much easier*
25. *NO, because there are no enough practice chances in the online learning*
26. *No because I will definitely need to ask the teacher for clarifications and assistance*
27. *NO, because I believe that independent learning could take 50% of the study time and the other 50 should be at classrooms. Therefore, I don't find myself ready for the online learning without any classroom attendance.*
28. *No, because not attending any face-to-face- classes will make me less serious and not wanting to study. I learn better when I feel I am committed*
29. *No, because I feel more secure with a teacher in case I needed to ask about anything that I don't understand the teacher will be available*
30. *No, because the face-to-face classes help me understand lessons better*
31. *No, because I think I will need the teacher to explain many concepts*
32. *No, as there are some components in the course that cannot be studied online and they need teacher's explanation*
33. *No, because teacher explanation is very important and I see online learning as a supplement*
34. *No, I think attending classes is very important but online courses can be used as supplementary material for the face-to face classes*
35. *No, I prefer attending classes*
36. *NO, because I find online learning very difficult*
37. *No, because online learning will make me lazy and less serious in my studies also I hate studying with technology. The teacher is an important source of information and I can't study without him*
38. *No, because sometimes online learning cannot deliver information in an effective way. And sometimes we need assistance and feedback which is not available in online learning*
39. *No, because I believe attending classes is more effective*
40. *NO never*
41. *I am not sure*
42. *No because we have to attend class to ensure that we have studied the lectures*
43. *I am not sure . I comprehend better when I am in the classroom*
44. *No totally, as I might need the teacher in some cases*

45. No I don't have the willingness because I believe the teacher presence is more important

46. No, I don't have the interest in the fully Online learning because there are some learning difficulties that cannot be solved without a teacher

1. Yes, me as a senior student i am ready to study without attending the class because all the education material is uploaded in the Moodle
2. Yes
3. yes i think i can do that . because that make me able to organize my time . and take me do not go to any lectures and that make me more relax and comfortable
4. yes, because this system will reduce a number of classes, also some of these classes on 8 am and not all students can come quickly
5. yes, because i can manage my time well also i can use a suitable time for every subjects.
6. yes, because online education enough to teach us.
7. Yes, because it is useful and easy also the study years will become fewer and we can enjoy our life ... life is not study only
8. Yes, sometimes
9. Yes, because it is easier to understand takes compared to the face-to-face classes and it includes exams and exercises which enhances student's comprehension much better than the regular classes. Also it enhances students self-confidence because students need to deepen on themselves most of the time.
10. Yes, I have the willingness and readiness under one condition that is in case I face any difficulty I will find the teacher ready to provide me with the needed assistance and support
11. Yes, For online eLearning some characteristics such as helping students become more independent but I think classroom interaction and communicating with others provides students with whole lot of information and knowledge . from other side online learning need a well-studied plan in which students' required skills for this type of learning is identified to help the face any problem they may face
12. Yes, to organize my time comfortably
13. Yes, because learning through online is my ambition
14. Yes, I find it a substitute for the face-to-face lectures and it will allow me to do my learning anytime and anywhere wish
15. Yes, for some subjects only others will definitely need tutor like Mathematics
16. Yes, because all required logistics are available like computer labs, PCs and the Internet
17. Yes but not for all subjects . some subjects don't require class room attendance like the IT but others require attendance like Mathematics
18. Yes, because it helps me organize and manage my time ... and at the same time it helps me accept the subject and build interest
19. Yes ... the hot weather in Oman encourages us to go for online learning to avoid commuting to the university
20. Yes, because this system includes all chapter content together with all extra activities which helps me to assess my capabilities without the need to attend classes
21. Yes, because it is comfortable
22. Yes, because I can always go back to the content
23. Yes because it will allow me to study at any time I wish without time restrictions
24. Yes, because I am confident I can do it
25. Yes, and that is because of the good experience I have in this field

26. *Yes, and that is due to the limited time we have as students... traditional education takes hours from our life whereas online learning could make us finish our study period fast*
27. *Yes, but I am a bit concerned about some courses I might take in future as I might not be able to comprehend and grasp the content easily if they were offered online*
28. *Yes because I want to break the routine of the lectures which go for long hours without enough breaks . these lectures obligate us to attend ... and from other side if we get to miss a class the consequences will be really bad as we will be in trouble as we will lose all that was said in the lecture and cannot retrieve it*
29. *Yes, because it saves students time*
30. *Yes, I can attend some online courses that are easy in nature and do not require teachers... but for the scientific subjects I prefer the face to face course*

Kindly give further feedback about your experience taking the online course.

