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**Investigating Gender Gap in ICT Uptake in Algerian University
Case Study of Master Students at Ibn Khaldoun University
Tiaret**

Dissertation Submitted in Partial Fulfillment for the Requirement of the Master Degree in
Linguistics

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Dedication

I dedicate this work to:

- My beloved parents: my father 'Touati Adda' and my mother, 'Bensahraoui Mesouda' for their unconditional support in my life.
- My only sister 'Touati Aisha Nour elhouda' and my brother 'Touati Amine'
- My grandmother may Allah bless her

Special thanks to my aunties: 'Touati lalia and bakheta' and my cousin

'Dr. Djerboub Torkia'

- All my friends, thank you for sharing with me good and bad moments.

Sara



Dedication

I am here thanks to my father's fatigue and my mother's prayers

I dedicate this work to:

- My mother: May God have mercy on her,
- A strong and gentle soul who taught me to trust ALLAH and believe in hard work:
my father, for earning an honest living for us and for supporting me,
- My sister "Amina" and her husband', for being my guardians during my whole life,
- My brothers: 'Karim, Mouhamed, Abdelkader, Khaled' Who continually provide their support,
- My beloved children: 'Abdeldjalil & Ibrahim El khalil'
- All my family members
- My dearest friend: 'Touati Sara' whose I shared my best days.

Fatima



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Abstract

The use of Information and Communication Technology (ICT) has revolutionized educational research with its authentic appeal. Recent research shows that female learners have lower ICT access and use than their male counterparts. Accordingly, this study aims to investigate the existence of gender gap in Algerian universities. To reach this aim, the research work at hand opts for a mixed method that combines quantitative and qualitative approaches using well-known methodological techniques. A structured questionnaire is administered to ninety six first year EFL students at Ibn Khaldoun University and a semi structured interview directed to six teachers of English language at the same research setting. The findings of this research reveal that there is a gender gap that exists in ICT uptake in Algerian universities. This in fact may result in many barriers that EFL students encounter. This research ends up with recommendations and implications for further research

Key words: ICT, education, digital technology, gender gap, EFL students

List of Abbreviations and Acronyms

APEC: Asia–Pacific Economic Cooperation.

ICT: Information and Communication Technology.

IT: Information Technology.

LMS: Learning Management System.

OECD: Organization for Economic Co-operation and Development.

SCL: Student centered learning.

STEM: Science Technology Engineering Mathematics.

USAID: United States Agency International Development.

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General Introduction

General Introduction

It is widely supposed that today's learners are increasingly product of digital world. Various technological device and different channels of information and communication, including the internet, wireless networks, Smartphone, computers, software, social networking, and other media applications are integral parts of our lives. Therefore, their experiences with the use of information communication technology (ICT) cannot go unnoticed in their learning process. ICTs has significantly became a fundamental tool for today's females and males learners , it enables them to employ a wide range of processes , including : communicating , creating , storing , and managing information . The use of ICT in education can also offer a rich choice of learning styles. It has been also proving that learners' use of ICT can increase their motivation, establishing a more active collaboration between them. With regard to the use of ICT in educational environment, recent research shows that there are gender disparities that constitute a form of digital divide. It is reported that female learners have far lower of ICT access and use than their male counterparts against this backdrop, the present research work attempt to examine the relationship between these variables; ICT and education. In other words, it aims at investigating the gender gap in ICT uptake in Algerian universities.

1. Research Motivation

In response to the claim that as compared to females, males are totally immersed in technology and so talented in its different channels of information and communication , we as student researchers, have felt the need to investigate this issue and explore the disparities between males and females in the access, capacities and ways of engagement with ICTs in Algerian universities.

2. Research Aims

the primary aim of the study at hand is twofold: first, to examine the issue of the digital gender gap, including the access and competencies (digital skills), and then consistent with this, it suggests some practical recommendations to deal with it .

3. Research Significance

Researchers can benefit from the results of this study to address the digital gender gap and more importantly to find ways for closing gender gap and improve both genders inclusion in technology.

4. Research Questions

To meet the aims of this study, the following three research questions are addressed:

- a- Is there gender gap in the access and use of ICTs at Algerian universities?
- b- What are the causes behind the gender gap in the access and use of ICTs in Algerian universities?
- c- What can you suggest to fill in the digital gender gap in Algerian universities?

5. Research Hypotheses

The following hypotheses have been put forth as anticipated answers to the research questions above:

- a- Yes, there is a digital gap in Algerian universities.
- b- Maybe be the lack of confidence and limited skills and capacities.
- c- Serious work on both genders perceptions of the importance of ICTs in education and creation of opportunities in different fields concerning ICT to keep the balance gender.

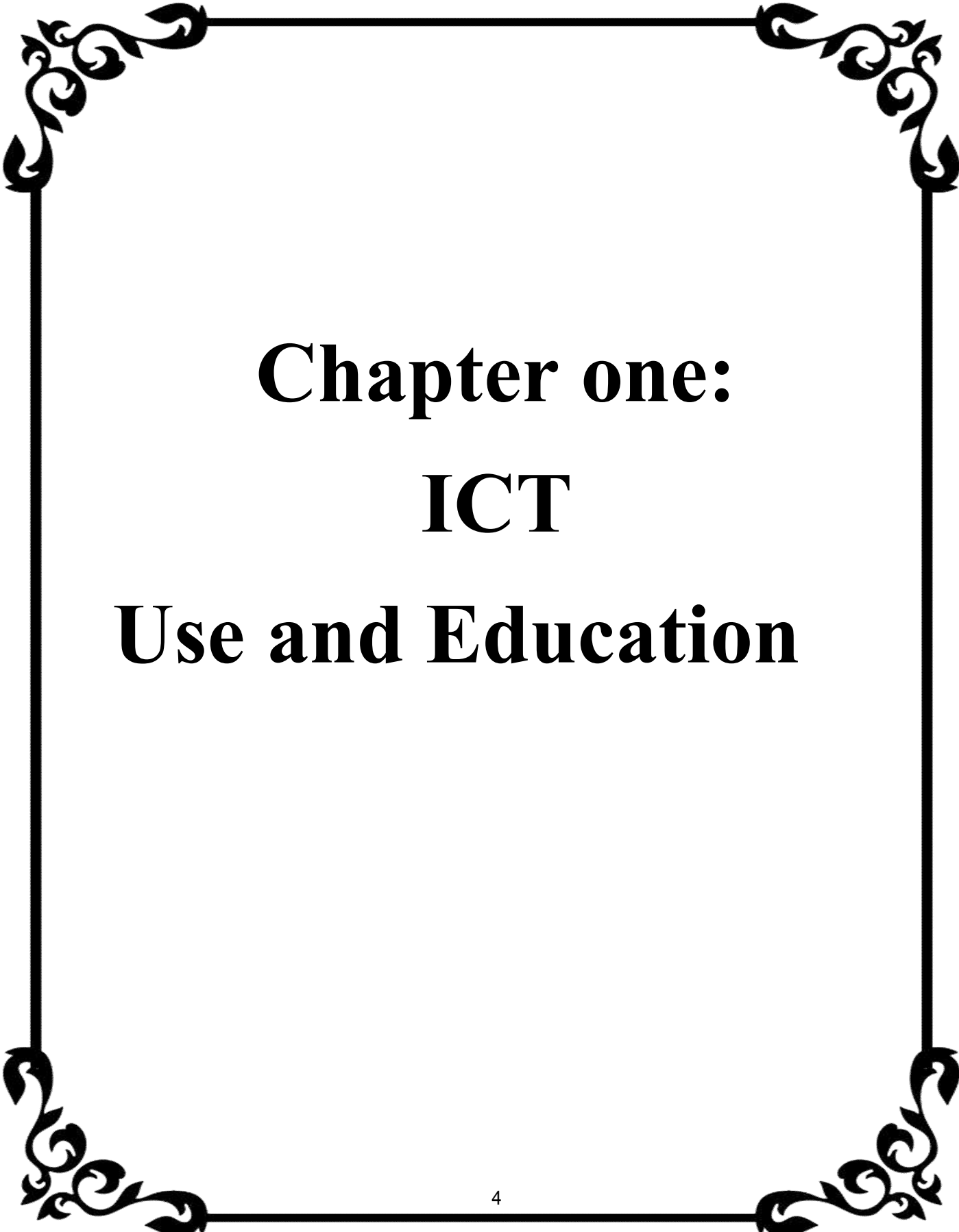
6- Research Methodology

This study opts for a mixed method that combines both quantitative and qualitative approaches. Sampling in this study is purposive. for the quantitative approach , a structured questionnaire is distributed to a sample which consists of one hundred (100) , fifty females and fifty males , third year LMD students at ibn khaldoun university , for the qualitative approach , a semi structured interview is addressed to ten teachers at the same research sitting .

