

**Evaluating the Quality and Student Satisfaction
Towards the Online Education Service Provided by
Eastern Mediterranean University during COVID-19
Pandemic**

Mervat Alnaji

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Approval of the Institute of Graduate Studies and Research

Prof. Dr. Ali Hakan Ulusoy
Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Business Administration.

Prof. Dr. Melek Şule Aker
Chair, Department of Business
Administration

We certify that we have read this thesis and that in our opinion it is fully adequate in scope and quality as a thesis for the degree of Master of Business Administration.

Prof. Dr. Mustafa Tümer
Supervisor

Examining Committee

1. Prof. Dr. Mustafa Tümer

2. Assoc. Prof. Dr. Emrah Öney

3. Asst. Prof. Dr. Galip Erdil

ABSTRACT

Due to the unfortunate circumstances related to the global health crisis of coronavirus, most of the educational institutions heavily relied on the fully online system to continue the scholastic process. Therefore, this study aimed at evaluating the students' satisfaction regarding the online education quality service provided by Eastern Mediterranean University. Besides, it examined the major factors that influenced the quality of this program. Additionally, the current study investigated students' problems in using the online learning and suggested solutions on improving the quality of this service.

This study adopted the quantitative approach, which involved a questionnaire based on empirical researches majored in the theme of quality and satisfaction. In regards to the data collection, a pre-testing was used to measure the validity and reliability of the questions. The Google form was distributed via Microsoft teams platform and emails. Following, the data were collected from more than two hundred ten male and female students with different ages and educational levels enrolled in several departments. To analyze the data, the study used the descriptive statistics, t. test, and one-way ANOVA.

In respect of the findings, the descriptive analysis showed a number of factors that generally influenced the respondents' satisfaction towards the distance education such as relevance, authentic learning, course structure, and autonomy. Additionally, one-way ANOVA results revealed the insignificant impact of gender, faculty, and educational level on students' satisfaction considering the virtual learning. However,

the age played an important role in this theme. Besides, the students reported problems in using the online learning related to computer skills, Internet access, technical devices, and instructors' feedback. Moreover, Preparing the academic staff with advanced technical skills, enabling free access to the Internet, providing technical devices, and designing a system guideline for the learners were students' most suggestions on improving the quality of online learning.

The study provided implications for curriculum planners, designers, instructors, and institution regarding the online learning. Also, it reconsidered the study's limitation and recommended for future studies.

Keywords: service quality, satisfaction, online education, questionnaire, quantitative analysis

ÖZ

Koronavirüsün küresel sağlık kriziyle ilgili talihsiz koşullar nedeniyle, eğitim kurumlarının çoğu, skolastik süreci sürdürmek için tamamen çevrimiçi sisteme büyük ölçüde güvendi. Bu nedenle, bu çalışma Doğu Akdeniz Üniversitesi tarafından sunulan çevrimiçi eğitim kalitesi hizmetine ilişkin öğrencilerin memnuniyetlerini değerlendirmeyi amaçlamaktadır. Ayrıca, bu programın kalitesini etkileyen başlıca faktörleri inceledi. Ek olarak, mevcut çalışma, öğrencilerin çevrimiçi öğrenmeyi kullanmadaki sorunlarını araştırdı ve bu hizmetin kalitesini iyileştirmeye yönelik çözümler önerdi.

Bu çalışma, kalite ve memnuniyet temasında uzmanlaşmış ampirik araştırmaya dayalı bir anket içeren nicel yaklaşımı benimsemiştir. Veri toplama ile ilgili olarak, soruların geçerlik ve güvenilirliğini ölçmek için bir ön test kullanılmıştır. Google formu, Microsoft ekipleri platformu ve e-postalar aracılığıyla dağıtıldı. Daha sonra, çeşitli bölümlerde kayıtlı farklı yaş ve eğitim seviyelerindeki iki yüz on kız ve erkek öğrenciden veriler toplanmıştır. Verileri analiz etmek için, çalışmada tanımlayıcı istatistikler kullanılmıştır, t. testi ve tek yönlü ANOVA.

Bulgularla ilgili olarak, tanımlayıcı analiz, ilgi, otantik öğrenme, ders yapısı ve özerklik gibi katılımcıların uzaktan eğitime yönelik memnuniyetini genel olarak etkileyen bir dizi faktörü gösterdi. Ek olarak, tek yönlü ANOVA sonuçları, sanal öğrenme göz önüne alındığında cinsiyet, fakülte ve eğitim düzeyinin öğrenci memnuniyeti üzerindeki etkisinin önemsiz olduğunu ortaya koydu. Ancak, bu temada yaş önemli bir rol oynadı. Ayrıca öğrenciler bilgisayar becerileri, internet

erişimi, teknik cihazlar ve öğretim elemanlarının geri bildirimleri ile ilgili çevrimiçi öğrenmeyi kullanmada sorun yaşadıklarını bildirmişlerdir. Ayrıca, akademik kadronun ileri teknik becerilere sahip olarak hazırlanması, internete ücretsiz erişim sağlanması, teknik cihazların sağlanması ve öğrenciler için bir sistem kılavuzunun tasarlanması çevrimiçi öğrenmenin kalitesini artırmaya yönelik öğrencilerin en çok önerileri olmuştur.

Çalışma, çevrimiçi öğrenmeye ilişkin müfredat planlayıcılar, tasarımcılar, eğitmenler ve kurum için çıkarımlar sağlamıştır. Ayrıca, çalışmanın sınırlamalarını yeniden gözden geçirmiş ve gelecekteki çalışmalar için önerilmiştir.

Anahtar Kelimeler: hizmet kalitesi, memnuniyet, çevrimiçi eğitim, anket, nicel analiz

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LIST OF ABBREVIATIONS

AG	Agree
AL	Active Learning
AWQ	Administrating Written Questionnaires
CAI	Computer-Assisted Instruction
CS	Customer Satisfaction
CTC	Computer Technology Competency
DA	Disagree
DE	Distance Education
DF	Degree of Freedom
DL	Distance Learning
EL	E Learning
EMU	Eastern Mediterranean University
ISI	Instructor-Student Interaction
IT	Information Technology
LE	Level of Education
LMS	Learning Management Systems
MS	Mean Square
MT	Microsoft Teams
NE	Neutral
OE	Online Education
OL	Online Learning
PI	Peer Interaction
SAG	Strongly Agree

SCSB	Swedish Customer Satisfaction Barometer
SD	Standard Deviation
SDA	Strongly Disagree
Sig	Significance
SPSS	Statistical Package for the Social Sciences
SQ	Service Quality
SS	Student Satisfaction
SSQ	Sum of Squares
SW	Standard Weight
WL	Web-base Learning

Chapter 1

BACKGROUND OF THE STUDY

1.1 Introduction

The online learning has been considered as the main type of education implemented by most of the universities worldwide due to spread of the COVID-19 pandemic. The current study aims at examining the students' satisfaction towards the online educational system applied at Eastern Mediterranean University (EMU). Also, it focuses on exploring the factors that influence the quality of the online service provided by the institution. Besides, this study highlights students' problems in using the online learning and suggests solutions on improving the quality of online learning from their view.

Thus, the first chapter of the thesis introduces the background of the study, which briefly explains the impact of the coronavirus pandemic on the educational organizations in general and the shift from the traditional method of teaching to fully online education. Further, it discusses the problem statement considering the usage of that system by the students and the teachers according to the results found in the previous studies. Furthermore, the current chapter provides the aims and the research questions of the study. What is more, it explains the importance of conducting this work in the context of EMU. Also, this section defines the main concepts used in the study with a brief summary at the end.

1.2 Background of the Study

Coronavirus is one of many types of diseases, which started in the Chinese city of Wuhan in 2019 then spread around the world. It has many symptoms that start with the fever and high temperature to shortness of breath (“COVID-19 pandemic”, n.d.). These symptoms vary, depending on the level of immunity from person to person, which forced many organizations and companies to refrain from mixing between people to not get infected.

The Turkish government of Northern Cyprus imposed the lockdown issue, which forced everyone to stay homes, even the organizations and companies, large and small, were completely closed due to the coronavirus, as occurred everywhere around the world.

As a result of closing the doors in front of the people and visitors, the institutions were forced to find other alternatives that enable them to continue their careers and lives without significant loss in the services as well as the profits returns. The educational organizations were one of them; they decided to resume the study via the Internet, which considered as a first time for the students and the lecturers to have fully online courses.

No doubt, the Information Technology (IT) system plays a significant part in developing the educational field, particularly in the current circumstances of the Covid-19. Consequently, it was necessary for universities to change teaching and learning processes into more developmental styles (Bahasoan et al., 2020). Some adopted programs such as the online courses to help students studying from distance to guarantee their health safety.

However, the concept of online learning, e-learning, or distance learning is not considered as a newly used in the educational system. As for the online learning, it is a web-based system used graphics, emails, audios, videos, group discussions, exams, etc., in the procedure of education (Kumar Basak et al., 2018). Considering the E-learning, it can be defined as a system used different tools such as mobiles, smartphones, computers, etc., with Internet access (Dhawan, 2020). It also can be seen as an advanced set of methodological and technological methods applied in the teaching and learning process (Fischer, 2013).

In the recent years, the scholars in the field of education focused on applying that technique in some courses as a supplementary method to enable the students achieving technical and further skills related to the technology. Bali and Liu (2018) stated that the students, to some extent, preferred using the online learning in that it enabled them being more productive and creative from technical and educational perspectives.

However, as we previously mentioned, the universities were obliged to apply the online system in the educational process all the time due to the lockdown of coronavirus spread. Some used educational platforms such as Zoom, and Google Meeting, while other organizations facilitated the study for their students through applying specific applications including Learning Management System (LMS) and Microsoft Team (MT), such as the Eastern Mediterranean University (EMU).

The decision of using the technology and technical devices in studying, exams, assignments, and homework all the time, to some extent, was not a delighted one. What is more important, applying that choice was considered as a challenging for the

learners and lecturers at the same time due to the lack of competencies related to technology and technical skills between the both parties (DuCharme-Hansen & Dupin-Bryant, 2005; Muilenburg & Berge, 2005). Other problems represented in the slow access to the Internet, which undesirably impacted the procedure of students' learning (Demuyakor, 2020). The stated factors, to a great level, impact the level of satisfaction among the students in the virtual environment.

On the basis of the above-mentioned information, the purpose of this study is to evaluate the extent of students' satisfaction in using the online learning services provided by EMU, during the coronavirus period. Also, it focuses on exploring the factors that affect the level of learners' satisfaction towards the given system.

1.3 Problem Statement

Due to the unfortunate conditions related to the global health crisis of COVID-19, most of the educational organizations was forced to find alternatives to continue the scholastic process. Thus, the study measures the extent of students' satisfaction towards the online education service provided by EMU. Furthermore, it pursues to find out the students' challenges during their distance learning then provide possible solutions, in case that the corona crisis continues.

Since the online education is system depends on the technology and the web-based learning, consequently, students and teachers might face comparable problems related to usage of the technical devices and the access to the Internet (Adedoyin & Soykan, 2020). Sher (2009) stated that students with advanced levels of technical skills were more comfortable in using the technology and achieving a fruitful outcome of the online courses.

In a study conducted by Dhawan (2020), the scholar found out that the learners faced different challenges considering the online learning related to videos, audios, losing motivations, less activities engagements, and further problems related to the time consuming and flexibility between the students. An additional research conducted by Christiawan et al (2020) to examine the students' challenges of using the online system during learning from home. The authors signified that the lack of Internet access, difficulty of understanding the courses, and technical devices were the most problems faced the student during the learning process.

The revealed results might reflect a negative impact of the quality of the online learning and decrease the learners' levels of satisfaction in the educational process. For instance, a study found a direct relationship between using the online learning and the students' motivation. Shakah et al (2019) stated that challenges such as the technical and services significantly influenced the quality of the online learning according to the students' responses. Also, the scholars revealed that the students' low levels of motivations dramatically impacted the outcome of using that system in the scholastic process.

Moreover, Zhan and Mei (2013) found other factors that influenced the students' satisfaction and their level of achievement in the online learning form. They discovered that students in the traditional educational method featured by a high level of social presence comparing to the group in the online system. Similar study by Bali and Liu (2018) noticed the great level of the social presence, interaction, and satisfaction was existed between the face-to-face learning groups than the online learning group. Further empirical researchers revealed that the interaction between students themselves and their lectures (Muzammil et al., 2020) and understanding the

content of the courses (Purarjomandlangrudi et al., 2016) were considered as major factors that significantly influenced the learners' engagement and satisfaction towards the online education.

Other studies focused on investigating the role of online learning in enhancing the concept of autonomous between the learners in the learning process. Serdyukova and Serdyukov (2013) found that the lack of self-confidence, management competences, and motivation noticeably impact the students autonomy in the online learning environment.

Further researchers investigated this theme from different perspectives such as gender, age, and educational level. Some signified the negative relationship between these parties (Cole et al., 2014; Harvey et al 2017; Witowski, 2008), while other scholars found the opposite (Parahoo et al., 2013). In the light of the previous researches, male and females undergraduate and postgraduate students major in different departments at EMU might face varied challenges considering their usage of the online education. It might negatively affect their satisfaction towards the quality of this service produced by the institution during the coronavirus crisis.

1.4 Aims of the Study

The online learning has been the main form of education implemented by most of the universities worldwide due to spread of the COVID-19 pandemic. Therefore, there is a need for examining the aspect of students' satisfaction as customers towards this service provided by their universities. The key objective of the current study is to investigate the factors that impact the satisfaction of the students about the online education since the second semester of the academic year 2019-2020. Also, it

focuses on examining this theme in relation to gender, age, faculty, and educational level. Additionally, this study investigates students' problems in using the online learning. It also highlights student's suggestions on improving the quality of online learning.

1.5 Research Questions

As earlier stated, this study purposes at examining the learners' level of satisfaction toward the quality of online services in the context of EMU. A further aim is to figure out the factors that might impact their satisfactions' levels. Also, it underlines students' problems in using this system and highlights their solutions to enhance the online education quality.