1. *I wish we have online courses*
2. *“Online learning is a unsuccessful system of study knowing the fact that there are teachers who can facilitate learning through this system. Also teachers should be trained and supported on how to use the e-learning system students also need training and guidance and instance support when using the LMS Moodle”.*
3. *good work. I hope to be active and be use as soon as you can.*
4. *I thing with is ok*
5. *online course is good idea.*
6. *the problem that I faced during this experience was some of the material were uploaded with a specific program that I didn't have in my laptop so I could not download it*
7. *the website should more accessible and very clear to use.*
8. *we need a laptop from squ for everyone*
9. *“I am very happy with the experience of trying an online course. That is because it offers a relaxed learning atmosphere students can choose the time and the place they like to do their study without any limitations. However, everything must have limitations. The only limitation I find in this system is the Internet coverage which varies among the different areas in Oman. This put users in risk when they are in areas with weak Internet coverage”.*
10. *I suggest that a translation application should be installed in the online course or the LMS to help students quickly find the translation of some unknown words*
11. *Online learning is a way of breaking the traditional study routine but implementing this system need study and planning before approval to be an official study system in SQU.*
12. *Students do not need online learning in SQU*
13. *Online course is very comfortable and I wish it will be implemented in SQU*
14. *The online course lacks explanations of tasks*
15. *The online course lacks explanations of tasks*
16. *The course is useful and easy to navigate*
17. *The course is very easy*
18. *It is very nice experience and the best is that with it we learn how be independent learners*
19. *I think the course needs more activities and online tests*
20. *Translation: This is a very good study it has many advantages like choosing the appropriate time for study but it might cause some diseases because of staying behind the computer for long time*

21. *I enjoyed the online course but I think the Internet coverage must be stronger than now*
22. *The idea of offering an online course is awesome because it allows students to study at the time and the place that suits them without any limitation also it helps students organize their time to make different activities during the study day.*
23. *I don't wish to study through online learning because in SQU there are excellent teachers who could teach and support students much better than an online course*
24. *We do not want online learning in English we want it all in Arabic*
25. *23 Simply this online course a waste of time*
26. *We request online learning to include all courses in SQU*
27. *I think it is sort of impractical because sometimes there are students who cannot deal with the computer also I find this course very difficult and has no benefits for students*

Appendix E. Participant Consent Form

University of Sheffield

Participant Consent Form

Title of Project: Perceptions of Quality in Technology Enhanced Learning: a study of quality standards in one university, Sultan Qaboos University in Oman

Name of Researcher: FAIZA AMER AL HOSNI

Participant Identification Number for this project:

Please initial box

1. I confirm that I have read and understand the information sheet/letter (delete as applicable) dated *[insert date]* for the above project and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. *Insert contact number here of lead researcher/member of research team (as appropriate).*
3. I understand that my responses will be anonymised before analysis. I give permission for members of the research team to have access to my anonymised responses.
4. I agree to take part in the above research project.

Name of Participant Date Signature

Lead Researcher Date Signature
To be signed and dated in presence of the participant

Copies:

Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the letter/pre-written script/information sheet and any other written information provided to the participants. A copy for the signed and dated consent form should be placed in the project's main record (e.g. a site file), which must be kept in a secure location.

Date: Name of Applicant: FAIZA AMER AL HOSNI

Appendix F. Ethical Review – University of Sheffield



The
University
Of
Sheffield.

The
School
Of Education.

Faiza Al-Hosni

Head of School
Professor Jackie Marsh

Department of Educational Studies
The Education Building
388 Glossop Road
Sheffield S10 2JA

7 November 2011

Telephone: +44 (0114) 222 8096
Fax: +44 (0114) 279 6236
Email: jaquie.gillott@sheffield.ac.uk

Dear Faiza

Re: Perceptions in quality in technology enhanced learning: a study of quality standards in one university, Sultan Qaboos University, Oman

Thank you for your application for ethical review for the above project. The reviewers have now considered this and have agreed that your application be approved

Yours sincerely

**Mrs Jacquie Gillott
Programme Secretary**

Appendix G. Ethical Review – Sultan Qaboos University

Sultan Qaboos University

OFFICE OF THE ADVISOR
FOR ACADEMIC AFFAIRS



جامعة السلطان قابوس

مكتب المستشار
للشؤون الأكاديمية

6th December, 2011

TO WHOM IT MAY CONCERN

This is to certify that the University has no objection of Ms. Faiza Amir Al-Hosni, PhD student at The University of Sheffield, UK, interviewing some of the faculty members, administrators and students in Sultan Qaboos University to collect the relevant data for her research on:

“Perceptions of Quality in Technology Enhanced Learning: a study of quality standards in one university, Sultan Qaboos University in Oman”.

Kindly cooperate with her to obtain the data required for her research.