7- Research Structure

This dissertation is divided into three chapters. The first chapter starts with a critical review of literature which includes many theories related to gender and education. The second chapter is dedicated to recent research on the use of ICT in education, including studies on gender disparities and ICT. The third chapter is devoted to the description of the target population (participant and sampling) and the data collection tools used in this research, not forgetting the analysis of the data gathered and discussion of the finding. It also recommends some pedagogical implications, stresses the limitations of the study, and further research suggestions.

This dissertation ends with a general conclusion which synthesises the various procedures being opted for during the conduction of this research. Besides, a list of references and appendices are provided. At last, it is worth mentioning that the whole work is written following the APA style 6th edition.



Chapter one: ICT Use and Education

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1.1 Introduction

The fast development of information and communication technology is shaping a new world in all domains; especially the educational field. The effective integration of these digital tools could change this field from dark ages into developed ones. As a result, this chapter tends to shed light on the use of ICTs in education, it brings a general understanding about the information and communication technology, starting with an explanation of the concept itself, moving to the importance of its use in higher education then finishing by the positive impact of this ICT in higher education is included in this chapter. To conclude with, this chapter provides not only the advantages of this digital tools in both teaching and learning processes, but also its disadvantages in higher education.

1.2 Definition of ICT

Due to the rapid change and development of this era, various definitions of the concept of ICT have been reported in the literature review.

According to Tinio (2003), the ICT stands for the communication technology, that are defined “diverse set of technological tools and resources used to communicate and create, store and manage the information, these technologies include many devices; computer, the internet, broadcasting technologies (radio and television) and telephony.

Sarkar (2012) states that ICTs can be referred to as the varied collection of technological gear and resources which are made, not only to communicate but also to distribute, collect information. This ICT includes, the hardware, software, network and media for collection, storage, processing, transmutation and presentation of information through (voice, data, images and text). According to him, these ICTs are about a new way in which people can inquire, make decisions and solve problems, and it is considered as a process, tools and techniques used to gather, identify, organize and classify, analyzing and evaluating information.

Sevukan (2012) claims that on one hand, the information and technology refers to technologies that provide access to information telecommunication. That is similar to information technology (IT) which includes; the internet wireless, network, cell phones and communication mediums .On the other hand, this communication technology covers any product that stores , retrieve , manipulate , transmit or receive information electronically in digital form as; personal computers , digital television and robots. For him this use meet the human needs or purposes including the use of such devices.

For Clarkson and Toomey (2001), ICT includes computers , access to the internet , large screen , television sets , locale networking infrastructure , film clips ,software , calculators , printers , videos disks and other forms of communication . ICT is considered as a tool for enabling youngsters to think, learn, solve problems and perform a mental function. ICT refers not only to the latest computers and internet based on technologies, but also simple audio-visual as; cassettes recorder and radio which vary from the newer one computers and internet based on technologies that called digital media. This divide line between these media is becoming blurred for people to define ICT concept (Boukhatem, 2015).

Other different definitions of this information and communication technologies are given, as it is mentioned by Elisha (2006) who describes ICT as follows;

ICT... Is an umbrella term that includes any communication device or application encompassing; radio, television, cellular phones, computers and network, hardware and software satellite systems and so on, as well as the various services and application associated with them such as video conferencing and distance learning.

(Elisha M.J, 2006, p.35)

This definition specifies the ICT in terms of the kind of technology that's considered as an application that includes distance learning

Nwachukwa (2004) defines ICT as a system that store or transfer the information by the use of computers, telecommunication networks and other programmable and non-programmable electronic devices ICTs are important system for both home and social life , that reduced the world to small sphere commonly referred to as global village .

1.3 ICT in Education in Algeria

Nowadays, with the development of the world, it has been observed a worldwide spread of the technology. However, ICT plays an important role of in various fields, especially educational sector .According to the UNISCO (2002), the ICTs permeate the educational environment and underpins the success of 21st century education and it has a great impact on this filed .Moreover, it adds a value to the process of learning in a way of organization and the management of the educational institutions. Mandal and Mete (2012) state that ICTs are considered as mainstream in higher education they are used in different areas ; in developing coursers materials, delivering and sharing the content also in communication between learners and teachers moreover, it is importance in the creation of the delivery of presentation and lectures .

1.4 The Importance of ICT in Education

In the recent years, there has been a groundswell of interest in how the technological devices used to improve the influence and the effectiveness of education at technologies has become with a very short time, one of the basic building blocks in the modern societies. ICTs regard as important part of the core of education and in the mastery of the basic skills .In fact, ICT has developed rapidly nowadays therefore, educational system should be reformed and these tools should be integrated into this sector since it could not be ignored in the students' lives. ICTs play an important role which they increase a variety of educational method and also it promote opportunities to

obtain information .Moreover , it develop distance education with national content and it support sharing learning experiences and information with each other ..Today, ICT use in educational environment is associated, because for its benefits in enhancing the quality of education as it is seen as a modern aid to teaching and learning , these ICTs make the students teachers engaged and knowledge more accessible .Moreover, ICT tools importance in discovering new learning topics and not only solving problems but also providing solutions for the problems in the learning process .however , it can remove the communication barriers as; time and space .Furthermore , it provides digital libraries that allow teachers and learners and professionals to access research materials and course materials the place and the time they want (Arabharae, 2017).

Sarkar (2012) continues saying that ICT tools are important in enhancing and upgrading the quality of education and instruction ; in which it improves the quality of education through several ways such as ; augmenting the students enthusiasm and commitment by making possible the acquirement of fundamental skills and improving teachers training also ICTs encourage the shift an environment which is the learners centered .

the importance of ICT tools remarkable in reducing the home – schools divide , and they support the learners to gain learning opportunities are provided at home , the potential for using such tools is to bridge the gap between in and out the learning environment . Many studies show that from the characteristics of this use is the high level of motivation not only towards achieving personal goal but also gaining positive feedback on the individual competence (Grande & Munro 2007).

The education sector may face many challenges nowadays .We live in a world where frequent changes occur in all the domains and this the integration of ICT tools must be, as Hamdy (2007) puts it, encourage and fosters the use of the information and communication technology to enhance the development of the process in general and the educational system particularly, shedding light on the ICTs policy frameworks along with implementation strategies.

1.5 The Impact of ICT Higher Education

ICT is now a global phenomena , it has been embraced all over the world due to its importance .Within the integration of the information and communication technologies, the students in higher education become the biggest beneficial, through using different devices in teaching and learning process, their learning become; easier, faster, more interesting and efficient .Moreover, these tools also enhance creativity and critical learning and motivate them in various ways and more to explore complex dimensions of different levels in both formal and informal settings. Information and communication knowledge .ICTs also help the students to sharpen and improve their skills in which can lead them to better employment.

ICT is a means of accessing, storing, sharing, selecting, presenting and communicating information through variation of media. A range of technological devices are used now as a tool both technical and cognitive, as media, resources, and where the computers is being programmed (Cohen & Mouion and Morrison & Domonic2004) .The range of technologies that are available in the educational environment has increased rapidly as the infrastructure in education , the outcome are almost universally positive , in which they help the students to develop an understanding of abstract concepts through concrete examples and graphical images .Different tools used in the field as mobile , computers that give their attractiveness to students are gradually being introduced to support various educational skills . There are many evidence show the positive impact that ICT can have on the learning process with special educational needs (Candie & Munro 2007).

For Olaore (2014), ICT is becoming as a natural part of man's daily life .Thus , its' use in education is becoming necessary .Moreover, the pace of change of ICT field currently exceeds the pace progress of making effective use of ICT in education .ICT has change the face of modern researches through advanced network that is connected to the rest of the world .ICT provides resources and services to support the education and also lots of services for students including distance education program , through technological equipments , which can upgrade their knowledge in their field of study .

The use of ICT has a greatest impact on the students centered learning (SCL) in higher education all over the world. This access intended to improve the quality of

teaching and learning to better prepare students for the 21st work places (Muianga, 2019) Tinio, 2003 states that Information and communication technologies have an important impact on the quality of education through several ways; increasing the motivation of the learners and engagement, facilitating the acquisition of the basic skills.

1. Motivation to Learn

ICT such as ; videos , television and computers that combine text , sound and colorful images provide challenges that will make the learners more engaging in the process . On the one hand, the use of the sound effects, songs ... make students involved in the lessons delivered. Machelt & Gilly (2004) show that the findings found in their study on ICT, draw more positive modes of motivation. Motivation term would be associated with novelty factors which means that students' interest arises from doing some new or different things. Students' improvement of the quality of their work may be shown in terms of writing and presenting, the way of the knowledge and ideas are presented and how the knowledge and ideas related to each other through the process of communication.

2. Facilitating the Acquisition of The basic Skills

Tinio (2003) states that various skills can be acquired, developed and mastered through the repetition and reinforcement as; listening and reading in way of the educational programs.

3. Enhancing Teachers Training

Information and communication technologies have been used to improve access of teachers training and also provide them better teachers' professional development opportunities.