Thus, the study purses to find appropriate answers for the following questions:

1. What are the factors that affect the quality of distance education during the COVID-19 pandemic?
2. Is there a relationship between the gender and students' satisfaction regarding the online education program?
3. Is there a relationship between the age and students' satisfaction regarding the online education program?
4. Is there a relationship between the faculty and students' satisfaction regarding the online education program?
5. Is there a relationship between the educational level and students' satisfaction regarding the online education program?
6. What are the problems that face the students in using the online learning?
7. What are the students' suggestions on improving the quality of online learning?

1.6 Significance of the Study

Empirical researches, in the field of education, focused on investigating the online education system from different perspectives. Some paid a close attention to examine its usage by the academic staff and the necessity of having technical skills in the teaching process (DeCoito & Richardson, 2018). Other scholars studied the problems that faced the students in using the technological devices (e.g., Adedoyin & Soykan, 2020; Purarjomandlangrudi et al., 2016; Zhan and Mei, 2013). Recent studies only emphasized on considering the factors that influenced the quality of online services between the students (Shakah et al., 2019).

However, this study is considered as an important in that it aims at evaluating, specifically, the learners' level of satisfaction toward the quality of online services in the context of EMU during the COVID-19 pandemic. A further purpose is to figure out the factors that might impact their satisfactions' levels such as the active learning, instructor-student interaction, student support, course structure, autonomy, and etc. Moreover, this study highlights students' problems in using the online learning and suggests solutions on improving the quality of online learning from their view.

The results of this study contribute to identify the strengths and weaknesses of the stated educational form. In turn, it might help the university make appropriate actions and effective decisions in increasing the quality of the online educational services for the students and the academic staff. Consequently, the outcome of the system will be more successful for all the users in EMU.

This study is significant in that the achieved results might help the curriculum planners and the designers of the online courses to pay extra attention to the sorts of difficulties faced university students in using that program. Also, it may increase the institution's awareness to focus more attention on developing the academic staffs' technical skills to achieve better learning outcome through providing more training programs related to the usage of technology in general and the online courses in specific.

The study will adopt the quantitative approach including developed questionnaire that will be distributed via the emails and online platforms to evaluate the level of quality and students' satisfactions toward the online education service provided by EMU during the pandemic of COVID-19. Students with different ages and educational levels majoring in different departments will take a part in the current study.

1.7 Definitions

This study only focuses on adopting the following definitions of the concepts related to the topic.

Online education is defined as a web-based system used graphics, emails, audios, videos, group discussions, exams, etc., in the process of education (Kumar Basak et al., 2018).

Quality starts at understanding the relationship between the customers' needs towards specific products or services and their levels of satisfaction about it (Oakland, (2014). It can be defined as meeting high criteria of any product or service.

Learner satisfaction can be identified as the student's perception pertaining to the course or college experience and perceived value of the education received while attending an educational institution (Bollinger, 2004).

1.8 Summary

The general objective of this study is to examine the factors that affect the students' satisfactions toward the online education service provided by EMU during the coronavirus pandemic. This section produced the background of the study and the problem statement behind its conduct. In addition, it provided the research questions and aims of the study.

Furthermore, the first chapter of the thesis explained the importance of examining the given topic during these unfortunate circumstances. Finally, it defined the adopted terms used in the study related to online learning, service quality, and students' satisfaction.

Chapter 2

LITERATURE REVIEW

2.1 Introduction

This chapter attempts to review the literature related to the online education in general and students' satisfaction in specific. Consequently, the thesis divides the literature review into five sections. The first discusses the common term of education and explains the impact of the Information Technology (IT) on changing the traditional method of the educational process cross the time.

The second part focuses on explaining forms of online education, with a special focus on e learning, distance learning, and web-based learning. It also produces theoretical framework for some types to clarify its components and procedures. Moreover, this part discusses the advantages and disadvantages of the online education from the views of researchers and users.

The third argues the perspective of quality in online education and its basic elements to achieve a better outcome of the teaching and learning process. The fourth explains the importance of quality in the online learning environment in enhancing the level of learners' satisfaction towards this service. The fourth examines the factors that impact the satisfaction of students towards the online education quality in different context. The fifth proposes the conceptual model of the study. The last section of this chapter produces a brief summary.

2.2 History of Online Education

The concept of education has been the main focus by many scholars and philosophers across the ages. The word ‘education’ is originated from the Latin word “educatio,” which means, “a bringing up” and “educio” that means, “ I educate or I train” (“Education”, n.d.)

For the researchers, it was extremely difficult to identify the definition of education. It can be identified as a designed product, process of learning/teaching, knowledge, skills, etc., (Sewell & Newman, 2014). It is also seen as a novel prospective since it aims to deliver a set of values and knowledge to the learners and prepare them to be productive members in their communities (Halstead & Taylor, 2005).

Also, there are further objectives of the education according to Kumar and Ahmad (2008), such as social, cultural, moral, spiritual aims. Additionally, It plays a vital part in increasing the economical level of the country and enhancing its profits in the industrial sectors (Hulten, 2019).

Through the education, the society can enhance its level of knowledge and development from different perspectives in diverse fields. Papadopoulous (1998) (as cited in Sewell & Newman, 2014) stated that the term of education reflected many aspects at any community such as:

1. Economical purposes
2. Scientific and technical development
3. Social and quality improvement
4. Learners and teachers progression

Through the history of the educational policies in many countries, they adopted the traditional method of teaching, which focused on the teachers as the main resource of the information and the learners as information receivers. Also, the schools and higher institutions provided only the printed books and magazines to their students. No doubt, that method achieved many educational advantages since it was the only strategy used at that time.

However, the education like many other sectors has changed across decades due to different reasons such as the revolution of IT. Turban et al (2003) defined this term as applying the computers in organizing, storing, and transferring the information electronically.

The field of education has been influenced with the beginning of using IT system in the organizations, which led to the appearance of what is called the Online Learning (OL). In 1990, a limited number of individuals started to use the Internet (Palvia et al., 2018). The Chicago University was the first institution that applied the online program, which delivered the printed resources to the student via using the mail services (Aktan, 2010).

In the United States of America (USA), the revolution of the OL, according to Dziuban et al (2016), could be described as following:

- 1990: The appearance of Distance Education (DE) via the Internet
- 2000-2007: Enhancing the usage of Learning Management Systems (LMS)
- 2008-2012: Increasing the online courses
- 2012-Present: Growing in the online higher education

Palvia et al (2018) mentioned that students preferred enrolling the online learning form due to many reasons such as decreasing the cost of learning, timesaving in traveling, reducing the college debts, and further social motivations.

As a result, the role of the institution has changed from the traditional style that focused on facilitating the learning process to be more technical experts and professional courses designers (Andersen, 2013). In other words, the academic staff must have advanced technical skills in using the computers, the Internet, and understand how to deliver the content online for the students (Tudorache et al., 2012).

2.3 Forms of Online Education

Nowadays, delivering the knowledge and different types of information are considered as the key factor for achieving a high level of creativity and success (Hamidi, 2011) for many organizations, specifically the educational ones. Since the technology, as we stated before has changed the style of teaching and learning, new educational forms started to exist.

Allen and Seaman (2014) (as cited in Khalid, 2014) categorized the forms of learning into four main classifications as following:

1. The traditional learning where there is no use of technology, students and teachers meet face-to-face.
2. Web-facilitated learning where more than 25% of the courses delivered through the online system.
3. Blended learning where the technology applied on more than 40% of the courses with face-to- face learning

4. Fully online learning as using the online technology to transport more than 75% of the curriculum and there is no face-to-face meeting between students and instructors.

In the following part of the literature review, we only focus our attention on explaining three types of online education, namely: E Learning (EL), Distance Learning (DL), and Web-based Learning (WL).

2.3.1 E Learning

The term e learning correlates with the Computer-Assisted Instruction (CAI), which was developed in 1955 as method of teaching the problem solving (Zinn, 2000). It is defined as a system used different tools such as mobiles, smartphones, computers, etc., with Internet access (Dhawan, 2020). Yet, scholars struggled to identify which tools particularly used in this form (Moore et al., 2011). EL also can be seen as an advanced set of methodological and technological methods applied in the teaching and learning process (Fischer, 2013).

There are diversities of the e-learning form; Horton (2011) explained those varieties as following:

- Standalone course (i.e. it is an individual course, where there is no communication between the learner and the lecture)
- Learning games (i.e. providing activities to encourage the students' learning)
- Mobile learning (i.e. the learners use their technical devices such as the smartphones to participate in classroom activities)
- Social learning (i.e. participating in the online group discussion)

- Virtual classroom course (i.e. reading assignments or presenting topics related to the course)

The theoretical framework of the e learning comprises three basic elements that are the people who use it, the technical devices, and the services produced based on a technological perspective (Aparicio et al., 2016). More detail components of the given system were provided by Gautam and Tiwari (2016), that are the learners/audience, uses of technology, the structure of the course, content design and engagement as in Figure 1.

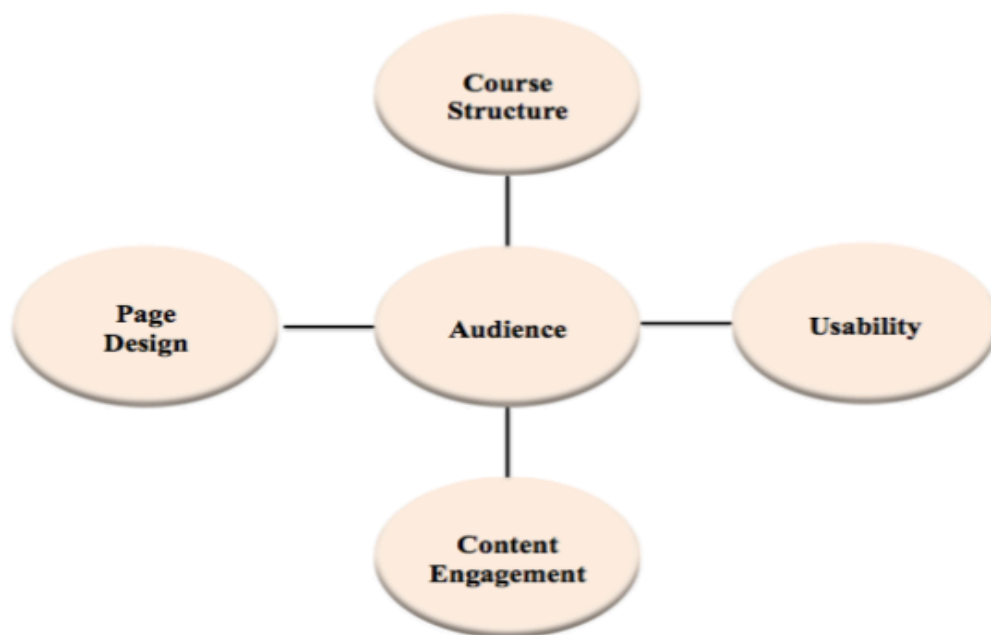


Figure 1: Components of E Learning Presented by Gautam and Tiwari (2016)

Certainly, applying EL courses at any organization has a number of advantages. Childs et al (2005) stated that the flexibility of studying regardless the geographic location, selecting the materials of the courses, and learning control were the most benefits of that program for the learners.

On the left side, scholars found some weakness points regarding the e learning, which represented in the lack of evaluation and feedback, unfitting for some courses, the access to disconfirmed information and materials, and the absence of teachers-students interaction (Talebian et al., 2014). The last fact, which is the limited communication with the teachers, might create the social isolation between the students and decrease their level of motivation in the process of learning (Srivastava, 2019).

2.3.2 Distance Learning

The concept of the distance education is related to the teachers, while the distance learning is linked to the learners, and the educational process takes place at a long distance (Belanger & Jordan, 2000). It is identified as an instructional system that heavily depends on varieties of technical devices to connect the materials, courses, students, and teachers with each other (Simonson, 2003; as cited in Simonson & Schlosser, 2009).

Moore and Kearsley (2011) explained the history of distance education, which developed through five generations as shown in Figure 2. The first is “the correspondence” or “home study” that began in 1880. The second is “broadcast radio and television,” where the schools, in 1925, used them to send courses to the students. In 1967, the third generation started to appear in the higher education; it called “the open universities.” In 1987, the educational institutions created “teleconferencing” between a limited numbers of learners with their teachers. The last generation is the “internet-based classes” which contributed to a new style of more progressed learning.

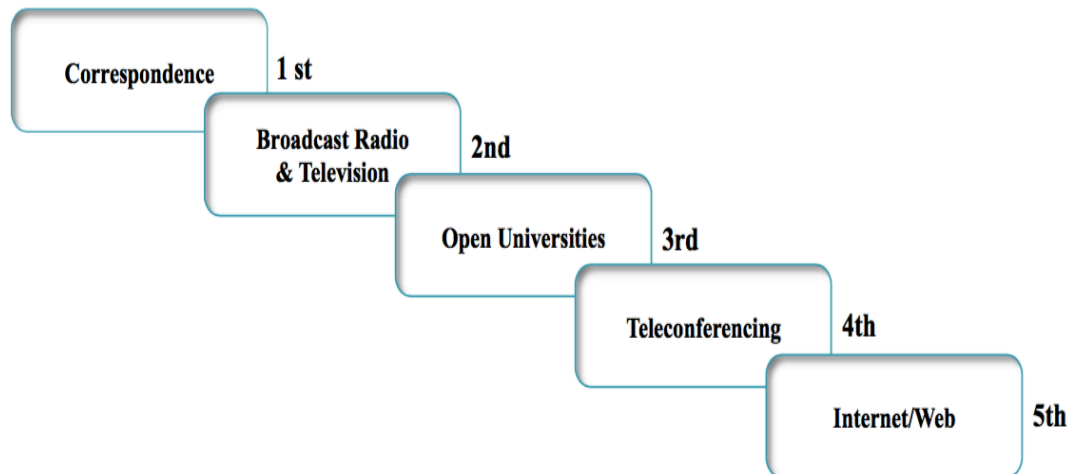


Figure 2: Generations of DL Produced by Moore and Kearsley (2011)

Keegan (1990) clarified the six main principles that shape the distance educational system, as follows:

- 1) The distance between instructors and students
- 2) Using the technical devices to connect between instructors and students
- 3) Two different discussion ways of communication
- 4) Students individually work not within groups
- 5) The impact of educational institution
- 6) The education as a sector of industry

Anderson and Garrison (1998) (as cited in Anderson, 2003) further explained the process of interacting during applying the distance learning to contain three basic elements that are learner-instructor, instructor-content, learner-content as shown in Figure 3.