Dr. Taher Ba-Omar
VC's Advisor, Academic Affairs



Appendix H. Participant Information Sheet

Participant Information Sheet

Dear Participants,

You are being invited to take part in a research project. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Please ask the researcher if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

1. Research Project Title:

EVALUATING ON-LINE DISTANCE LEARNING FROM LEARNERS' AND TEACHERS' PERCEPTIONS: A CASE STUDY AT SULTAN QABOOS UNIVERSITY

3. What is the project's purpose?

This study intends to identify main principles and quality standards of the implementation of online learning in higher education institutions in The Sultanate of Oman. Sultan Qaboos University is taken as a case study and perceptions and insights of its main stakeholders on the study subject will be investigated. As an outcome, the study intends to hypothesize a context-based online learning standards and strategic implementation guidelines. These guidelines could guide higher education institutions when planning for and implementing learning that is enhanced by technology. For data collection, a number of participants will be selected to fall under three categories: administrative staff/decision makers, practitioners/ lecturers and students. Data will be collected through semi-structured interviews and online surveys. Each group will have their own set of questions highlighting group-related issues. Only those who wish to participate in the both phases of the research will be invited to take part.

4. Why have I been chosen?

Group 1: Decision Makers: You are chosen for you play a key role in the policy making and planning of the advancement of technology enhanced learning in Sultan Qaboos University. Your perceptions are very crucial to the direction and outcome of the study.

Group 2: Practitioners and Specialists: you are chosen for you play a major role in the implementation and development of technology enhanced learning in Sultan Qaboos University. Your perceptions would make a valuable outcome for the research.

Group 3 Students: You have been chosen either because you are majored in Educational Technology Specialization OR because you are a randomly selected student who has experienced using technology in your learning at Sultan Qaboos University. You are the core of this study and your insights and feedback will have a great effect on the result of this study.

5. Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep (and be asked to sign a consent form) and you can still withdraw at any time without it affecting any benefits that you are entitled to in any way. You do not have to give a reason.

6. What will happen to me if I take part?

If you are an administrator or a decision maker you will be asked to fill in and online survey followed by an interview. If you are a teacher or a student, you will be asked to take an online exemplar course which will be available on SQU e-learning platform for a semester, then you will be asked to fill in an online survey about your experience followed by an interview.

7. What do I have to do?

You will need to analyse and give freely your constructive feedback and insights on the study subject. No change or restrictions in participant's regular lifestyle are resulting from taking part in this study.

8. What are the possible disadvantages and risks of taking part?

No foreseeable discomforts, disadvantages and risks arising from the proposed research process.

9. What are the possible benefits of taking part?

Whilst there are no immediate benefits for those people participating in the project, it is hoped that, with your help, this work will have positive and beneficial outcomes for the enhancement and development of the standards and quality of learning process and academic programs at Sultan Qaboos University.

10. What happens if the research study stops earlier than expected?

The main data for this study is the perceptions and insights of participants. Therefore, if researcher could not recruit enough number of participants from the three categories proposed, research might stop earlier than expected. Researcher will notify participants and update them with any possible alternative use of their activities in the study.

11. What if something goes wrong?

In case something goes wrong during the participation period you could discuss it with the researcher. In case your complain is not handled at your satisfaction, you could complain to The Office of The Advisor for Academic Affairs, Sultan Qaboos University.

12. Will my taking part in this project be kept confidential?

All information given will remain anonymous and will be treated confidentially for research purposes. Should a need arise to publish the data in any form other than the thesis; your permission would be sought. A permission letter to conduct this interview from Office of The Advisor for Academic Affairs, Sultan Qaboos University is enclosed.

13. What will happen to the results of the research project?

A copy of this study will be made available for readers at SQU main library or a copy could be obtained from the researcher.

14. Who is organising and funding the research?

This research is self-funded by the researcher under supervision of The University of Sheffield in UK. It is part of the fulfilment of Doctorate in Education Program at University of Sheffield.

15. Who has ethically reviewed the project?

This project has been ethically approved via School of Education, The University of Sheffield. And The Office of the Advisor for Academic Affairs, Sultan Qaboos University

16. Will I be recorded, and how will the recorded media be used?

Yes, and the audio recordings of your activities made during this research will be used only for analysis and for illustration in conference presentations and lectures. No other use will be made of them without your written permission, and no one outside the project will be allowed access to the original recordings.

17.Contact for further information

For further information and clarification, kindly contact

Researcher: Faiza Amer Al Hosni – faiza@squ.edu.om – Mobile: 92841444

Your participation and cooperation is highly appreciated.

Thank you very much

*Participants will be given a copy of this document together with a copy of a signed consent letter.