4. *Active Learning*

Through ICT use for examination calculation and analyses of the information, thus learning promotes increased learners engagement in which they can choose where and when they want to learn.

5. *Learner's Confidence*

This refers to the ICT importance in building confidence and enhancing confidence resulting from ICTs' use, which help them to be able to tasks they could not do before, to explore more and they express more ideas. It is reported that confidence in creased due to the quality of the works and presentations (Passay& Roger and Machellt & Gilly, 2004).

6. *Support-Students-Centered and Self Directed Learning*

Learners build new knowledge through accessing, selecting, organizing and interpreting data .Based on learning through Information and communication technologies students are more capable to use information from various sources.

7. *Collaborative Learning*

Information and communication technologies support the interaction and cooperation among students and teachers regardless where and when are they, and also provide for the learners opportunities to work with people from different countries and different cultures, which help them to improve the communicative skills as well as the global awareness.

8. *Development of the Digital Skills*

The use of the technological devices creates fosters the development of the digital literacy which refers to complete a set of skills acquired in the digital learning environments and refers to possibilities that digital environments can make available to learn and develop the need of information and expansions of knowledge (WanNg, 2015; Zilka, 2017). The awareness of these ICTs capabilities digital literacy, and use of reflective process in students who receive their first devices.

9. Promoting Collaborative Learning in a Distance Learning Environment

Koc (2005) mentioned that using ICTs enable students to communicate , share and work collaboratively. Students may have opportunities to explore ideas and to develop concepts, they can acquire knowledge together also they share diverse learning experiences from each other to express each other and reflect their knowledge .

10. Higher Critical Thinking Skills

MacMahan (2009) mentioned in his study the correlation Information and communication technology tools and the positive impact on critical thinking acquirement, thus, he emphasizes and strongly advises to integrate the technology in education in which it improves the higher critical thinking skills of the learners.

11. Supporting Students' Confidence

The access of ICTs outside the educational sector affects users' confidence; the students who use technologies in different areas have more confidence than others (Grish& Prakash and Yachodhane &Mahaveer and Prabhakar, 2017).

12. Supporting Creativity in Education

Digital ICTs can be seen as a set of tools which can be chosen as an appropriate for the appropriate process .Creativity can be promoted and extended with the use of new technologies in which there is understanding and opportunities for the variety of creative processes learners can engage in the books. Other benefits are also mentioned such as : problem- solving, creativity and critical thinking as an important competencies in the sector .ICT tools enable users to make change, try out attractiveness and to keep the traces of the development of their ides the characteristics of ICTs allow the students decide the way they use them, the key affordance of digital is that the knowledge can be created, discovered much more quickly and easier. ICT can play the role in making connection with others in way of collaboration creatively (Nikolopoum, 2018).

1.6. The Advantages of ICT in Education

Information and communication technology (ICT) influence every aspect of human life. They are playing silent and important roles in different fields such as ; business and education .In today's digital era , ICTs' use in classroom is very important. Ratheswari (2018) believed that technology can bring out education sector from dark to the light; the adoption of these tools in the educational environment has several important advantages and benefits for an affective teaching and learning process.

1.6.1 The advantages of ICT in Teaching Process

As it has reported by Deb & Baishakhi (2016):

- a. ICT helps the teachers to interact with the students.
- b. The teachers access with other institution and universities.
- c. ICT tools help the teachers in both pre-service and in-service teachers training.
- d. Teachers can improve their skills through ICT use.
- e. The preparation of the teaching process is easy with this use.
- f. The use of the teachers' skills in the real classroom situation could be through ICTs.
- g. The teachers can deliver the content more effectively with different tools.
- h. It is considered as popular tool for the organization and managements in institution.
- i. Teachers provide technological support in learning, by use of the technological equipments during the process.
- j. The traditional methods of teaching could be removed by applying the modern methods of the process.
- k. ICTs bridge the gap between the teachers and the students, through the communication with them properly.
- l. Teachers design and educational environment with the use of such tools easily.
- m. ICTs play an important role, in which the teachers can evaluate their students.
- n. ICTs can also help the teachers to support their personal development in their knowledge, attitudes and skills.
- o. The use of ICT tools in the institutions develops the curriculum.

1.6.2 Advantages of ICT in Learning Process

Mahaveer and Prabhakar (2017) cite many advantages of information and communication technology in the learning process;

- a. ICT facilitates sharing of resources, experiences and advices.
- b. Greater flexibility in when and where the tasks are carried out
- c. Gain ICTs' literacy skills, confidence and enthusiasm
- d. Technological tools used during the lessons motivate the students to continue learning outside the educational environment
- e. ICT encourages the independence and active learning and self-responsibility for the process
- f. Students can share ideas related to the curriculum
- g. ICT makes the lessons more enjoyable and it may improve the students' attendance and concentration
- h. Teachers could explain easily complex instructions in which they ensure the students comprehension.
- i. Through ICT use, students improve the digital culture in schools, colleges and universities.
- j. ICT use saves time and efforts
- k. ICT helps the students to enhance the learning management system (L.M.S).¹
- l. Students can replay and retrieve the missed lectures
- m. Students can minimize the cost of education since the most of the lectures are free of cost. Shende & Reday (2020)

¹ For further details, visit <HTTPS://www.edsys.co.blog.what-is-ict-in-education>.

1.7 The Disadvantages of ICT in Higher Education

ICT can be represented as any technology that has uncountable range of benefits. There are some risks of using ICT in education.

The use of the information and communication technologies in education creates a partition known as digital gap within classroom between students who are more familiar with the information and communication technology will learn faster and they will have more benefits than others who are unfamiliar to technology. The attention can be distracted from the main goal of the learning process to the development of the ICT skills which may be considered as secondary goal in the process, ICT use also may affect the connection between teachers and students since it is seen as communicative tool instead of face –to face communication. Furthermore, not all the teachers are ICT expert may affect the process of learning to students, the training related to ICT are more needed in the domain(Bushati & Baralli and Dibra & Haveri, 2012).

As other disadvantages of this digital use as Mahmood & Yiwan (2017) put it; it is not easy to find the right resources for the students questions, they try to find answers for through this ICT and also not many teachers have enough knowledge about how these devices are used in the process. The use of such tools in the teaching need a good preparation that may cost the educational institutions more money.

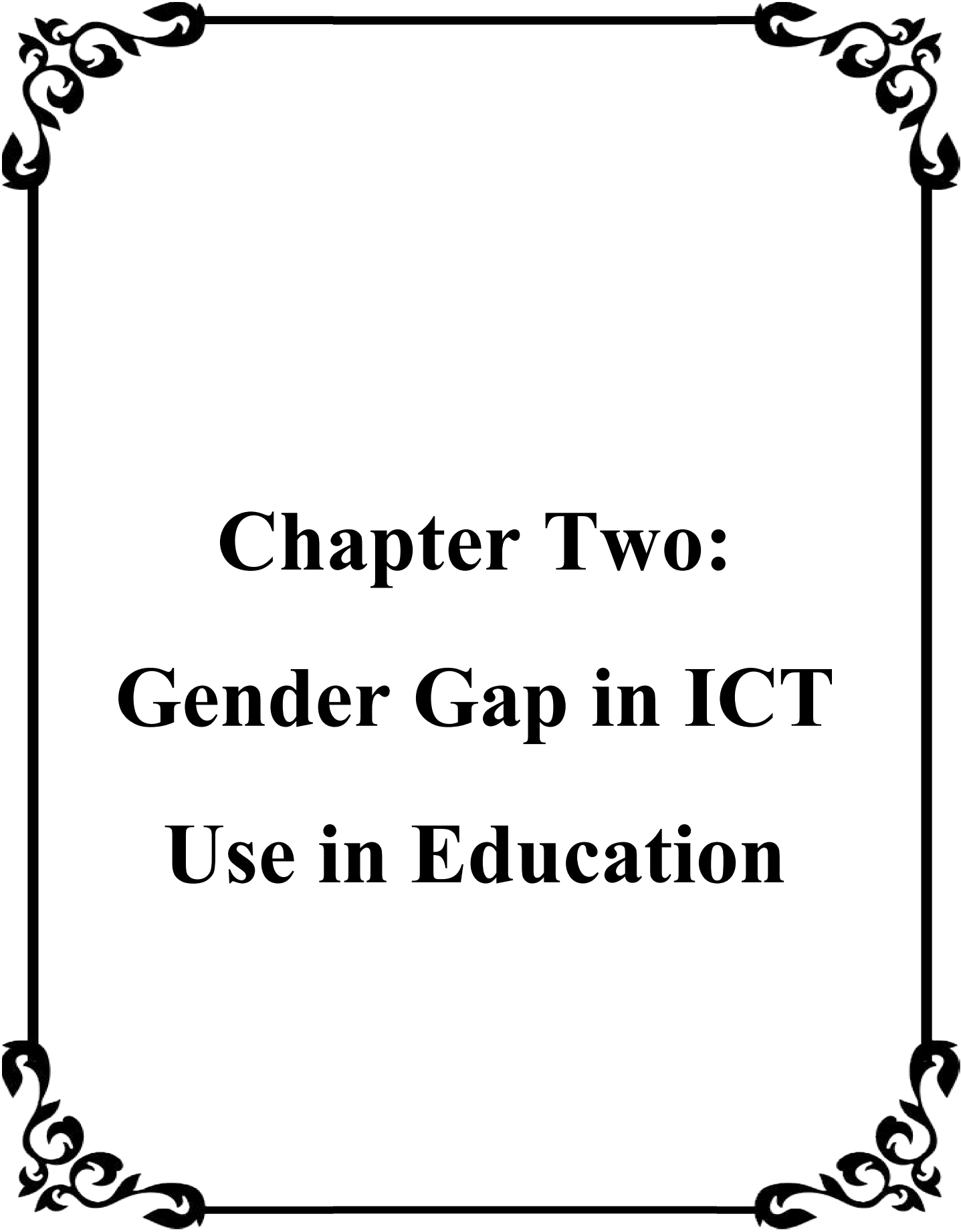
Moreover, there many disadvantages are mentioned in the use of the ICT as follows:

The information and communication technology are considered as a risk to the use of the traditional books and handwriting method, and also the implementation o the digital devices in the educational curriculum is difficult in managing the on line courses, throughout the misleading and misguiding information may have a negative result on the students education².

²For further information, visit <http://www.edusys.co/blog/what-is-ict-in>.

1.8. Conclusion

This chapter attempts to provide an overview about the use of information and communication technologies in educational environment .It starts with the definition of ICT concept , then moving to the use of it in higher education in Algeria and highlighting the importance of the access of this digitals and also its positive impact in educational sector .Moreover, this chapter includes not only the advantages of this access in education process in both learning and teaching process but also the disadvantages of the use of the information and communication technologies in the higher education are mentioned in this chapter .



Chapter Two: Gender Gap in ICT Use in Education

Chapter two: Gender gap in ICT in higher education

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2.1 Introduction

The issue of the gender gap has been studied for decades since it has been observed in different fields , especially in technology .This chapter attempts to bring an overview about the gender divide in ICT access .To begin with , this part discusses the gender divide concept in the information and communication technology moving to the disparities between males and females in the use ICTs and then to the gender disparities in ICTs for learning .Moreover , this chapter explores the main barriers that create the gap in the digital field and also it offers different recommendation to bridge this gender gap .

2.2 Gender Divide and ICT

Digital divide is a concept refers to the idea of a potential division between two groups; on one hand, those who benefits from the digital devices and on the other hand, those are excluded from this field access and its benefits. N. Al-Jamal & E.Abou-shanab (2015) state that The digital divide refers to the unequal access of citizens to ICT , and possession of skills and experiences required for using it .This digital divide can take many forms , and can be described variously in term of gender , location , skills and income and also refers to the gap between people who have access to ICT tools and those who do not ; it entails both software and hardware .Moreover, gender plays an important role in the access of information and communication technologies and internet even when both genders have almost equal access to this tools or similar literacy rate but women have a lower rate in technology related to education , employment , income and social activities than men .This gender divide , or gap describes as the disparities between different genders in society, roles , business world , including inequality of opportunities and benefits Wol.iza.org.

However, digital divide was defined by A.G.Van Djik (2005: 5) as follows:

The digital divide is usually defined as the gap between people who do and do not have access to forms of information and communication technology. These forms are primarily computers and internet .Sometimes, cell phones particularly the smart phones and other digital hardware and software are also included. The concept figures in discourse about social and information inequalities. Inclusion and exclusion in particular social units are common concepts in this respect.

C. Jesus (2016) shows clearly that the digital divide involves both issues of access to ICT resources, as well as the patterns of use that different individuals and organization demonstrate. Disparities and differential have been often explained by referring to the socio-economic backgrounds, age, educational characteristics of the users or household, location or disability with certain group of users who are more disadvantages compared to others.

USAID (2020) defines the gender digital divide as the distinction between those who have the internet access and are able to make use of the digital communications and those who are excluded from these service; the gender digital divide reflects the inequalities in the access and use between females and females in terms of the digital technologies. Moreover, the digital gender gap was defined as a gap in use of mobile phone, and its use generally was related to women ownership, since their ownership of such devices less far likely than men to use ITU news magazine.

There are several statistics and studies which show the existence of the division and the gap between both genders (males and females) in the ICT access and use; in which women are underrepresented in most of digital and ICTs' levels. OECD (2019) there is no doubt that digital gender divide addressed in all APED in 2017, women used internet to lesser extent than men. Gender differences also emerge with respect to the skill and confidence in using digital skills. This report lights many other obstacles that prevent women from playing an active role in the digital revolution. Internet limitation in our societies, there are reflected in education system curtail women ability to benefits from the opportunities offered by the digital transformation and create barriers that magnified later in life.

The digital gender divide has been recognized as a challenge to achieve the gender equalities especially for women. Access is considered as the key to achieve the digital inclusion. However, women have less access digital technologies and the internet than men, and they are less likely than men to own or use the digital devices than men as it is reported GSMA (2018) that found that women in different countries use mobile internet less than men. In addition, access and use are not the only ways in which women should interact with digital technologies and involved as much as men in the design since their participations in the context are limited and unequal. Women have less access to digital technologies and internet than men and they gain less benefits from them than males do; especially certain group of females such as; elderly women, who live in rural areas, those who live with certain disabilities, latest of 2017 estimates from the ITU suggest that women globally are 12% less likely than men to own or use the mobile phones, which are the common means of personal communication and internet access in different countries (Reiko, 2019).

ICTs are not gender-neutral like any technology, they are socially constructed, and impact men and women differently (Hafkin, 2002). Globally, there seem to be sustainable differences between men and women in the access to and impact of ICT. Global inequality between men and women as it is reflected in various fields. However, the persistence of stereotypical attitudes about women's roles and discriminatory laws and practices, are among the factors that also shape women's capacity of access to and use of ICT (Report of the Expert Group Meeting Seoul, 2002).

2.3 Gender Disparities in ICT Use

Internet has become as a way of life for the majority of higher education around the world, it is a functional tool that has greatly changed the way they interact with others and with information as they go about their studies.

This study showed that students have differences in prior experiences of the internet and in the availability of the internet access these differences are directly attributable to gender. Therefore, females students in the study that have less prior experiences of the internet compared with males counterpart. Males overall had been using internet longer than females. Concerning the frequency of the internet use, this survey reveals the males use internet more frequently than females in which they spend more time on computers and internet than women in this study, it is reported that men have more confidence in using search to find information and also in downloading materials from the internet (Hayat Naciri, n.d)

Davaki (2018) mentions many studies that have demonstrated the disparities in the internet deployment between men and women. Men use the internet more for the social interaction and relationship maintenance and they tend to use it for more targeted activities such as; obtaining financial information or reading about the news. However, women also seem to have integrated text based communication (emails) more than men, women's and men's online practices are different women tend to engage more in collaborative conversations while, men in more competitive communication.

Often, ICT literacy is linked with particular education choices where certain gender gaps are observed. According to the statistics reported by OECD, girls expect to work and they see themselves in a health and social sciences professionals more than boys while there are almost four times boys see themselves in a career in ICT and science. These large diversities of expectations based on gender stereotypes need to be challenged through training and awareness.

Becta (2008) suggests that there are differences which do exist between girls and boys in the use of ICT in education it may be due to boys spending more time on computers .According to Passey's study (2004), it is found that males seemed to be gaining more in certain cases . The author suggested that ICTs helps them to move from burst patterns of working to more persistent one in other word, ICTs can help boys to work more than girls. Volman et al. (2005) explain that boys are motivated by a higher level of access to ICTs .In ICTs activities males are competitive in short duration than girls, this related to many factors, females preferred to have explanations before they start using ICTs activities whereas males would rather try things out for themselves .Internationally evidences suggest that boys have more experience of using this digital and they use it freely and they consider themselves capable and advanced in its activities such as ; downloading and programming .

Al-Jamal &. Abu-Shanab (2015) also share the view that women and men prefer to use ICT tools differently , their work indicate that women use the communication side of ICT while , men are attracted to technical side (programming and maintenance ,etc) , such gender differences toward IC tools also result in contributing to the gender digital divide .

Gsmar Report (2015) bring to light that women report using digital tools differently than men because .their daily life patterns and preferences also differ for example; since they are often in charge of daily household activities, their free periods may be at different times of they: day while the middle of the day rather than the morning or evening, whereas men use it freely in time and use. These differences in usage between men and women are important that difference between men women to use them. However, even when women own mobile phone they often report using mobile services less frequently or less intensively than men, closing the usage gap between men and women is important to advancing the digital the inclusion and ensuring the voices of women and girls are represented in the digital world.