The reason of implementing the concept of the DL according to Gunawardena and McIsaac (2013) was to improve the quality of the traditional educational methods,

enrich the scholastic curriculums, offer training programs for the learners, and enhance the growth of the economy in some countries.

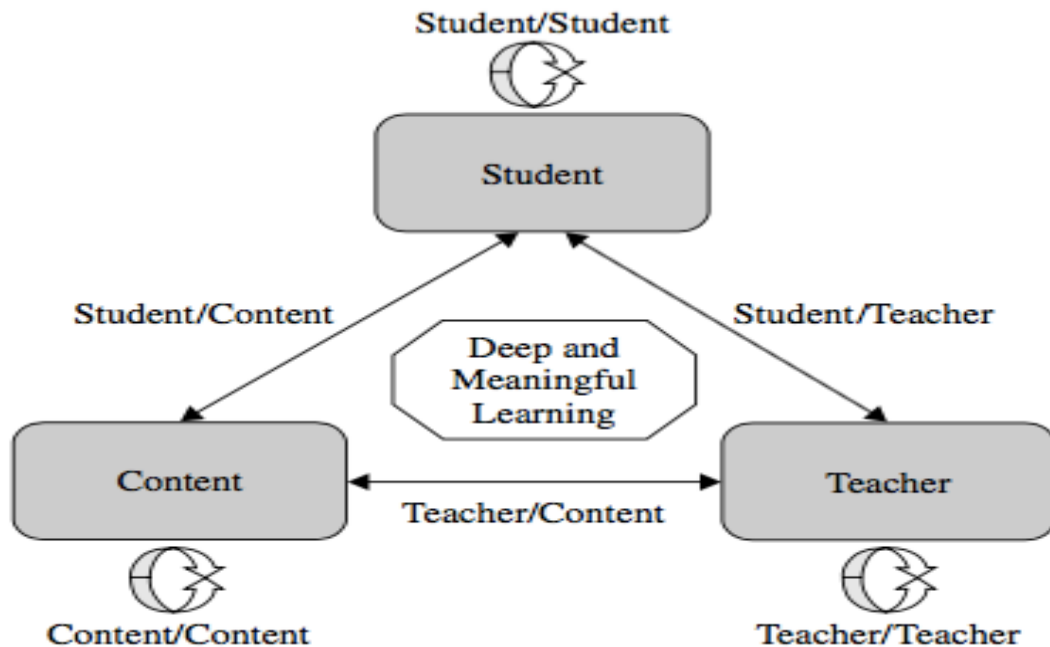


Figure 3: Modes of Interaction in DL Provided by Anderson and Garrison (1998) (as cited in Anderson, 2003)

2.3.3 Web-based Learning

The perspective of web-based learning includes a set of technical devices that highly depend on the access to the Internet in the educational process (Cook, 2007). Many scholars such as Reeves and Reeves (1997) believe that using the virtual form contributes to improve the quality of education specifically nowadays with the development of technology.

Consequently, many academic organizations started to adopt WL system in the teaching and learning process due to its significant advantages for the learner and the institution (Nam & Smith-Jackson, 2007).

In this form of schooling, the instructors rely on using different materials and methods such as audio, video files, graphics, texts, assignments, quizzes, exams, group discussions, presentations, and etc., to transport the information to the learners via the web (Jolliffe et al., 2012).

Apparently, employing the system of WL in the education enable the users/learners making connections with those who are using the same service (Boyd & Ellison, 2007), presenting through the web, communicating between the students-students and students-teachers, offering group discussions (Berge, 1999), managing the courses, and reaching information and different resources via the Internet (Wasim et al., 2014).

In the light of the above stated services provided by WL, divers advantages could be achieved by using it. To put it another way, the web-based learning increase learners' metacognitive skills (Reeves, 1997), enhance their levels of independence and active learning, offer supportive resources that enrich their knowledge, avail the learning regardless the geographical location, and save students' time and educational costs (McKimm et al., 2003).

However, students who used WL services faced a number of several challenges represented in the limited access to the web serve resources, time-consuming in downloading the materials, and the course files, low levels of technical skills, high costs in buying the devices (James, 2002), and social isolation (McKimm et al., 2003).

Learners, instructors, content, information transportation, access to the Internet, interaction, and the feedback are considered as the major elements in the environment of web-based learning (Aggarwal, 1999).

Schrum and Hong (2002) suggested including the following factors for achieving successful results of WL in the field of education: the access to the materials and resources, technical competences, learning styles, study skills, lifestyle, and personal aspects.

2.4 Quality in the Online Education

The concept of quality starts at understanding the relationship between the customers' needs towards specific products or services and their levels of satisfaction about it (Oakland, 2014). It can be defined as meeting high criteria of any product or service. The quality is a process that focuses on including the organizations, employees, and customers in order to meet the clients' needs towards the provided services (Binsar Kristian, 2014).

To obtain a better understanding of the Service Quality (SQ), it is important to provide its five basic dimensions (as in Figure 4) suggested by Parasuraman et al (1985, 1988) (as cited in El Saghier, 2015) as following:

1. Reliability is the accurate of the service
2. Responsiveness is the employees' willingness to help the consumers with specific products
3. Assurance is the ability to build the trust with the clients
4. Empathy is showing the customers a great caring and attention
5. Tangible is the adequacy of facilities and equipment

The perspective of the quality is not only linked to the business sector, but also it has a significant relationship with the field of education since the academic managers pursue to reach a high level of quality services provided to the learners, instructors, and society (Arcaro, 1995). They started to realize the value of its applicability due to its limitless benefits and positive advantages for the organization (Pakurár et al., 2019). Ibrahim et al (2012) stated that SQ is considered as a significant factor contributes to measure the level of success in the educational sector.

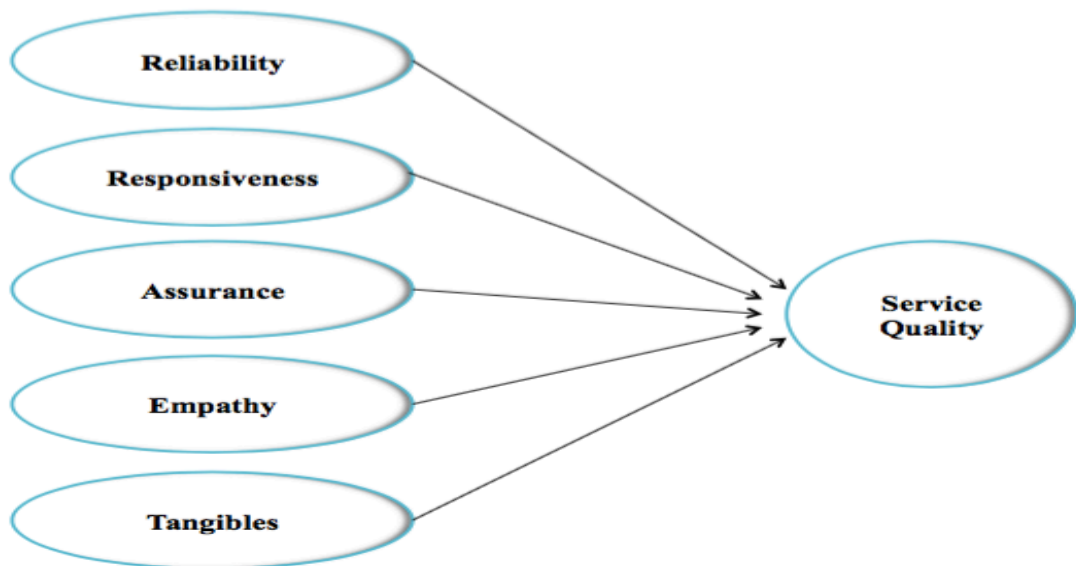


Figure 4: Dimensions of Service Quality

Considering the online education, there are different components that needed to be included for achieving a high quality service. First, the technology and the technical system considers as a key factor while designing the given system (Hassanzadeh et al., 2012). To state this matter differently, the designers must take into account developing an appropriate online program that reflects the objectives of the institution and improves students' learning skills.

The second component regarding the online education quality is the instructors; they must be well prepared in using different types of technology, technical devices, understanding the methods of online teaching, delivering the information and resources to the students (Yang & Cornelious, 2005).

The third is the organizations; they should support the development of online programs and keep the material, courses, and resources updated and organized (Shelton, 2011). Also, the technical and financial support should frequently provide by the universities to raise its online service quality (Yang & Cornelious, 2005). What is more important, they must understand their responsibilities and accountabilities in developing instructions that increase the value of the given system (Yang & Cornelious, 2005).

The last component needed to be included for achieving a high quality service in the online education is the learners. According to Harsasi and Sutawijaya (2018), it is more significant to consider the students' needs and expectations while planning and designing curriculum of DL. Furthermore, the institution should pay close attention to the interaction with the instructors, learners, and the content of the courses (Young & Norgard, 2006).

McGorry (2003) added more elements that influenced the quality of the online learning represented in the flexibility, learners' support, learners' satisfaction, the usability of technology, and technical assistance. Bao (2020) argued the importance of improving students' participation through providing supportive activities to achieve promising outcome of the online educational system. He also stated that the

university should prepare plans and strategies to deal with undesired issues in the given program.

To summarize, the basic elements of the online learning quality are the institution, curriculum designers, teachers, and learners. Those components should be included; otherwise different challenges might decline the outcome of the online education. For instance, Twigg (2001) stated that the low quality of the online programs that not meet the standards negatively influenced the quality of OL.

2.5 Satisfaction and Quality in the Online Education

The term of satisfaction refers to the individual's emotions, which confirm or disconfirm the expectation of the provided service after experiencing it (Binsar Kristian, 2014). Besides, It can be described as a sum of feelings related to enjoyment, happiness, pleasure, excitement, and acceptance (MacInnis, 2001; as cited in in Singh, 2006).

As for the Customer Satisfaction (CS), it is generally defined as the consumers' set of behaviors, beliefs, and attitudes derived from a sum of advantages they obtained (Wu et al., 2010).

Fornell (1992) originated the model of the Swedish Customer Satisfaction Barometer (SCSB) (as cited in Johnson et al., 2001). The model as in Figure 5 includes two main dimensions: customers' performance and customers' expectation. The given concepts played a significant role in the customers' level of satisfaction. As a result, their degree of loyalty to the products or services could be achieved.

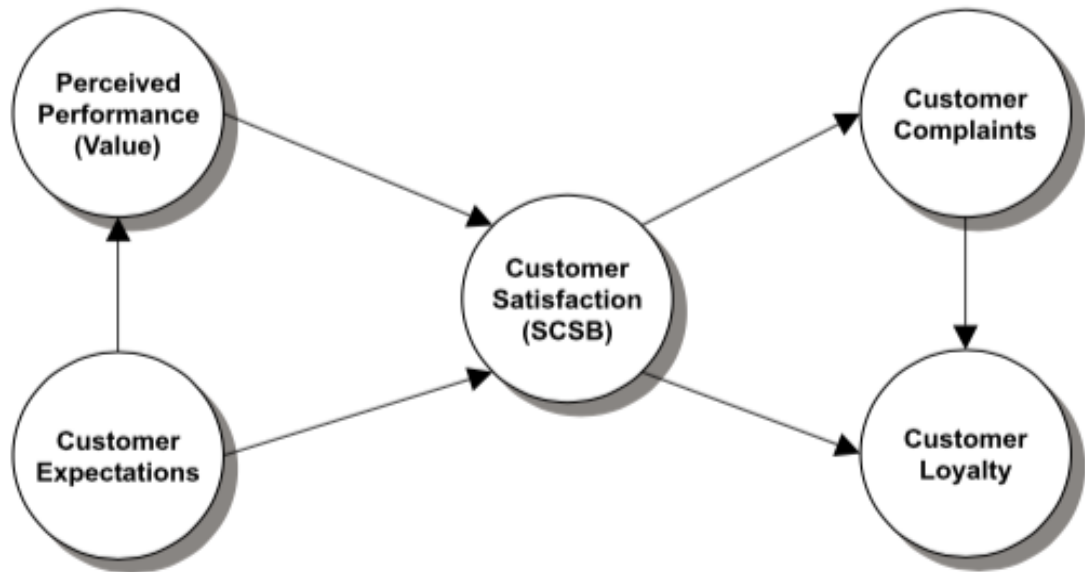


Figure 5: The Original SCSB Model Produce by Fornell (1992) (as cited in Johnson et al., 2001)

Hokanson (1995) (as cited in Singh, 2006) stated that there are many factors that affect customers' satisfaction such as the organization including the managers and the employees, type of provided services, and most crucially its quality as shown in Figure 6.

Empirical studies focused on confirming the positive relationship between the quality of the afforded services and clients' satisfaction in different sectors (e.g. Jahanshahi, et al., 2011; Mahamad & Ramayah, 2010; Olorunniwo et al., 2006; Sivadas & Baker-Prewitt, 2000). Meaning that, the organizations that emphasize on providing the utmost quality will receive the greatest consumers' satisfaction in the long term (Yarimoglu, 2014), and attract their attention (Reibstein, 2002). As for the environment of online education, O'Leary and Quinlan (2007) described the concept of Students' Satisfaction (SS) as an emotional reaction developed by authentic product, service, quality, or combination of product and SQ.

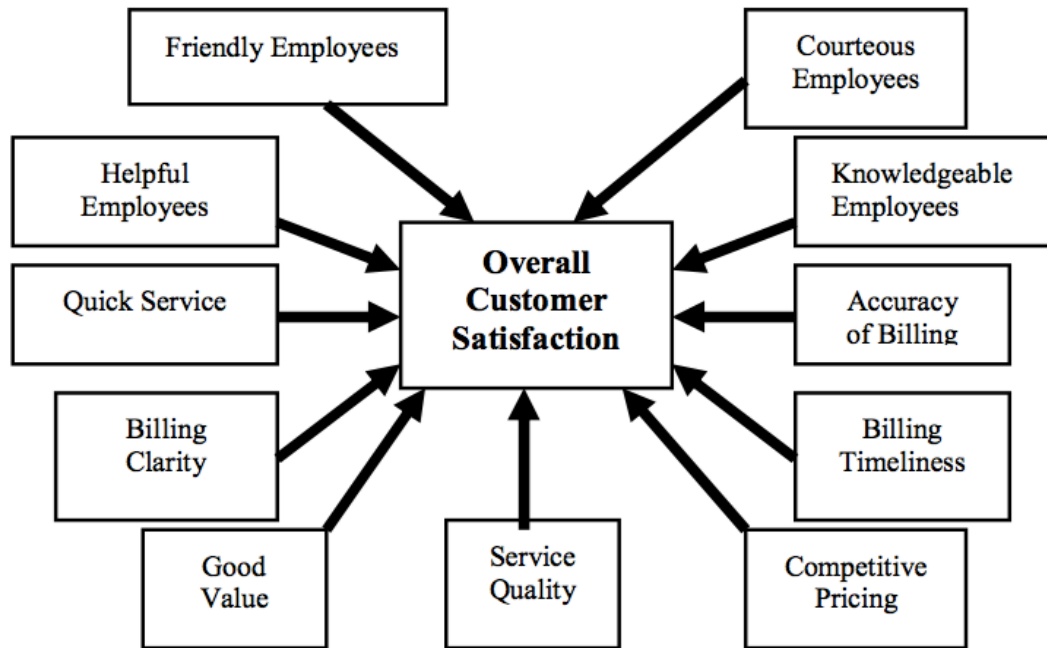


Figure 6: Factors Influence Customers' Satisfaction Presented by Hokanson (1995) (as cited in Singh, 2006)

There are several factors influenced the learners' satisfaction regarding the online education service quality. Mason and Weller (2000) indicated that factors such as instructors' and academic staff support, and students' motivation while using the web courses significantly impacted the quality of the program and SS. Rodgers et al (2005) signified the remarkable relationship between the qualities of the system used in delivering the information and the learners' satisfaction levels. Artino and Stephens (2009) stated the importance of SS towards the course quality, which contributed in enhancing their motivation in the learning process. Sapri at al (2009) mentioned that highly quality performance of the instructors affected the learners' understanding towards the online program.

The following section of the literature review focuses on highlighting the researches that examined different factors that impact students' satisfaction towards the quality of online learning.

2.6 Factors Impact Students' Satisfaction Towards the Online Education Quality

The usage of information technology in the educational process specifically in the coronavirus pandemic, encourage different researchers in several contexts to examine the quality of the services provided by the institutions. More focus places on investigating the relationship between learners' satisfaction regarding the quality of online education.

In 2021, in India, during the coronavirus crisis, Gopal et al (2021) aimed at exploring the factors that might influence the learners' satisfaction considering the online courses. The authors adopted the quantitative approach and collected the responses from more than five hundred students in the higher education. The findings revealed that the instructor's quality, curriculum design, received feedback, and students' expectations were the fundamental factors that significantly affected the online service quality and the students' learning outcome.

In United Arab Emirates, Al Rawashdeh et al (2021) surveyed university students' perceptions considering the benefits of using online courses. The authors designed their study based on the descriptive approach. A close-ended questionnaire was used as a method to collect the data from a randomly selected sample. The results showed great levels of satisfaction towards the program in that it provided more supportive materials. However, the concept of social isolation was noticed with a high percentage among students in that e learning decrease the level of interaction with their peers and teachers in the virtual environment.

A further study in China conducted by Chen et al (2020) to examine the users' satisfaction towards online learning and its quality. By using a survey, the data were collected then analyzed based on the quantitative approach. The findings showed that the availability of the platforms directly impacted the students' satisfaction. Therefore, the authors suggested developing the platforms of the online educational system during the pandemic.

In a different context, during the lockdown period, Lu et al (2020) investigated the factors that impact the quality of the online education among the students who used it. A Google form survey was applied as a data collection method. The responses were collected from more than three hundred participants. The findings stated that the system' infrastructure, which included the hardware and software programs were the most significant factors that influenced the quality of online education. Another factor was related to the teachers' technical skills in delivering the information and assisting the students' learning, which contributed to obtain a fruitful outcome of that educational form.

In Iraq, Al-Taweel et al (2021) considered the importance of learners' satisfaction factor in the virtual education during COVID-19 epidemic. Therefore, they distributed an online survey to more than eight hundred students enrolled in the dentistry department. The analysis showed that students' technical skills ranged between basic and intermediate level. Thus, the study revealed a low level of students' satisfaction regarding the online learning. The authors indicated the importance of improving learners' and instructors' computer skills to achieve a high quality of the program in case the pandemic continued.

Osmani (2021) analyzed students' satisfaction regarding the online learning during the global health crisis of coronavirus. The online survey was used to collect the data from 320 participants majored in the medical science department. The responses were analyzed based on the quantitative statistics. The overall result confirmed the positive students' perceptions towards the online education. The authors also specified the role of technical skills in enhancing students' satisfaction in the online courses.

Muhammad (2020) also examined the same theme in the English as Foreign Language (EFL) class from a different perspective. The author followed the qualitative method to collect the data form the participants. The findings showed the remarkable impact of the online program on supporting the students' autonomy through engaging different activities, discussing their ideas, and choosing the studying materials. The most promising result in this research was that the online learning environment was more supportive to the shy learners.

Eneau and Develotte (2012) focused on studying the influence of online learning on the concept of autonomous between postgraduates. The self-analysis papers were collected from 27 respondents. They were asked to write a reflection review about their own experience in the program. The analysis showed that learners' autonomy was linked to the challenges of the online learning, the strategies used to overcome these problems, and the social and emotional matters to face the encounters of online program.

Alqurashi (2019) purposed at investigating the level of satisfaction in the online learning, with special focus on the role of interaction between learner and content,

learner and teachers, and learner and learners. The number of participants who took place in the study was 165. The findings showed that learner-content interaction was the most significant factor that enhanced students' level of satisfaction towards the program.

Al-Samarraie et al (2018) applied a number of approaches (such as systematic review, interview, and survey) to examine the factors that influenced both teachers and students' satisfaction about the online courses. The answers were collected from more than forty-five respondents in the higher education. The data analysis of the study showed that the quality of both the information and system, the suitability of the technology, and practicality of the program were the most noticed factors reported from the participants' views.

Harsasi and Sutawijaya (2018) examined the perceptions of students enrolled in the management curriculum department towards the virtual learning. The online survey applied on more than one hundred fifty participants as a data collection method. The data analysis showed that the course structure, its flexibility, and the quality of technology used positively influenced student's satisfaction regarding the online learning form.

Harrison et al (2014) assessed the level of satisfaction between the postgraduates using the e-learning course. A questionnaire included more than thirty-five questions was distributed to the participants. The achieved results of the study showed that more than eighty percent of the respondents were satisfied with the quality of the online program.

Ke and Kwak (2013) evaluated students' satisfactions regarding the web-based learning provided by the institution. The authors proposed their own hypothesis and used a model to examine the given topic. The research's outcome revealed that active learning, authentic learning, student relevance, student autonomy, and technical skills were the most important factors influenced the participants' level of satisfaction towards the program.

Bolliger and Wasilik (2009) studied users' satisfaction towards the online services afforded by the university. The designed survey was distributed to the lectures that had delivered online courses to the students. The collected answers were more than one hundred. The findings revealed that factors related to students, teachers, and institution considerably affected the level of satisfaction.

Eom, et al (2006) used a model to highlight the main key factors that influence SS considering their usage of the online learning system. The authors collected the answers from nearly four hundred university students. The analysis showed that lectures' feedback, learning outcome, and learning style highly impacted the level of learner' satisfaction.

Bolliger (2004) purposed at exploring the main variables that played a role in affecting the satisfaction of learners concerning the online education. An adopted questionnaire was applied on approximately one hundred ten participants. The results discovered that instructors, technical, and interactional matters were the most frequent factors that played a significant part in students' satisfaction towards the online courses.

Researchers also have focused on exploring additional factors that influence SS in the online learning program. Harvey et al (2017) examined the satisfaction differences between male and female students regarding the distance learning. The study was designed based on the mixed method approach. The questionnaire distributed to more than eight hundred thirty undergraduates. The analysis showed similar responses related to participants' satisfaction in using the online learning regardless their gender, similar to Witowski (2008). However, Parahoo et al (2013) found a significant relationship between the two parties represented in students' perceptions towards the academic staffs' technical skills.

Cole et al (2014) investigated the same theme from further aspects, namely: age and educational level. The authors applied a survey on 553 undergraduates and postgraduates. The findings revealed that students' satisfaction in the online learning, age, and educational level were negatively related. In that the total participants reported comparable responses related to the lack of interaction in the online education.

2.7 The Study's Conceptual Model

The model as shown in Figure 7, proposes that relevance, active learning, authentic learning, autonomy, Computer Technology Competency (CTC), Instructor-Student Interaction (ISI) and Peer Interaction (PI). Learners' support, course structure, teaching/learning are significant factors that influence the students' satisfaction in the distance education.

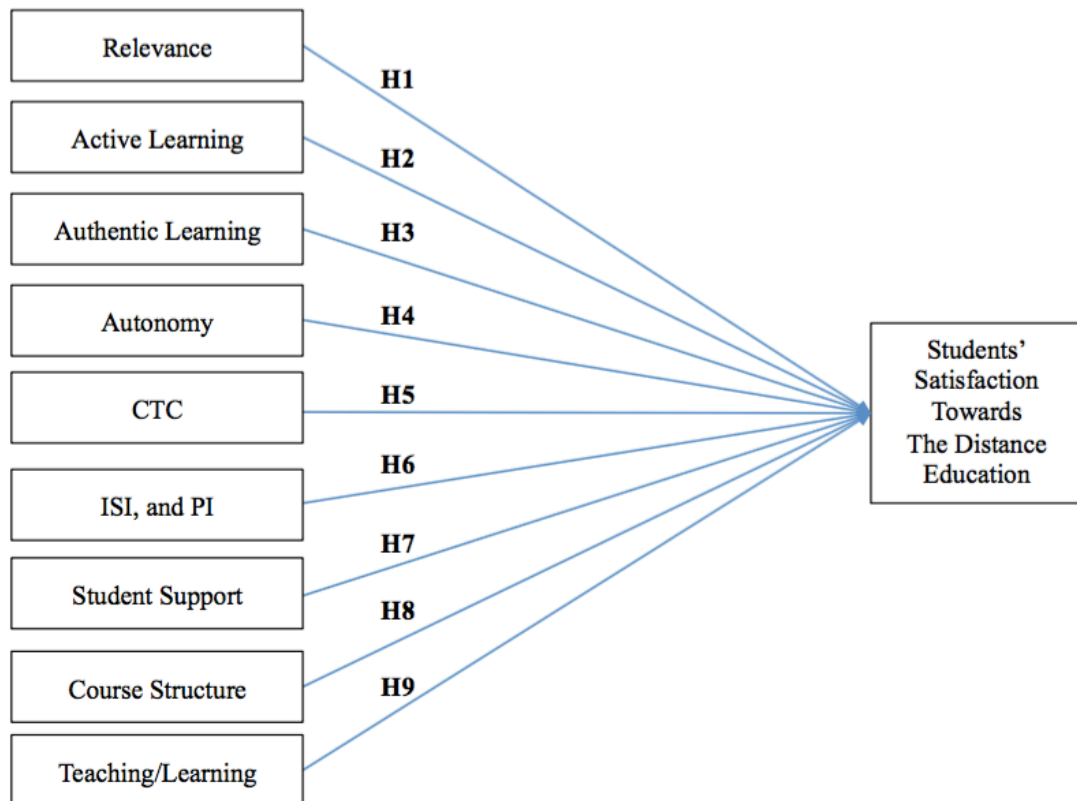


Figure 7: Conceptual Model of the Study

2.8 Summary

The current chapter focused on discussing the perspective of online education through providing a theoretical framework and reviewing empirical researches in different contexts. Also, it pursued to examine the relationship between learners' satisfaction and service quality in the virtual environment. In the light of the literature review, many factors played a vital part in this field such as technical skills, personal, institutional, and social elements.

Chapter 3

METHODOLOGY

3.1 Introduction

The study's objective is to examine the level of students' satisfaction regarding the online learning programs offered by EMU. Besides, it pursues to explore the principal factors that impact their satisfactions regarding the quality of this provided service. Furthermore, this study investigates the role of gender, age, faculty, and educational level in this subject. Also, it highlights students' problems in using the online learning and provides their suggestions on improving the quality of this service.

This chapter explains the quantitative approach used to answer the study's research questions. It provides definitions and information relevant to this method and explains the reasons of applying it in this work. This chapter of the thesis also produces information related to where the study was conducted. Further, it describes the techniques used in selecting national and international participants, with different educational levels, enrolled in varied departments and programs to take part in this study.

Moreover, the current chapter clarifies the instruments applied to investigate students' satisfaction regarding the online education. In detail information will be discussed related to the developed questionnaire. It also explains the procedure of

collecting the data including the pilot study. Finally, there will be a brief conclusion that summarizes the basic information provided in this chapter.

3.2 Research Design

This study attempted to evaluate the extent of students' satisfaction in using the online service provided by EMU, during the coronavirus crisis. Besides, it focused on exploring the factors that affect the level of learners' satisfaction towards the given system. Therefore, it was designed based on the quantitative method, which means the representation of numbers and note processing in the purpose of analyzing the study's data.