2.4 The Gender Disparities in Using ICT in Learning

For Hon yow & Alison Fong (2012), the roles of gender differences in using technology for learning has been extensively studied. Howang ,Fisher & Vrongistinos (2009) shed an important light on the use of technology for learning as a dominant activity for males, for them, males have a positive attitude toward using technology for learning more than females do .Moreover, even when equal

access is provided to the students, females are less likely to use digital devices than males, which is related to the perception of the predominance of the use of technology for learning as a male activity.

2.5 Reasons and Barriers behind the Digital Gender Gap

The digital gender divide has been recognized as a challenge to achieve gender equality for women. However, the concept of “digital divide” has been around almost as long as ICT has been available. While traditionally it has come to mean a division in society, based on socio-economic factors. In the recent decades, our society has faced the issue of an undeniably present digital interaction between members of society and technology that has vastly increased in a phenomenon known as the digital revolution. Access to ICT has become an essential part of our lives. However, not everyone has access to this technology; there is the term “digital divide”. That creates a gap between members of the communities due to many factors, the main factor will be focus on is the gender (Kiss & Abedellatif, n.d). Women’s ability to gain meaningful internet access is influenced by many factors including; location, power, gender, social-cultural norms and education. Disparities and discriminations in these areas translate into specific gender based challenges and barriers to the meaningful access in the digital fields as the following factors;

2.5.1. Social Factors

A large number of women in both developed and developing countries suffer from gender – based discrimination, because of social norms and roles constructed for them. They often end up confined in traditional stereotypical roles within their families. Due to the constraints and limitation of their social roles imposed upon them, women end up discouraged from achieving their needs and personal goals.

2.5.2. Women’s Human Right

Limitations to the access and use of ICTs by certain groups, including women have been shown to interfere with the right to access to information as well as freedom of expression, religion and association (Kiss & Abedellatif, n.d).

2.5.3. Affordability as a constraint to Women' access to Digital Technology

Particularly in the rural areas the affordability can be major barriers to the digital world .The affordability not only refers to the financial resources .needed to purchase and operate digital technologies but also to human resources. That includes the time needed to learn how to use digital tools .However, time poverty discretionally effect women (OECD, 2019).Moreover the cost remains the greatest barriers to digital devices ownership for both gender. This barriers refer to both the cost of the devices and the cost of usage typically affect women because their income is generally lower than men .In addition , women often have less financial independence and find it more difficult to access than men. Females are therefore more sensitive to price than men when buying devices and often choose those with poorer quality and connectivity which enable lesser access to the internet and other services (Reiko, 2019).

2.5.4. Lack of Skills

Even when women know about digital technologies and have access to them, they may have lack of the skills and confidence to actually use them such as; “technophobia” is often result of concurrent factors including; education, employment states and income level. Women also lack of the skills and confidence to engage with digital technologies effecting at every level , starting from basic usage .In many countries , girls have poorer access to education than boys, and as result more are literate limited literacy leads to lack of digital skills and lack of confidence , reducing women's ability to take advantages of on line resources .As result , of this lack of confidence , women are less likely than men to use transformational services(like mobile and internet) .and more likely than men restrict their use to a limited number of services and applications (Reiko, 2019).

2.5.5. Negative Prior Experiences

Gender stereotyping and on line harassment contribute to frequent reports that women do not feel safe on comfortable .This also may be lead many families to discourage females from doing so .Such negative experiences on line, in media, social networks can have negative impact on the well-being of many young girls and women with a negative spillover effects on their self-confidence, trust .their mental health and psychological safety (OECD, 2019).

2.5.6. Opportunities, Attitudes and Expectations

In that regard schools are particularly important as they create a space for education to help tackle the gender digital divide by dismantling gender stereotypes that prevent girls from developing in their skills, ambition and confidence to thrive in the digital world –granting access to (good) education to all individuals including girls and women who live in disadvantaged conditions or areas is necessary condition to bridging the gender divide .Concerning the educational sector , females receive stereotypical advice when selecting courses , educational pathway and careers . Here by two few women have skills, confidence determination needed to thrive in the digital world (OECD, 2019).

2.5.7. Availability

The internet coverage around the world is expanding, there is still lack of infrastructure and access including the significant gaps in internet coverage and adoption in poor and low-income areas .This report represented as lowest has penetration of worldwide internet use at 39% many factors account for these gaps .Underprivileged women are also less likely to have access to digital devices (USAID, 2020) .

2.5.8. Ability

2.5.9. Digital Literacy and Skills

Digital literacy includes both the skills to functionally use the internet as well as the knowledge on how to do so safely, securely. the lack of digital literacy is persistent barriers to adoption and use of technology , several gaps exist in the functional ability of certain groups to fully use these digital tools .This becomes particularly important for the employment opportunities over 90% of jobs. Worldwide have a digital component and without these skills, women often do not have the confidence to participate in the digital work force (USAID, 2020).

2.5.10. Social Norms and underlying Gender Inequality

In many countries, social and cultural norms dictate that women cannot participate in the digital ecosystem .The technology is often perceived as a risk to the traditional social orders. Challenging these norms and promoting positive perceptions of women's .ICTs use is essential to sustainably including these women in the digital ecosystem (USAID, 2020).

2.5.11. Lack of Relevance

Many women who are meant to benefit from digital development programs see reasons to be online; these programs do not take women's specific needs and concern into account (USAID, 2020).

2.5.12. Safety, Security and Harassments

There are safety and security risks associated with on line digital access and women and girls face a disproportionate amount of digital harm and harassment. This includes being exposed to possibly exploitative behavior and environment that discourage .Women's use of the digital technology going on line can pose a safety risk to women and girls breaking the traditional social order .Efforts to close the gender digital divide must take into consideration how to protect the safety and security of program beneficiaries (USAID, 2020).Digital technologies can both empower women and foster abuse that discourage them , the online harassment and abuse and violence can represent significant barrier to access the digitals for women (Reiko, 2019).

2.6 Bridging the Digital Gender Divide

The world is becoming increasingly connected and surrounded by technological development .however, unfortunately one big group is still missing out on the benefits delivered by technology, which are women comparing to men in the field .the digital gender divide it is not going to close but its own, its roots and causes are driven by complex set of social ,economic, cultural barriers .These obstacles can only be overcome with important targeted intervention of policymakers (Mats & Bokova2017).Additionally, equal access to Information and communication Technologies is not sufficient in itself to close the gender digital divide, by having the internet and buy such technological devices; women need to have knowledge and resources to translate access into effective use .However women face series of obstacles when it comes to free use of ICTs .Some of these obstacles are related to the education gap affecting women .lower level of literacy and lack of technological skills that pose an obvious impendent on both access and use of ICTs .Moreover, there are reasons for bridging the gap and ICT in both in society , and within the field of education in particular , from equity point of view ; women need to fully participate in all aspect of society and from efficiency point of view ;females need to be part of each activity at all levels since , the ICTs are considered as a goal and tools for increasing the participation of women in society (Tomate & Welsum, 2007) . There are many recommendations are suggested to curb and bridge this digital gender divide.

1. Enhancing access to and Improving the Affordability of Digital Technologies

Bridging the digital gender gap not only requires infrastructure investment, but also digital technologies more affordable, as cost remains one of the obstacles for women to access the internet. Many countries recognize the existence of the gender disparities in technologies' access and use. However, many of them they create different programs for instance Argentina and south Africa use the financial resources from universal service funds to support women and girls in this access. For Canada In 2017 from its budget include new affordable access programmed assisting service provider to offer low cost home internet to attract low income families and women in particular (OECD, 2018). Not only these, but also other countries pursue broadband for all international development programmes as a way to provide internet access, also and especially to women. In 2017, the broadband commission recommended to improve the understanding of the affordability issues and reduce the cost of the digital devices and services, improve the network coverage capacity and quality, and safe accessible public access facilitate to serve women.

2. Boost Skills

Education is one of the most powerful tools that policymakers use to bridge this gap. It is essential to equip and train women and girls with skills to participate and thrive in the digital transformation, and to educate the rest of the society to curb the social-cultural norms that discriminate against women and their use of digital means. This could be obtained in several ways; raising awareness among females that they are well suited and perfectly able to perform things related to ICT field. Showcasing female role models would help them and convey the idea that women leadership is as "normal" as men leadership. Pedagogical approaches fostering mixed gender team works especially STEM related subject which helps to curb all this diversities among women and men. According to this report the skills which are in highest demand in the digital sector, self-organization managing and advanced numerical skills, are more frequently displayed by men more than women however, it provided effective efforts to get women and girls engaged in STEM in order to ensure skills succeed. Moreover, as a part of the solution is "training the trainers" which support the teachers and provide them with the skills needed to deliver the digital skills related to the curriculum. Also providing both materials and methods in teaching would facilitate females up skilling and their integration in the digital world with the use of gender neutral textbooks and support engagement in extracurricular activities such as; on line courses. All these opportunities and challenges in the sector could bridge the gap.