The quantitative research is the mathematical representation and observations processing to describe and explain the appearances of those reflections. It is used in a diversity of actual and social sciences, including biology, physics, sociology, psychology, and geology (Wikipedia Encyclopedia, 2005). Moreover, Cohen (1980) mentioned that quantitative research is social research using practical methods and observed data. It is defined as a kind of research that explains the aspects by collecting statistical data that is interpreted by using systems based on calculation (Creswell, 1994). In this study, the quantitative method represented in using the descriptive statistics, t. test, one-way ANOVA via applying the Statistical Package for the Social Sciences (SPSS).

3.3 Research Context

This study was conducted in EMU, Famagusta, Northern Cyprus. The institution was established since 1979 and includes nearly 17,500 students from different countries and cultures. EMU offers quality learning to prepare the students for good careers in the future.

3.4 Sampling Technique

The selection of the sample of any research is very important to have accurate results (Singh & Masuku, 2014). This study undetermined any specific type of sample, it involved all male and female students with different educational levels (undergraduate and postgraduate) majored in divers departments. The randomly selected participants were enrolled in the online program provided by EMU during the coronavirus pandemic.

3.5 Participants

The current study included a number of national and international students with different ages, as well as levels of education including bachelor, master and doctoral students, majored in different faculties and programs. They were enrolled in the online education programs provided by the university during the coronavirus pandemic.

Therefore, every participant who attended e courses, received assignments and exams, and joined group discussion via the Internet using MT platform and LMS provided by the university, took a part in this study. The total number of respondents was 213 students.

Table 1 illustres the profile of the participants. The number of male respondents was 126 (59.02%), and the females were more than eighty five (40.8%). Regarding the participants' age, the highest percentage was 71.4% between 18 and 25, while the percentage of the ages from 26 to 35 was 20.7%,. Less than seven perecnt found between 36 to 45. However ,the perecentage of 45 and above was the lowest (1.4%).

In terms of the educational level, the total number of bachelor students was 119 (55.9%), master with thesis was 42 (19.7%), and without thesis the number was more than twenty (10.3%). The number of doctoral students was thirty with a percentage of 14.1%.

For the faculty, the highest number of frequency was found in business and economics followed by engineering, 65 (30.5%) and 64 (30.0%), respectively. However, the lowest percentage and frequency was in the departments of health and science, it was less than two percent.

Table 1: Participants' profile

Item	Frequency	Percentage
Gender		
Male	126	59.2
Female	87	40.8
Total	213	100.0
Age		
18-25	152	71.4
26-35	44	20.7
36-45	13	6.10
+ 45	3	1.4
Total	213	100.0
Educational Level		
Bachelor Degree	119	55.9
Master with Thesis	42	19.7
Master without Thesis	22	10.3
Ph.D.	30	14.1
Total	213	100.0
Faculty		
Architecture	20	9.4
Arts and Science	7	3.3
Business and Economics	65	30.5
Communication and Media studies	13	6.1
Education	18	8.5
Engineering	64	30.0
Health science	3	1.4
Medicine	4	1.9
Pharmacy	11	5.2
Tourism	6	2.8
Dentistry	2	.9
Total	213	100.0

3.6 Data Collection Tool

Administrating Written Questionnaires (AWQ) is an instrument used in collecting the data from the sample by a written questionnaire. Meaning that the responses are collected in different ways such as distributing the questionnaire via email then sending it back to the researcher after responding, or giving it by hand for 10-15 minutes to answer it and collecting it again (Chaleunvong, 2009).

This study as we earlier mentioned was designed based on the quantitative method. Therefore a questionnaire was used as a data collection tool to find proper answers for the research questions.

Since this study focused on investigating several factors affect the students satisfaction towards the online education quality, the questionnaire was developed based on five previous studies specified in this theme. Walker and Fraser (2005) examined some factors, we only considered four aspects to be included: relevance, active learning, authentic learning, and autonomy.

Instructor-student interaction and peer interaction were selected from Gray and DiLoreto (2016), and Walker and Fraser (2005). The items of computer technology competency and student satisfaction were adopted from Harsasi and Sutawijaya (2018). As for student support, course structure, and teaching/ learning, they were selected from Phipps and Merisotis (2000).

The questionnaire divided into three parts as shown in Appendix A, the first included the general information of the participants such as gender, age, educational level, faculty, program enrolled. The second part involved 49 items divided into ten

sections as presented in Table 2. The third part of the questionnaire included an open-ended question related to additional problems faced the students while using the online learning program. A further question was to explore learners' suggestions on improving the quality of the online education services provided by their institution.

Table 2: Number of items for each factor included in the questionnaire

Factor	Number of Items
Relevance	1,2,3
Active Learning	4,5,6
Authentic Learning	7,8,9
Autonomy	10,11
Computer Technology Competency	12,13,14,15,16,17
Instructor-Student Interaction and Peer Interaction	18,19,20,21,22,23,24,25,26
Students support	27,28,29,30,31
Course Structure	32,33,34,35,36,37,38,39,40,41
Teaching/Learning	42,43,44,45
Student Satisfaction	46,47,48,49

In regards to the scale used in this study to examine each item of the questionnaire, it included five options ranged from strongly disagree to strongly agree as clarified in Table 3.

Table 3: Five-point scale used in examining each item

Answer	SDA	DA	NE	AG	SA
SW	5	4	3	2	1

Note. SDA = Strongly Disagree, DA = Disagree, NE = Neutral, AG = Agree, SA = Strongly Agree, SW = Standard Weight

3.7 Data Collection Procedure

3.7.1 Pilot Study

The questionnaire was developed on the bases of five basic studies; therefore it was necessary to obtain the permission of the ethics committee before using it as in Appendix B, and test its validity and reliability before collecting the data. Malmqvist

et al (2019) signified the importance of the pilot study in developing a research or adapting it for a current study. Therefore, Dillman (2000) suggested the pilot study should emulate procedures to be used in follow-up studies.

Due to the coronavirus pandemic and the lockdown in the context of Northern Cyprus, we used the online Google form to distribute the questionnaire via WhatsApp and Microsoft team platform. The total number of the students in the pilot study was 30; they were enrolled in several departments, with different educational levels, and studied different programs in this university during the fall semester, 2020. Cronbach's (1984) coefficient alpha was used to determine both internal consistency reliability values considering 49 items and 9 factors. Table 2 showed that the results of the Cronbach's alpha were higher than 0.950, which provided an evidence of items' reliability.

Table 4: Cronbach's alpha reliability scale

Cronbach's Alpha	Number of Items
.958	49

3.7.2 Collecting the Data

After examining the validity and reliability of the statements' survey, we distributed the questionnaire online via using Microsoft team platform, emails, and WhatsApp to the randomly selected participants. Although, more than nine hundred students in the context of EMU received the survey, only 213 responses were collected. The procedure of collecting the data took place during fall semester, 2020 and lasted for nearly two months. The fact is that the crisis of COVID-19 negatively challenged our data collection due to the difficulty of reaching a high number of students in this institution.

3.8 Summary

The current chapter explained the quantitative approach used to study the students' satisfaction and the quality of online education. It provided the research context, and explained the type of the selected sample. This part also discussed the process of developing the questionnaire and collecting the data during fall semester, 2020, in EMU.

Chapter 4

DATA ANALYSIS AND RESULTS

4.1 Introduction

The quantitative method was used to explore the extent of students' satisfaction towards the quality of the online service provided by EMU. The data were collected using AWQ via Google form, then analyzed using SPSS program. Consequently, this chapter produces the descriptive analysis of the responses obtained by male and female undergraduates and postgraduates enrolled in different faculties and programs regarding the factors that influenced their levels of satisfaction towards the online education services.

This chapter of the thesis provides the analysis of students' satisfaction regarding the distance education from different aspects, namely: gender, age, faculty, and educational level. Also, it reveals the most problems faced the students in using the online learning. Moreover, this chapter suggests solutions on improving the quality of online learning from the participants' views. Additionally, it examines the hypotheses proposed related to the given theme.

4.2 Descriptive Analysis

This study applied SPSS program to examine the factors that affect students' satisfaction towards the virtual education. Percentages, means, and standard deviation were calculated for each factor, as it will intensely explained in the following part.

4.2.1 Factors Impact Students' Satisfaction Towards the Online Education

For the first question “What are the factors that affect the quality of distance education during the COVID-19 pandemic?” the analysis revealed the following results.

4.2.1.1 Relevance

The analysis of the relevant information that students got to their real world, as in Table 5 revealed that 54.4% of the participants used their skills in the online class in their real life. While this percentage declined to 42.7% when they applied their own knowledge in the given class. The results also showed that more than sixty-eight percent of the participants developed their experience and knowledge from their real lives rather than their classes.

Table 5: Descriptive analysis of the relevance factor

Item	SDA	DA	NE	AG	SAG	Mean	SD
1	6.6%	9.9	29.1	38.0	16.4	3,479	1,0841
2	7.5	21.1	28.6	29.6	13.1	3,197	1,1404
3	6.6	5.2	20.2	41.3	26.8	3,765	1,1037

Note. SDA = Strongly Disagree, DA = Disagree, NE = Neutral, AG = Agree, SAG = Strong Agree, SD = Standard Deviation

4.2.1.2 Active Learning

For the Active Learning (AL) factor, Table 6 illustrated that 75.6%, of the students agreed on exploring their own strategy in their learning process. In addition, they relied on themselves to find answers and solved their own problems during online classes, 62.5% and 62.9% respectively.

Table 6: Descriptive analysis of the AL factor

Item	SDA	DA	NE	AG	SAG	Mean	SD
4	3.3	2.8	18.3	52.1	23.5	3,897	,9052
5	3.3	8.9	26.3	45.5	16.0	3,620	,9669
6	5.6	7.0	24.4	44.1	18.8	3,634	1,0448

4.2.1.3 Authentic Learning

According to the authentic learning aspect of the online education, nearly 47% of the respondents studied real cases and used real facts in the class activities with a percentage of 60.1%. While more than sixty percent of the students worked on assignments dealt with real world information as in Table 7.

Table 7: Descriptive analysis of the authentic learning factor

Item	SDA	DA	NE	AG	SAG	Mean	SD
7	4.2	14.6	34.3	37.6	9.4	3,333	,9793
8	3.3	7.0	29.6	46.0	14.1	3,606	,9288
9	4.7	11.7	21.1	38.5	23.9	3,653	1,1081

4.2.1.4 Autonomy

The analysis of the autonomy factor as in Table 8 found that 64.8% of the participants controlled their learning and 74.6% depended on themselves in their online courses learning.

Table 8: Descriptive analysis of the autonomy factor

Item	SDA	DA	NE	AG	SAG	Mean	SD
10	6.1	9.9	19.2	45.1	19.7	3,624	1,0945
11	5.2	2.8	17.4	38.0	36.6	3,981	1,0594

4.2.1.5 Computer Technology Competency

The analysis of CTC as in Table 9 indicated that 67.2% of the participants were able to access the online courses regardless their locations. However, they faced general problems with learning online with a percentage of 48.3%. In contrast, more than forty nine percent of the students were capable of uploading tasks. Besides, the analysis showed that the respondents were skilled in using the technology with a percentage ranged from 59.7 to 69. Also, the students confirmed the advantage of using technology in their learning with a percentage of 49.7%.

Table 9: Descriptive analysis of the CTC factor

Item	SDA	DA	NE	AG	SAG	Mean	SD
12	6.6	10.3	16.0	35.7	31.5	3,751	1,1932
13	21.1	27.2	17.8	24.4	9.4	2,737	1,2945
14	12.7	18.3	19.7	32.9	16.4	3,221	1,2787
15	5.6	12.2	22.5	37.6	22.1	3,582	1,1281
16	4.7	8.5	17.8	46.0	23.0	3,742	1,0524
17	6.1	13.1	31.0	34.7	15.0	3,394	1,0835

4.2.1.6 Instructor-Student Interactions and Peer Interaction

Table 10 showed the frequency and percentage regarding the factor of Instructor-Student Interaction (ISI) and Peer Interaction (PI). More than thirty-six of the students had the opportunity to introduce themselves to their classmates, while 34.3% did not. However, the percentage of the students who agreed and disagreed on interactions related to the course with their fellow students were comparable, it was 33.4% and 34.3%, respectively.

They also indicated the case of not getting feedback from their classmates with a percentage of 48.8%. More than fifty-nine of the samples were able to contact their classmates using different ways. Further, they stated that the class projects created more interactions with their peers, with a percentage of 59.2%.

Table 10: Descriptive analysis of the ISI and PI factor

Item	SDA	DA	NE	AG	SAG	Mean	SD
18	12.2	22.1	29.6	28.2	8.0	2,977	1,1469
19	8.0	25.4	32.4	27.7	6.6	2,995	1,0573
20	18.3	30.5	25.4	19.2	6.6	2,653	1,1742
21	9.9	15.0	23.9	36.2	15.0	3,315	1,1894
22	8.0	8.0	24.9	41.8	17.4	3,526	1,1140
23	8.5	18.3	29.1	34.7	9.4	3,183	1,1029
24	12.7	11.7	23.9	37.6	14.1	3,286	1,2200
25	3.3	3.3	15.5	47.9	30.0	3,981	,9415
26	11.3	8.9	27.2	37.1	15.5	3,366	1,1845

As for the students' interaction with their instructors, the analysis showed that 44.1% of the participants had a good interaction with their instructors during the class.

Besides, more than fifty-one respondents affirmed that the instructor replied their questions in a perfect time with a feedback when in need, while 77.9% of them replied back to their lecturers.

4.2.1.7 Student Support

Table 11 showed that 45.6% of the students got an assistance to help them accessed the data successfully. Moreover, 34.7% of the participants agreed and 32.4% disagreed on getting any information or training related to their online studies.

Also, the percentage of the supplementary of written information about the program was 48.8%. Receiving an accessible technical assistance for all students was reported with 44.2%. Also, only 36.6% of the responses disagreed with the structured system for student complaints.