3. *Overcoming Normative Barriers, increasing Safety in this Access*

Policies can be only effective if they also address the main factors that prevent females from their participation in the digital fields and from enjoy its benefits. This is needed to address those normative obstacles and beliefs and to overcome stereotypes toward them.

Lack of awareness and language barriers may be reduced through promoting joint work with local (males) helpers in which they can teach women in rural areas to use digital technologies and interact with their families to show them the importance of this digital sphere .Moreover, the safety of females, is a reason for the families opposition for the ownership of digital devices and use of the internet , however , taking the advantages of education opportunities as an awareness to support them to get in the field .

Moreover, the educational resources have to provided to promote the safe use of digital technologies and teaching women and girls to address safety issues that increase their ability to protect themselves in this environment .Furthermore, government should protect women's rights as fundamental one as freedom of speech and privacy are protected (OECD, 2018).

3.Providing Access and Training for Women in basic Skills will not lead to Women's Advancement in ICTs

There are ICT training initiatives across the region while, the possibilities for women to benefits from such initiatives nevertheless limited .It is necessary to ensure that efforts to increase women's access to ICTs go beyond providing the access to computers and basic training in their use .Furthermore, those efforts are required to motivate and support the women and educate them more about the usefulness of ICTs for their social development and personal advancement.

It is also suggested that producing measures to strengthen women's interest and appreciation of ICTs can be beneficial (Report on Gender and ICT in Central and Eastern Europe and the Common wealth of Independent States? 2004)

4. Local Women –Centered online Content is Needed

Language and cultural incongruities are not the only barrier to women's accessing information that would be used. The production of local content also plays an important role in raising awareness among women about the roles of the information and communication can play in their lives. More electronic and information in the local language produce for women and for women are certain to increase women's motivation to access and use of ICTs these should be supported in their promotion and production of women centered content and advertising among their constituencies , as well as offering means to access the content .

5. Providing better Opportunities for young women to Succeed in ICTs

Women still lag behind men in keeping up with ICT development. Increasing the integration of ICTs within gender programs as well as in schools offers girls much better access and chances to close the digital divide than women of middle age or elder. However, it is important that women also pose a great potential to use ICTs for improving their lives and deserve to be supported ICTs (Report on Gender and ICT in central and Eastern Europe and the common wealth of Independent states, 2004).

6. Creating new Opportunities in ICTs

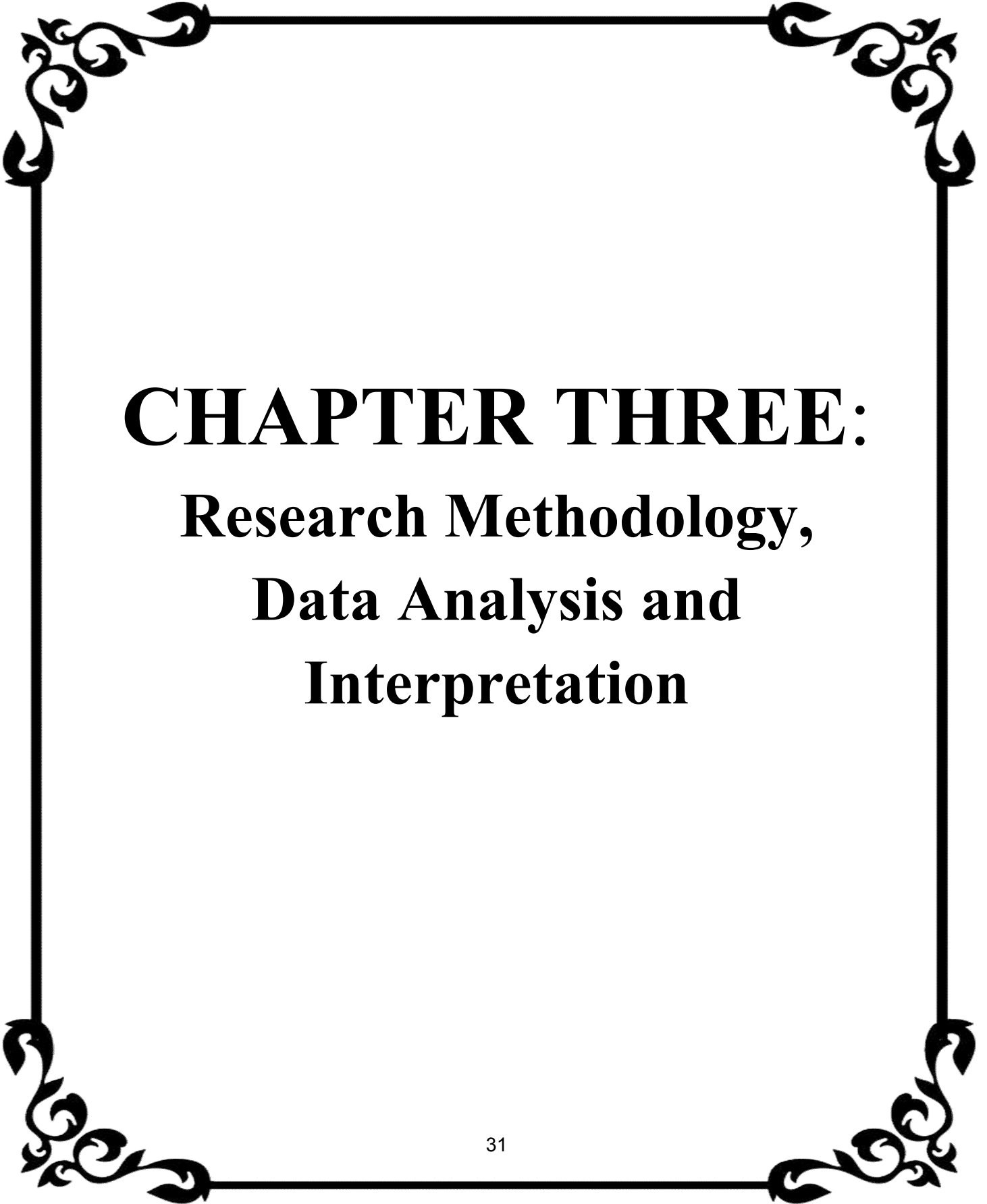
Projects should be created in which they contribute to eliminate and reduce the inequalities between better educated men and women. These projects focus on women themselves and to encourage females who are better educated in order to motivate them to get attached in the digital fields.

7. Access and Control

This can be defined as the opportunities to make use and access of ICT, technologies, knowledge, information and control is the power to decide the way how ICTs are used and who has access to them. Moreover, know how, affordability and rights in workplaces belong to these fields. ICTs (Report on Gender and ICT in central and Eastern Europe and the common wealth of Independent states, 2004).

2.7. Conclusion

The chapter at hand has provided an overview about the gender gap in information and communication technologies. It includes a general understanding about the gender divide concept and ICT use then, it highlights the gender disparities in the access of ICT. In addition to the differences between males and females in the digital use for learning, this chapter puts great emphasis on different reasons and barriers behind this gap. Finally, It ends up with various recommendations to curb and bridge the gender digital gap.



CHAPTER THREE:

Research Methodology, Data Analysis and Interpretation

Chapter three: Research Methodology, Data Analysis and Interpretation.

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3.1 Introduction

The chapter at hand aims to bridge the gap between the theoretical and practical parts, paying attention to the appropriate conceptual terms that have to be mentioned. It presents the methodology used in conducting this research and provides information about the research design. It includes the description of the participants, how they are selected, the instruments by which data are obtained and analyzed, and a detailed description of each instrument is stated. .Worthy of notice is that the data gathered are analysed both qualitatively and quantitatively. Finally, some suggestions and recommendation are discussed to find ways for closing gender gap and improve both genders' inclusion in technology.

3.2 Research Design

According to MacMillan and Schumacher (2001), research design can be defined as a plan of selecting subjects, research sites and data collection instruments to provide answers to the research questions. In other words, the research design is a framework for planning one's research work and answering its research questions. Shona McCombes. (2021) shows clearly that creating a research design means making decisions about the type of data needed, the location and timescale of the research, the participants and sources to be used, the relevance of the variables and hypotheses, and then, the methods for collecting and analyzing data.