Table 11: Descriptive analysis of the student support factor

Item	SDA	DA	NE	AG	SAG	Mean	SD
27	5.2	14.6	34.7	34.3	11.3	3,319	1,0240
28	8.9	25.8	32.9	23.5	8.9	2,977	1,1008
29	5.6	12.7	32.9	37.1	11.7	3,366	1,0312
30	8.5	18.8	28.6	31.5	12.7	3,211	1,1441
31	12.2	24.4	28.2	27.2	8.0	2,944	1,1520

4.2.1.8 Course Structure

Table 12 showed that 54.9% of the participants agreed that the course material was presented in a good structure. Providing supplemental course information that outlines course objectives, concepts, and ideas was reported with more than sixty-two percent. Also, 54.9% of the answers agreed on the faculty required to grade and check the assignments.

The students listed the availability of sufficient library resources with a percentage of 45%, and the suitability of the teaching methods (49.3%). Summarizing the learning outcome was reported with 53.5%. The percentage of the students agreed on the structure of the material in online tutorial that covered their learning needs was 46.9%. Also, the analysis showed that percentage of the arrangement and understanding the materials by the students was 54%. The instructions regarding the student participation (53.5%) and purpose of the course (61.1%) were clearly presented in their programs.

Table 12: Descriptive analysis of the course structure factor

Item	SDA	DA	NE	AG	SAG	Mean	SD
32	8.5	10.8	25.8	40.8	14.1	3,413	1,1194
33	5.2	8.0	23.9	42.7	20.2	3,648	1,0519
34	9.4	10.3	25.4	34.7	20.2	3,460	1,1953
35	7.0	13.6	34.3	30.0	15.0	3,324	1,1046
36	6.1	12.2	32.4	39.0	10.3	3,352	1,2047
37	3.3	10.8	32.4	35.2	18.3	3,545	1,0160
38	6.1	10.8	36.2	33.3	13.6	3,376	1,0460
39	7.5	11.7	26.8	39.9	14.1	3,413	1,1024
40	4.7	11.7	30.0	39.9	13.6	3,460	1,0208
41	3.8	9.4	25.8	42.3	18.8	3,629	1,0134

4.2.1.9 Teaching/Learning

Table 13 showed that 44.2% of the answers assured the varieties of students' interaction with faculty. Also, 46.9% of the courses were separated into self-contained modules that could be used to assess student mastery before moving forward in the program. Besides, the responses' analysis revealed that 48.9% of class voicemail and/or e-mail systems were provided to encourage students working with peers and their teachers. More than forty-two of the courses were designed to require students working in groups utilizing problem-solving activities to develop a better understanding of the subjects.

Table 13: Descriptive analysis of the teaching/learning factor

Item	SDA	DA	NE	AG	SAG	Mean	SD
42	6.6	15.5	33.8	35.7	8.5	3,239	1,0297
43	5.6	12.2	35.2	36.6	10.3	3,338	1,0086
44	6.1	11.7	33.3	36.2	12.7	3,376	1,0460
45	8.5	14.1	34.7	33.3	9.4	3,211	1,0717

4.2.2 Students' Satisfaction towards the Online Education from Different Perspectives

In this part we used one-way ANOVA statistics to examine the impact of different aspects on the students satisfaction towards the online education services provided by EMU.

4.2.2.1 Gender

For the second question, "Is there a relationship between the gender and students' satisfaction regarding the online education program?" The analysis of one-way ANOVA as in Table 14 revealed that the value of SSQ between group was 2.765, while it was greater than forty-eight within groups. As for the result of DF, it was 200 within groups, and 12 between groups. Comparable results were found regarding MS (.214 and .244). The F value was .875 and P value was .573. Meaning that the correlation between gender and SS towards OE was insignificant.

Table 14: the relationship between gender and SS towards OE

		SSQ	DF	MS	F	Sig
Gender	Between Groups	2.765	12	.214	.875	.573
	Within Groups	48.88	200	.244		
	Total	51.465	212			

Note. SSQ = Sum of Squares, DF = Degree of Freedom, MS = Mean Square, Sig = Significance

4.2.2.2 Age

Considering the third question, "Is there a relationship between the age and students' satisfaction regarding the online education program?" Table 15 clarified that within

groups, SSQ was very high (82.402) comparing to between groups (11.159). With regards to DF, it was 12 between groups and 199 within groups. The results of MS between groups and within groups were .930 and .414, respectively. Considering the value of F, it was 2.245 and P value was .011. This result confirmed the positive relationship between the students' ages and their level of satisfaction towards OE.

Table 15: The relationship between age and SS towards OE

		SSQ	DF	MS	F	Sig
Age	Between Groups	11.159	12	.930	2.246	.011
	Within Groups	82.402	199	.414		
	Total	93.561	211			

4.2.2.3 Faculty

In regards with the fourth question, "Is there a relationship between the faculty and students' satisfaction regarding the online education program?" Table 16 illustrated the result of SSQ; it was higher within group than between groups, 1057.239 and 81.643, respectively. For the DF, it was 12 between groups and 200 within groups. Also, the value of MS was greater between groups than within groups, 6.804 and 5.286, respectively. The result of F was 1.287, and P value was .228, which clarified that the faculty factor and SS towards the online learning were not associated.

Table 16: The relationship between faculty and SS towards OE

		SSQ	DF	MS	F	Sig
Faculty	Between Groups	81.643	12	6.804	1.287	.228
	Within Groups	1057.239	200	5.286		
	Total	1138.883	212			

4.2.2.4 Level of Education

In respect of the fifth question, "Is there a relationship between the educational level and students' satisfaction regarding the online education program?" One-ways

ANOVA analysis showed that the values of SSQ between groups and within groups were 14.930 and 239.642, respectively. However, the value of DF was greater within groups (DF = 200). Comparable results were found in MS (between groups = 1.244, within groups = 1.198).

In terms of F and P value, the results were 1.038 and .415, respectively, that means the insignificant impact of the Level of Education (LE) on SS towards the online learning program as in Table 17.

Table 17: The relationship between LE and SS towards OE

		SSQ	DF	MS	F	Sig
LE	Between Groups	14.930	12	1.244	1.038	.415
	Within Groups	239.642	200	1.198		
	Total	254.573	212			

Note. LE = Level of Education

4.2.3 Problems Faced Students in the Online Learning

For the sixth research question “What are the problems that face the students in using the online learning?” The analysis showed that the most reported problems represented in not receiving instructors’ feedback (35%), and the invalidity of technical devices (25%). Also, some mentioned poor Internet connection in the online classes (23%) and the unavailability of guideline on how to use the school’s platform for students with low computer skills (17%).

4.2.4 Suggestions on Improving the Quality the of Online Learning

Considering the last question “What are the students' suggestions on improving the quality of online learning?” Table 18 showed that preparing academic staff with advanced technical skills (68%) and enabling free access to the Internet (54.7%) were the most students’ suggestions on improving the quality of OL.

Also, they indicated the importance of providing technical devices (45.8%) and designing guidelines including simple steps on using the online system (43.8%).

Furthermore, the respondents stated that the institution should provide the instructors with graphic pads for using it in the online classes. They signified improving the quality of video for practical lessons.

Table 18: Students' suggestions on improving the quality of online learning

Item	Percentage
Preparing academic staffs with advanced technical skills	68.8%
Providing technological devices	45.8%
Enabling free access to the Internet	54.7%
Designing guidelines including simple steps on using online system	43.8%

4.2.5 Hypotheses Testing

One-way ANOVA statistics were used to test the study's hypotheses. The analysis provided results related to SSQ, DF, MS, F, and P values between groups and within groups. However, in this part, we only focused on discussing the results of F and P to examine each hypothesis.

H1: The positive effect of relevance on students' satisfaction in the distance education:

Table 19 clarified that the result of F was 3.542 and P was .000, which means that the relevance and students' level of satisfaction in the distance education were significantly correlated.

Table 19: Relevance impact on SS in DE

	SSQ	DF	MS	F	Sig
Between Groups	40.281	16	2.518	3.542	.000
Within Groups	139.332	196	.711		
Total	179.613	212			

H2: The positive effect of active learning on students' satisfaction in the distance education:

The values of F and P were 3.075 and .000, respectively as shown in Table 20. This finding approved the remarkable relationship between the active learning and SS in the online learning.

Table 20: Active learning impact on SS in DE

	SSQ	DF	MS	F	Sig
Between Groups	28.205	16	1.763	3.075	.000
Within Groups	139.332	196	.711		
Total	179.613	212			

H3: The positive effect of authentic learning on students' satisfaction in the distance education:

Table 21 illustrated the results of F (4.375) and P (.000), which mean that both authentic learning and students' satisfaction in the online education were highly associated.

Table 21: Authentic learning impact on SS in DE

	SSQ	DF	MS	F	Sig
Between Groups	41.506	16	2.594	4.375	.000
Within Groups	116.212	196	.593		
Total	157.718				

H4: The positive effect of autonomy on students' satisfaction in the distance education:

Table 22 showed the value of F and P, it was 2.873 and .000, respectively. This result approved the positive impact of autonomy on SS towards the online learning program.

Table 22: Autonomy impact on SS in DE

	SSQ	DF	MS	F	Sig
Between Groups	39.841	16	2.490	2.873	.000
Within Groups	169.877	196	.867		
Total	209.716	212			

H5: The positive effect of computer technology competency on students' satisfaction in the distance education:

The result of F value was 9.705 and P was .000 as listed in Table 23. Meaning that the computer skills positively influenced students' satisfaction regarding the online courses.

Table 23: Computer technology competency impact on SS in DE

	SSQ	DF	MS	F	Sig
Between Groups	79.125	16	4.945	9.705	.000
Within Groups	99.878	196	.510		
Total	179.003	212			

H6: The positive effect of instructor-student interactions and peer interaction on students' satisfaction in the distance education:

The F value was 10.348 and the result of P was .000 as shown in Table 24. This result signified the considerable relationship between ISI and IP on the level of students' satisfaction in DE.

Table 24: ISI and PI impact on SS in DE

	SSQ	DF	MS	F	Sig
Between Groups	65.303	16	4.081	10.348	.000
Within Groups	77.303	196	.394		
Total	142.606	212			

H7: The positive effect of student support on students' satisfaction in the distance education:

Table 25 provided the value of F and P; it was 8.017 and .000, respectively, which explained that the student support factor played an important role in SS towards the online learning.

Table 25: Student support impact on SS in DE

	SSQ	DF	MS	F	Sig
Between Groups	70.471	16	4.404	8.017	.000
Within Groups	107.683	196	.549		
Total	178.154	212			

H8: The positive effect of course structure on students' satisfaction in the distance education:

The analysis showed the results of F (8.009) and P (.000) as appeared in Table 26. This means the remarkable influence of course structure on students' satisfaction in DE.

Table 26: Course structure impact on SS in DE

	SSQ	DF	MS	F	Sig
Between Groups	59.096	16	3.694	8.009	.000
Within Groups	90.386	196	.461		
Total	149.482	212			

H9: The positive effect of teaching/learning on students' satisfaction in the distance education:

Table 27 elucidated the ratio of F and P; it was 8.661 and .000, respectively. This finding revealed that the teaching/learning and SS towards DE were significantly related.

Table 27: Teaching/learning impact on SS in DE

	SSQ	DF	MS	F	Sig
Between Groups	66.716	16	4.170	8.661	.000
Within Groups	94.362	196	.481		
Total	161.078	212			

4.3 Summary

This chapter explained the used of descriptive analysis and one-way ANOVA in analyzing the collected data related to students' satisfaction in the online education. The analysis revealed a number of factors such as relevance, active learning, technical skills, and autonomy. Also, there was a negative impact of gender, faculty, and educational level on students' satisfaction regarding the virtual education. However, the analysis showed the positive correlation between age and SS in the online learning. Also, it revealed the most problems faced the students in this service and provided their suggestions on enhancing the quality of online education. Finally, the research hypotheses were tested based on the quantitative analysis

Chapter 5

DISCUSSION

5.1 Introduction

This chapter of the thesis discusses the study's results comparing to empirical studies majored in students' satisfaction and online education as mentioned in the literature review part.

5.2 Discussion

The descriptive statistics revealed findings related to the factors that effect students' satisfaction towards the online education. The quantitative analysis examined the relationship between age, gender, faculty, and educational levels and SS regarding the virtual learning. The percentage of students' answers showed the most problems faced them in using this system and their suggestions on enhancing the quality of distance education in the context of EMU.

5.2.1 Factors Impact Students' Satisfaction towards the Online Education

5.2.1.1 Relevance

The results showed that the relevant information is an important factor of the online education with a high degree of mean (3.5). More than forty-five percent of students agreed with using the skills in the online class in their real life as in Figure 8. Similar to Ke and Kwak (2013) who found aspects that influenced the students in using the online program, and the relevance was one of them.

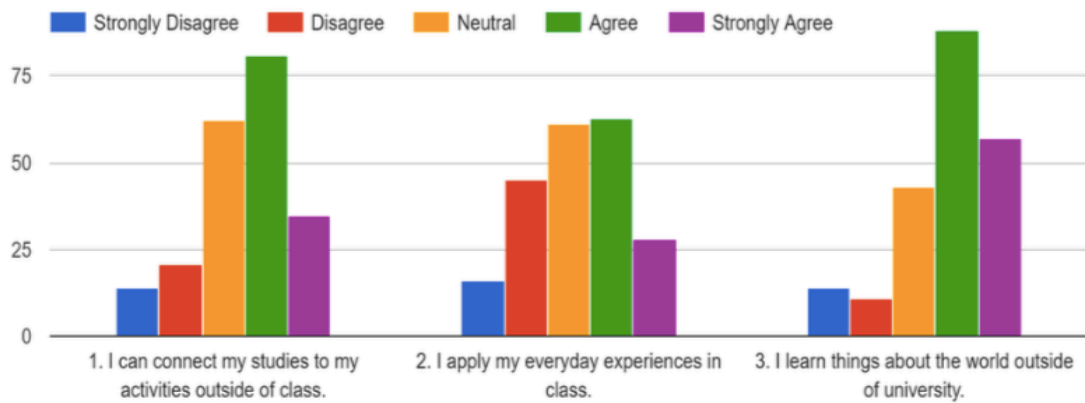


Figure 8: Students' Responses to the Relevance Factor

5.2.1.2 Active learning

Another considerable factor that influenced the online education is AL with a mean of 3.71. The participants stated the use of their own strategies in the online learning as in Figure 9, a comparable result was provided by Reeves (1997). The authors stressed that the online education enhances the active learning and boosts learners' knowledge.