The current research work aims to investigate the gender gap in ICTs use at Ibn Khaldoun University, and explore the reasons behind this digital gender gap. To achieve these aims, we opt for a mixed method combining creatively qualitative and quantitative approaches as we believe their mix may provide the richest and most complete understanding of the subject under study. A detail of their integration is demonstrated in the figure 3.1 below:

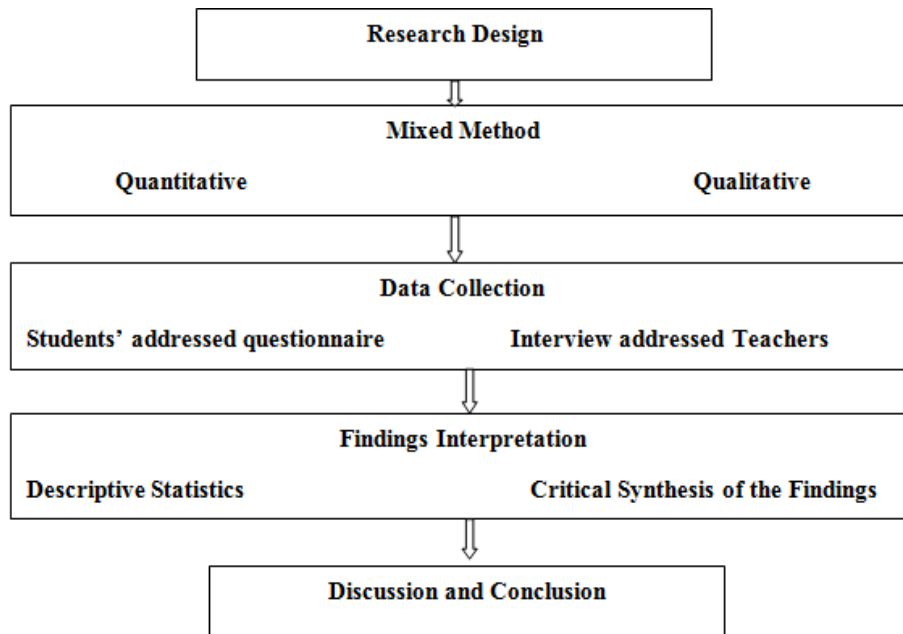


Figure 3.1.: The research Design of the Present Study

2.3.1 Triangulation

Being convinced by Patten' claim (1999) that no single method ever adequately solves the problem, the subject of this work calls for an integration of more than one data collection method. Researchers call this triangulation of the data (The Wadsworth Guide to Research, 2009). For Joppe (2000), triangulation is a method used to increase the credibility and validity of research findings. To illustrate, credibility refers to how believable a study is, while validity is concerned with the extent to which a study accurately reflects the topic being investigated. Furthermore, Noble and Heal (2019) state that triangulation, in both quantitative and qualitative studies, can help overcome fundamental biases arising from the use of a single method; it also helps explore and explain complex human behaviour using a variety of methods to offer a more balanced explanation to readers.

In this study, a mixed method, employing a questionnaire and an interview, is used to investigate the disparities between males and females in the use of the information and communication technologies.

3.3.2 Mixed Method: Qualitative vs. Quantitative approach

As it is already stated, this research work opts for a mixed method in which both quantitative and qualitative approaches are included. These approaches are supposed to be appropriate for investigating our research topic. The important reason behind the integration these approaches is to guarantee the validity and credibility of the data gathered.

Both quantitative and qualitative approaches are used in this investigation for the sake of a better understanding of the subject under study and to confirm or disconfirm the hypotheses suggested. On the one hand, quantitative approach is thought to be objective because data analysis, interpretation, and conclusions are based on numbers. Second, its result can be generalized if conducted properly with appropriate sampling techniques, relevant methods, and among others appropriate data analysis tools. Qualitative approach, on the other hand, is considered as a multi-method in focus involving an interpretive, naturalistic approach to its subject matter (Denzin and Lincoln, 2004).

Consistent with the perspective just stated, the present study is carried out on English Master Students of Ibn Khaldoun University by handing them a questionnaire. Also, an interview is designed to some of experienced teachers of Ibn Khaldoun University department to help us gather data about this issue.

3.3 Setting, Population and Sampling of the Study

3.3.1 Setting

In fact, it is necessary to describe the setting where this research takes place. This investigation is conducted at Ibn Khaldoun University of Tiaret, an institution of higher

education where our interviews are conducted and questionnaires are distributed. This target University includes many departments including: English; French, Arabic, Economy and Political sciences.

3.3.2 Population

It is argued by Sekaran (2000) that population is the entire group of people, events or things of interest that the researcher wishes to investigate. The selection of the target population is considered as the most important part that can help the researcher understand the phenomenon under investigation. For this reason, the target population in our study is EFL students enrolled in the faculty of letters and Foreign Languages at the University of Ibn Khaldoun of Tiaret, (Algeria) and their corresponding EFL teachers at the same research setting.

3.3.3 Purposive Sampling

Directly relevant to the previous concept 'population', sampling is referred to as a process of selection a sufficient number of elements from population (Sekaran, 2000). It is a selecting technique in which the researcher chooses the representatives of the whole population to ensure that s/he can generalize the main finding from the samples to the population. Sampling in this study is a purposive one, following the typical strategy where participants share the same experience (Dornyei 2007).

3.3.3.1 Questionnaire Sample: Students

For the questionnaire technique; a sample of ninety four (94) EFL students of Master degree is recruited, this sample is representative of the target population which comprises of 370 students divided into two specialities (Linguistics and Didactics). Following our main research objectives and interests, only students' gender is examined as a variable in this study while other variables such as age and class are not taken into consideration. The respondents consist of forty two (42) males and fifty two (52) females. These students are asked for their consent to participate and complete a questionnaire.

The following table represents the number and percentage of the sample chosen for the questionnaire:

| Gender | Number | Percentage |
|----------------|---------------|-------------------|
| Males | 42 | 44,60% |
| Females | 52 | 55,30% |
| Total | 94 | 100% |

Table 3.1. Distribution of the Questionnaire sample

3.3.3.2 Interview Sample: Teachers

In the research at hand, for the semi structured interview, a sample of six (6) EFL teachers of the same affiliation which is 'Ibn Khaldoun University of Tiaret, Department of English' is asked for their consent to be interviewed. These teachers are asked to answer some questions about their opinions taking into consideration their prior experiences for better and valid findings concerning the disparities between men and women on the use of ICTs, the reasons behind this digital gender gap and to suggest some recommendations as well. Further detail about the selection of this sample is shown in the following table:

| Gender | Number | Percentage |
|----------------|---------------|-------------------|
| Males | 4 | 66.6% |
| Females | 2 | 33.33% |
| Total | 6 | 100% |

Table 3.2. Distribution of the Interview sample

3.4 Data Collection Instruments

Data collection is a process in which the researchers gather information and findings from different sources in order to be able to answer the research questions. Data

collection is an integral part in research that needs a planning in order to complete the research. We, as student researchers, have used various procedures throughout this process, starting by the selection of the target population and the sample; then, the selection of the appropriate methodological approaches and instruments. Concerning the instruments utilized, two research instruments are chosen in this study; a questionnaire and a semi structured interview as they are less time consuming, that is to say, they allow questioning a large number of informants in a relatively short period of time anonymously.

3.4.1 Description of the Questionnaire

According to J.BELL (1999), questionnaire is generally a series of written questions which the selected respondents have to provide the answers. As a common quantitative instrument, the questionnaire is the most tool used for collecting data in academic research in order to test the research hypotheses suggested. In this research, the questionnaire, designed for 94 master students both specialties (linguistics and didactics) at Ibn Khaldoun University in Tiaret, aims to gather the students' (males and females) opinions about digital gender gap.

The questionnaire used in this research is organized in four sections. It is designed of fourteen (14) open-ended and close-ended questions; starting with general questions going down to more specific ones. The first section contains closed questions about the personal information. The second section, that includes three questions, attempts to collect data about the attitudes towards the ICT tools for academic purposes. The third section is about ICT and education; it consists of three closed ended questions. The last section is accurately intended to shed light on gender gap and ICTs, it contains seven different questions.

3.4.2 Description of the Interview

Since teachers are one the main variables of this study, a semi structured interview is used to gather their views and opinions which, in turn, are very crucial to test the stated

hypotheses. The interview method, directed to six (06) teachers of English language at Ibn Khaldoun University of Tiaret, is selected as a qualitative instrument that includes both planned open-ended and closed ended questions.

3.5 Pilot Study

The questionnaire designed for this research went through several changes to assert its final print. Since it had been reviewed by our supervisor to check out its content, language and the format, it was then distributed to eight students in order to check it and to examine its feasibility, efficiency and to avoid any ambiguities concerning the research under investigation. In fact, their feedback helped much in the improvement of the final structure of the questionnaire addressed for the total sample.

3.6 Data Analysis and Interpretation of the Findings

As it is already stated, the process of collecting data is based on two methodological instruments: a questionnaire addressed to students and an interview directed to teachers.

3.6.1 The Analysis of the Questionnaire

The informants have provided us with pivotal data through the questionnaire tool. The findings gathered are presented in figures followed by a descriptive analysis to give crystal-clear views to readers.