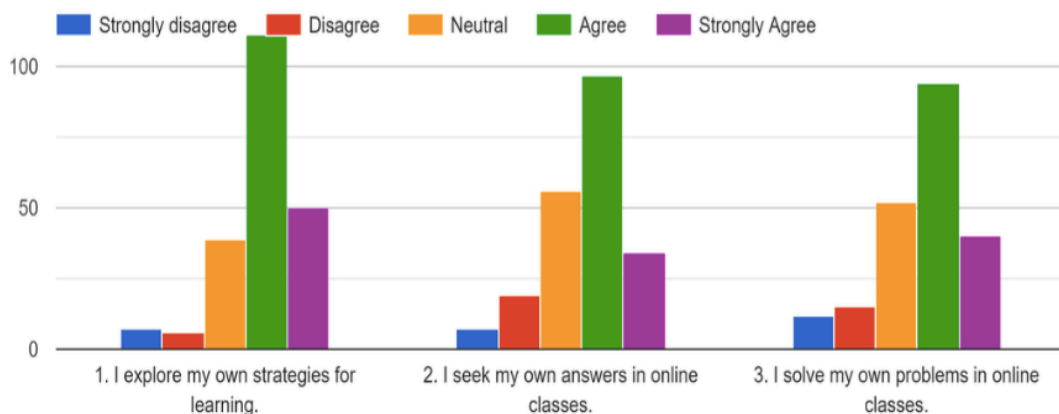


Figure 9: Students' Responses to the AL Factor

5.2.1.3 Authentic Learning

The aspect of authentic learning impacted the quality of online education with a mean of 3.53. The percentage of dealing with real world information for working on

assignments was around 80% as in Figure 10. Ke and Kwak (2013) signified this factor in their findings.

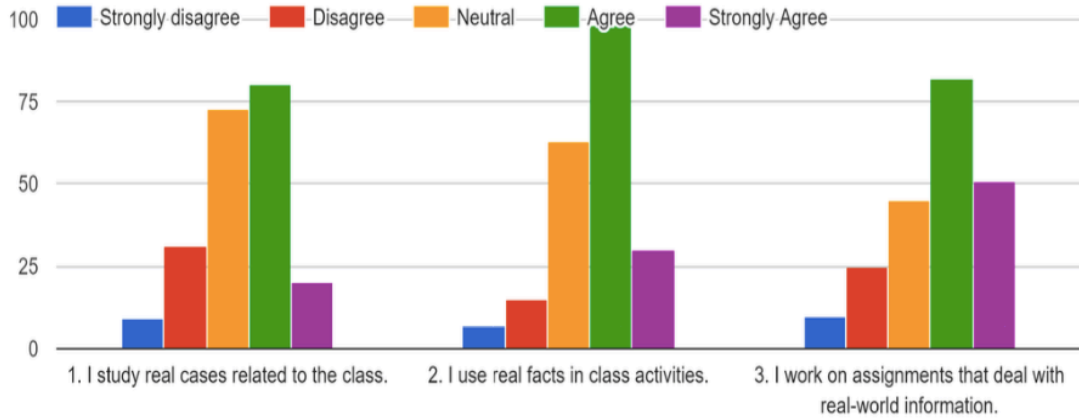


Figure 10: Students' Responses to the Authentic Learning Factor

5.2.1.4 Autonomy

The analysis revealed the autonomy as an important factor that influenced the online education with a mean of 3.80, in alignment with Muhammad (2020). The students controlled their learning and depended on themselves with a percentage of 64.8% and 74.6%, respectively as shown in Figure 11.

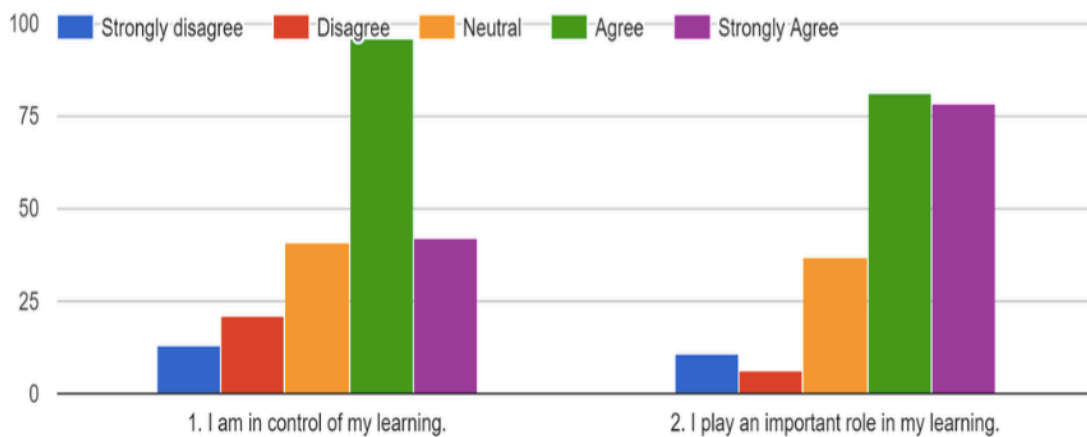


Figure 11: Students' Responses to the Autonomy Factor

5.2.1.5 Computer Technology Competency

The analysis found that CTC is a crucial aspect in the online education with a mean value 3.40. The participants were able to access the online courses regardless their locations (67.2%) and used their technological skills (69%) as in Figure 12. Similar results were recorded in Al Taweel et al (2021) and Schrum and Hong (2002), who found the importance of students' computer competences in enhancing the quality of virtual education.

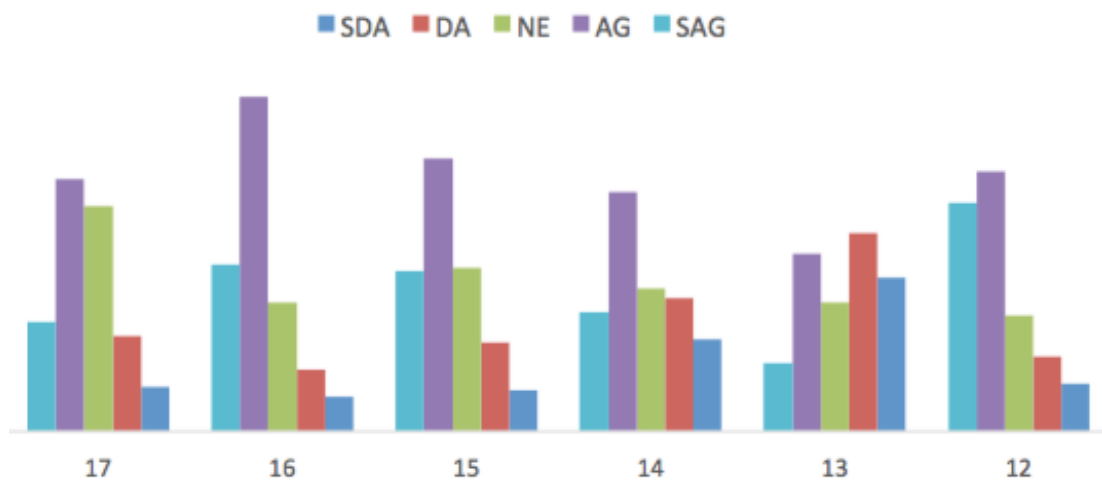


Figure 12: Students' Responses to the CTC Factor

5.2.1.6 Instructor-Student Interactions and Peer Interaction

The study showed that student interactions, also is a main factor in this form of education with a mean of 3.25. The participants stated that the class projects formed a good interaction with their fellows (59.2%) as in Figure 13. Besides, they used different ways to contact their classmates. Different from Al Rawashdeh et al (2021) stated that the online education constructed the connection between the peers. Additionally, more than forty-four percent of students experienced a good interaction with their instructors and received sufficient feedbacks. Bolliger and Wasilik (2009)

and Bolliger (2004) affirmed the considerable role of instructors' feedback in the online learning.

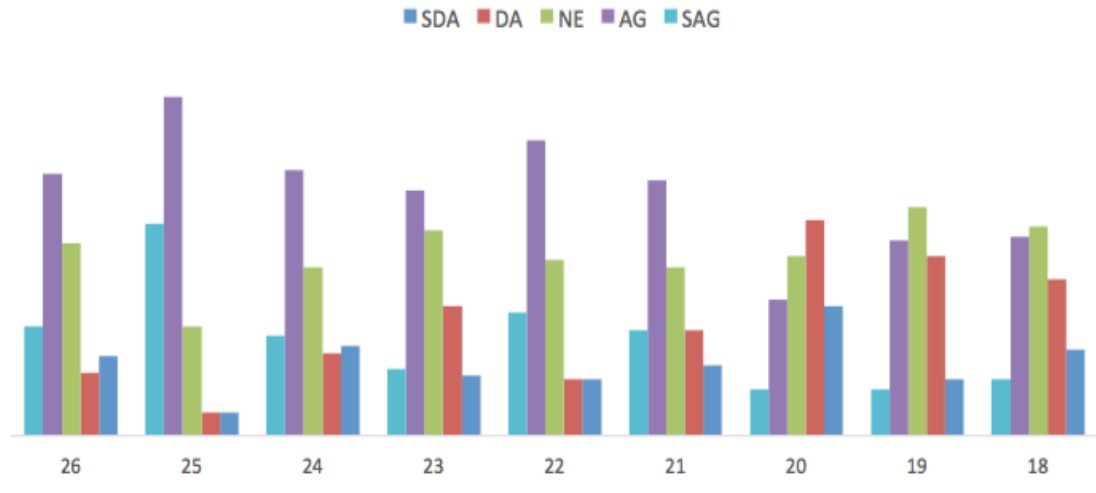


Figure 13: Students' Responses to the ISI and PI Factor

5.2.1.7 Student Support

Another an important factor revealed in this study is the student support with a mean of 3.16. Around half of the participants as in Figure 14, agreed that they were provided with written information of the online program. In line with Reeves (1997), who clarified that the online education enhanced the support of the learners.

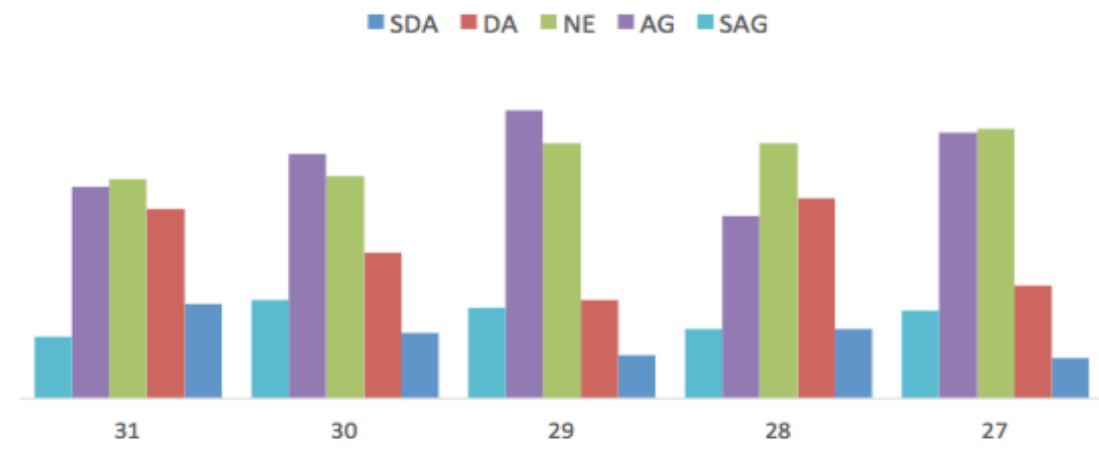


Figure 14: Students' Responses to the Student Support Factor

5.2.1.8 Course Structure

The structure of online courses is a substantial aspect of the online education with a high value of mean (3.46). The participants as clarified in Figure 15, agreed that the course structures and the outlines of the program were provided (62%). Also they indicated the suitability of the materials (54.9%).

Providing supplemental course information that outlines course objectives, concepts, and ideas was reported with more than sixty-two percent. This finding is similar to Mason and Weller (2000). They examined the factors that affected students' satisfaction in the online education, and the most principal one they found was the structure of courses.

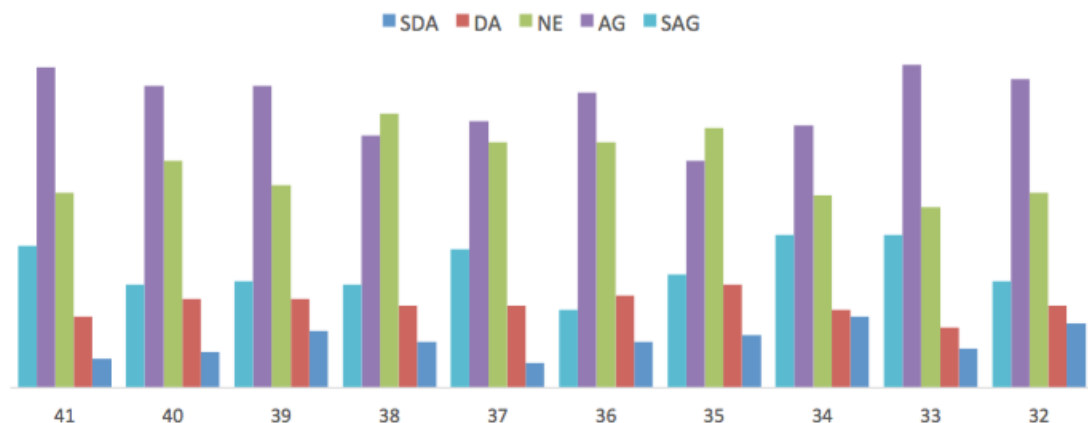


Figure 15: Students' Responses to the Course Structure Factor

5.2.1.9 Teaching/Learning

The analysis, as in Figure 16, found teaching/learning as an additional aspect that enhanced SS in the online education with a mean of 3.29. Similar result was established in the study of Yang and Cornelious (2005) who mentioned that the

instructors must be highly prepared for achieving a better quality of the virtual education.

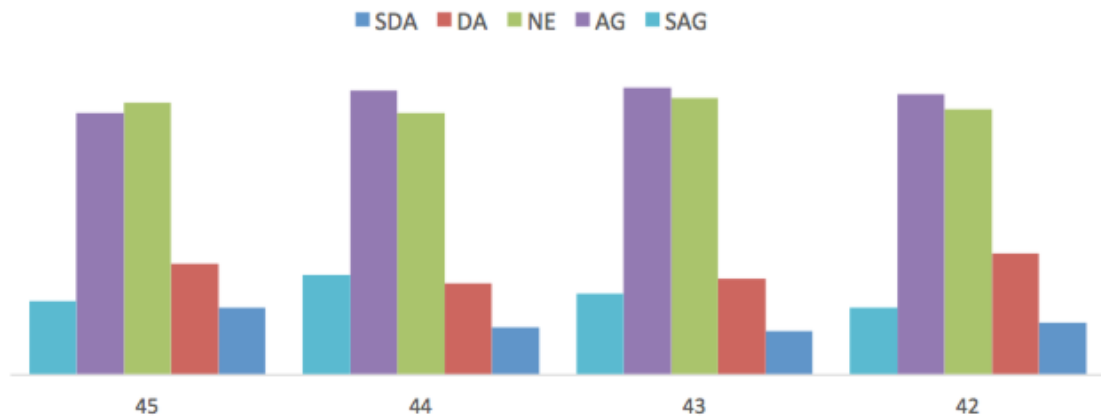


Figure 16: Students' Responses to the Teaching/Learning Factor

5.2.2 Students' Satisfaction towards the Online Education From Different Perspectives

The analysis showed the negative impact of gender, educational level, and faculty on students' satisfaction in the online learning. In that, male and female undergraduates and postgraduates majored in different programs reported similar answers related to the virtual courses, in alignment with Cole et al (2014) and Harvey et al (2017). However, the age played a significant role in using the online educational system, where P value was .011. This result is dissimilar to Cole et al (2014).

5.2.3 Problems Faced Students in the Online Learning

The students reported different challenges in using the online learning represented in not receiving instructor feedback (35%). Eom et al (2006) stressed the importance part of teachers in providing learners with feedback in the online learning. In addition, the respondents indicated the invalidity of technical devices used in this system (25%). Also, the poor Internet connection was reported with more than

twenty-two percent. This finding is similar to Demuyakor (2020), Adedoyin and Soykan (2020), and Christiawan et al (2020).

At the same time, the participants mentioned the problem of the unavailability of guidelines on how to use the platform of university for students with low computer skills (17%). Sher (2009) considered the aspect of computer skills in achieving a fruitful result of the online learning.

5.2.4 Suggestions on Improving the Quality of the Online Learning

The percentage of the students' solutions to enhance the quality of the online education was exemplified by preparing the academic staff with technical skills (68%). According to Tudorache et al (2012), the academic staff should have advanced competences related to computers and Internet to deliver the content for the students successfully.

Besides, the participants suggested providing free access to the Internet (54.7%), and technical devices (45.8%). Those factors reflect the quality of the virtual education (Al-Samarraie et al., 2018). In addition, designing guidelines including simple steps on using the online system was recommended with more than forty-three percent. Chen et al (2020) signified the necessity of developing the platforms of the online education during the pandemic.

5.2.5 Hypotheses Results

One-way ANOVA was used to examine the impact of relevance, AL, authentic learning, autonomy, CTC, ISI, PI, student support, course structure, and teaching/learning on students satisfaction towards the online education service provided by EMU. The analysis revealed the significant impact of the given factors on the SS in the distance education, in that P value was .000.

5.3 Summary

This chapter discussed the study's results regarding the factors that influenced the students' satisfaction regarding the online education. Also, it argued the findings related to the relationship between ages, gender, educational level, faculty and SS in the distance education. Further, this part revealed problems faced students in using this service, and suggested solution to enhance its quality.

Chapter 6

CONCLUSION, IMPLICATIONS, AND LIMITATIONS

6.1 Introduction

The current chapter provides the study's results that quantitatively analyzed. Also, it discusses the implications for curriculum designers, instructors, and institution regarding the distance education and students' satisfaction. Besides, this chapter reconsiders the limitations of the study and recommends for future directions. Finally, it includes a brief summary of this section.

6.2 Conclusion

Due the unfortunate circumstances of COVID-19, most of the educational institutions heavily relied on the fully online system to continue the scholastic process. Therefore, this study aimed at evaluating the students' satisfaction regarding the online education quality service provided by EMU. Besides, it examined the major factors that influenced the quality of this program. Additionally, this study investigated main problems faced students in using the online courses and suggested their solutions to enhance the quality of this service.

The study's design was based on the quantitative approach including a developed questionnaire. Following, Google form was distributed to undergraduates and postgraduates via MT platforms and emails. The study used descriptive statistics, t. test, and one-way ANOVA to analyze the data.

The findings of the study revealed the impact of many factors that influenced the satisfaction of respondents towards the online education services provided by the institution (namely: relevance, AL, authentic learning, autonomy, CTC, ISI, IP, student support, course structure, and teaching/learning).

Also, there was a negative effect of gender, faculty and educational level on SS in the online learning. However, the age was highly related to students' satisfaction regarding the given system.

The results discovered problems related to the online learning represented in not receiving the instructors' feedback, the unavailability of guideline on how to use the platforms for students with low computer skills, invalidity of technical devices, and poor Internet connection in the online classes.

The study's finding revealed students' suggestions on improving the quality of online learning exemplified by preparing the academic staff with advanced technical skills, enabling free access to the Internet, providing technical devices, and designing a system guideline for the learners.

6.3 Implications

The results of the study showed the impact of many factors on students' satisfaction towards the quality of online education. Therefore, the curriculum designers should pay attention to students' needs and expectations from this service. Also, the aspect of social interaction should be highly considered while developing this system. Horzum, (2017) indicated the importance of balancing between online courses and students-teachers interaction. Beldarrain (2006) stated the type of technology used in

the educational process should be taking into account due to its impact on users' social presence.

As for the instructors, they should applied varieties of methods in teaching the online courses. In turn, the students would be more motivated in the learning process and encouraged to join class activates. Aguilera-Hermida (2020) stated the significance role of lecturers in providing new educational experience to students that enhance their motivation and attitudes towards the virtual courses.

The institution should prepare the academic staff with advanced skills related to technology to achieve a promising outcome of the online learning. Also, it should provide platforms users with free access to Internet. Moreover, EMU should consider students' computer skills and design a guideline of using the online learning services. In addition, the institution while developing the online educational system, in case the coronavirus crisis continues, should include service related to the students' complaints and further web-based services.

6.4 Limitations

This study was conducted to examine the satisfaction of undergraduates and postgraduates towards the quality of distance education service provided by EMU during coronavirus pandemic. Future researchers might focus on a particular educational level such as doctoral students, to reach more in depth responses related to this theme.

Furthermore, the study adopted the quantitative approach in data collection instead of the mixed method. Triangulating the data may enrich the findings and give deeper

views about the topic of the study. Future studies might use the interviews to obtain further answers related to the factors impact the virtual learning process.

In addition, this study focused on EMU as a research context; future directions might involve other institutions in Northern Cyprus, in that the results would be more generalized regarding the quality of distance education service.

6.5 Summary

This chapter reviewed the results of the study related to students' satisfaction in the distance education. Also, it provided some implications for curriculum designers, instructors, and institution. Moreover, the study's limitations were reconsidered and suggested for future researches.

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APPENDICES

Appendix A: Questionnaire

CONSENT FORM

Dear participant,

I am conducting my thesis titled “Evaluating the Student Satisfaction towards the Online Education Service Provided by Eastern Mediterranean University during COVID 19 Pandemic” in the program of Business Administration. You are invited to respond to the questionnaire. The purpose of this study is to evaluate the level of the satisfaction in the context of Northern Cyprus, Eastern Mediterranean University regarding to the quality of online education service that students received within the pandemic. It also highlights different difficulties faced undergraduate and postgraduate students related to planning online courses.

It will take approximately 15 minutes of your time to complete the questionnaire. Please answer all of the questions sincerely and be informed that your personal information and individual responses will be kept confidential and used only for research purposes. Collected data may be used for further publications.

For more information, please feel free to contact my thesis supervisor or me. Your participation in this survey is voluntary. You may refuse to take part in the research or exit the survey at any time. You are free to decline to answer any particular question you do not wish to answer for any reason. Your refusal to participate or withdrawal of consent will not affect our treatment of you in any way or your relationship with our University.

Thank you for your participation, understanding and cooperation.

Mervat Alnaji: alnajimervat@gmail.com

Prof. Dr. Mustafa Tumer :mustafa.tumer@emu.edu.tr

General Information

Gender:

- Male
- Female

Age:

Nationality:

Marital Status:

- Single
- Married
- Divorced
- Living together

Educational Level:

- Bachelor's degree
- Master with Thesis
- Master without Thesis
- Ph.D.

Faculty:.....

Program Enrolled:.....

Questionnaire

Please select the option that matches your answer

Items	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Relevance					
1. I can connect my studies to my activities outside of class					
2. I apply my everyday experiences in class					
3. I learn things about the world outside of university					
Active Learning					
4. I explore my own strategies for learning.					
5. I seek my own answers in online classes.					
6. I solve my own problems in online classes.					
Authentic Learning					
7. I study real cases related to the class.					
8. I use real facts in class activities.					
9. I work on assignments that deal with real-world information.					
Autonomy					
10. I am in control of my learning.					
11. I play an important role in my learning.					
Computer Technology Competency					
12. I can access online learning anywhere					
13. I do not experience any problems when learning online					
14. I do not see any difficulty when uploading task.					
15. I feel that technology for online learning is Easy to use					
16. I feel that technology for online learning has useful functions					
17. I feel that technology for online learning is Very helpful for learning the materials					
Instructor-Student Interaction and Peer Interaction					
18. I have the opportunity to introduce myself to others in the class.					
19. Overall, I have numerous interactions related to the course content with fellow students.					
20. I get lots of feedback from my classmates.					
21. I communicate with my classmates about the course content through different electronic means, such as email, discussion boards, instant messaging tools, etc.					
22. Class projects lead to interactions with my classmates.					

23. I have numerous interactions with the instructor during the class.					
24. The instructor replies my questions in a timely fashion.					
25. I reply to messages from the instructor.					
26. I receive enough feedback from my instructor when I need it.					
Student support					
27. Students can obtain assistance to help them use electronically accessed data successfully.					
28. Students are provided with hands-on training and information aid them in securing material through electronic databases, interlibrary loans, government archives, news services, etc.					
29. Written information is supplied to the student about the program					
30. Easily accessible technical assistance is available to all students throughout the duration of the course/program.					
31. A structured system is in place to address student complaints.					
Course Structure					
32. Course material is presented in a well structure					
33. Students are provided with supplemental course information that outlines course objectives, concepts, and ideas.					
34. Faculty is required to grade and return all assignments within a certain time period.					
35. Sufficient library resources are made available to the students.					
36. Students are instructed in the proper methods of effective research, including assessment of resource validity.					
37. Learning outcomes for each course are summarized in a clearly written, straightforward statement.					
38. The structure of the material in online tutorial already covers all the material I need to learn in one subject.					
39. The material in the online tutorial has been arranged in a logical sequence and understandable					
40. Instructions about student participation were clearly presented.					
41. The purpose of the course was clearly presented.					
Teaching/Learning					
42. Student interaction with faculty is facilitated through a variety of ways.					
43. Courses are separated into self-contained segments (modules) that can be used to assess student mastery before moving forward in the course or					

program.					
44. Class voice-mail and/or e-mail systems are provided to encourage students to work with each other and their instructor(s).					
45. Courses are designed to require students to work in groups utilizing problem-solving activities in order to develop topic understanding.					
Student satisfaction					
46. I am satisfied with the whole system of online learning					
47. Overall, online learning has been successfully					
48. Learning through online learning system enable me to learn independently					
49. I will keep learning through the online learning system in the future					

**** Problems need to be mentioned**

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**** Your suggestions on improving the quality of online learning**

- Preparing academic staffs with advanced technical skills
- Providing technological devices
- Enabling free access to the Internet
- Designing guidelines including simple steps on using online system
- Others

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Appendix B: The Ethics Committee Approval

 <p>Doğu Akdeniz Üniversitesi <i>"Erdem, Bilgi, Gelişim"</i></p>	<p>Eastern Mediterranean University <i>"Virtue, Knowledge, Advancement"</i></p>	<p>99628, Gazimağusa, KUZZEY KIBRIS / Famagusta, North Cyprus, via Mersin-10 TURKEY Tel: (+90) 392 630 1995 Faks/Fax: (+90) 392 630 2919 E-mail: bayek@emu.edu.tr</p>
<p>Etik Kurulu / Ethics Committee</p>		


Reference No: ETK00-2020-0232

16.11.2020

Subject: Your application for ethical approval.

Re: Mervat Alnaji
Faculty of Business & Economics.

EMU's Scientific Research and Publication Ethics Board (BAYEK) has approved the decision of the Ethics Board of Business & Economics (date: 12.11.2020, issue: 2020/10) granting Mervat Alnaji from the Faculty of Business & Economics to pursue with his/her MA thesis work titled **"The Impact of Strategic Planning on Online Learning Quality"** supervised by Prof. Dr. Mustafa Tümer.



Prof. Dr. Yücel Vural

Chair, Board of Scientific Research and Publication Ethics - EMU

YV/ns.

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