1. Section One: Personal Information

Two variables are suggested for the first section “gender and specialty “. The following table and the figure fully elaborate this:

1. **Question One:** Tick the appropriate option please?

| Gender | Number | Percentage |
|---------|--------|------------|
| Males | 42 | 44,6% |
| Females | 52 | 55,3% |
| Total | 94 | 100% |

Table 3.3: The participants' gender

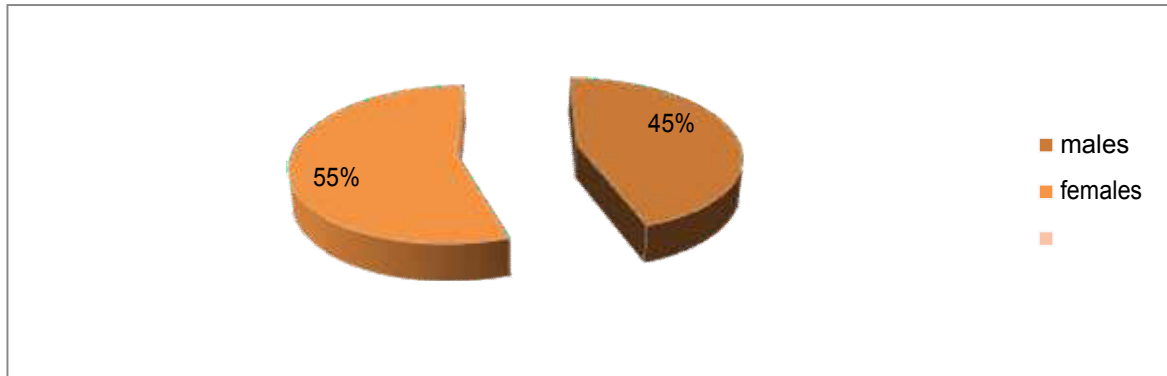


Figure 3.2: The Participants' Gender

The sample is not very evenly split between the female and male informants. The data presented in figure (1) indicates that the majority of the respondents are female students (55%), while male students constitute only (45%).

| | Didactics | Linguistics | Total (%) |
|-------------------|-----------|-------------|-----------|
| Males | 15 | 27 | 42 |
| Females | 22 | 30 | 52 |
| Total | 37 | 57 | 94 |
| Percentage | 60,6 | 39,3 | 100% |

Table 3.4: The Participants' Specialty

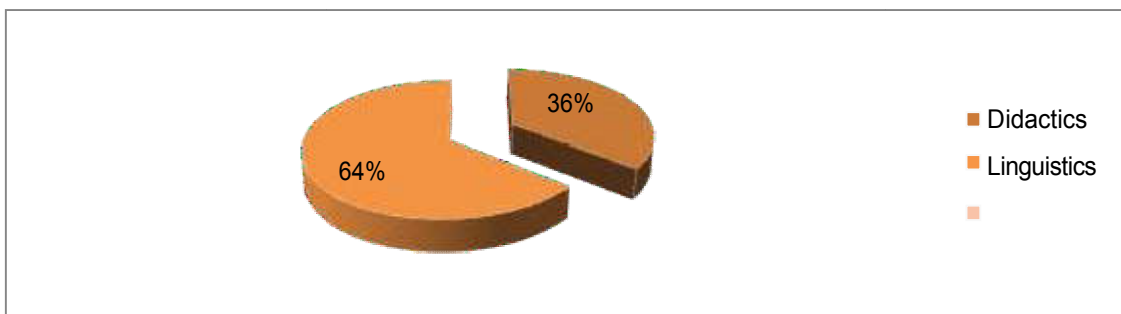


Figure 3.3: The Participants' Specialty

It is remarkable in this research that both specialties have participated. As shown in figure 2, students of Linguistics participate with 60% whereas for the other specialty 'didactics', participants constitute 39%.

2. Section two: Attitudes towards ICT use for academic purposes.

This section represents three questions suggested about students' attitudes towards ICT use in academic settings and purposes.

2. Question Two: Are you interested in ICT?

This question is asked to find out the informants' interest in the use of the ICT for academic purposes.

| | Males | Females | Total |
|-------------------|-------|---------|-------|
| Yes | 33 | 28 | 61 |
| Percentage | 35,1% | 29,7% | 64.8% |
| No | 9 | 24 | 33 |
| Percentage | 9,5% | 25,5% | 35.1% |

Table 3.5: The informants' interest in ICT use in academic settings

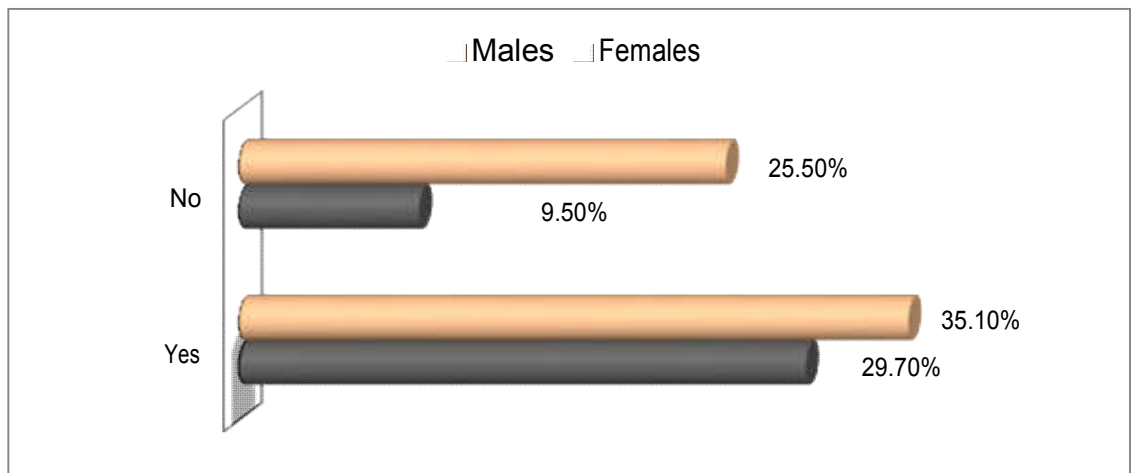


Figure 3.4: The Informants' Interest in ICT Use in Academic Settings

The data displayed in figure 3 indicate that the majority of both genders are interested in information and communication technologies in academic settings. But compared to response rates of the female participants who show their interest in ICT tools (25.7%), male participants rate themselves higher than them with (35.10%) .

3. Question 03: Do you rely on ICT tools in your field of study?

| | Males | Females | Total |
|-------------------|-------|---------|--------|
| Yes | 27 | 36 | 63 |
| Percentage | 28,7 | 38,2% | 66,9% |
| No | 15 | 16 | 31 |
| Percentage | 15,9% | 17,02% | 39,92% |

Tables 3.6: Reliance on ICT tools for studying

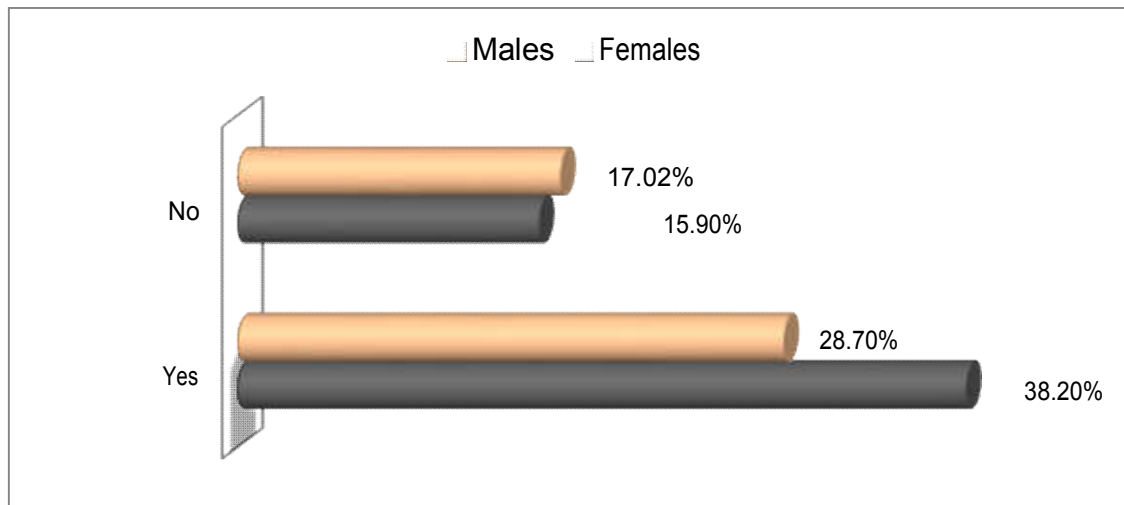


Figure 3.5: Reliance on ICT tools for studying

Looking at the data displayed in the table and the graph (04), it can be observed that as compared to the male students (28.70%), 38.20% female students tick the option 'yes'. Quite similar, in comparison to 15.90 % of the females, 17.02% males show that they do not rely on ICT tools in their field of study.

4. Question 04: Do you support the integration of ICT in education?

| | Males | Females | Total |
|-------------------|--------|---------|--------|
| Yes | 33 | 43 | 76 |
| Percentage | 35,10% | 45,70% | 80.80% |
| No | 9 | 9 | 18 |
| Percentage | 9,50% | 9,50% | 19.10% |

Table 3.7: Support of the integration of ICT tools in education

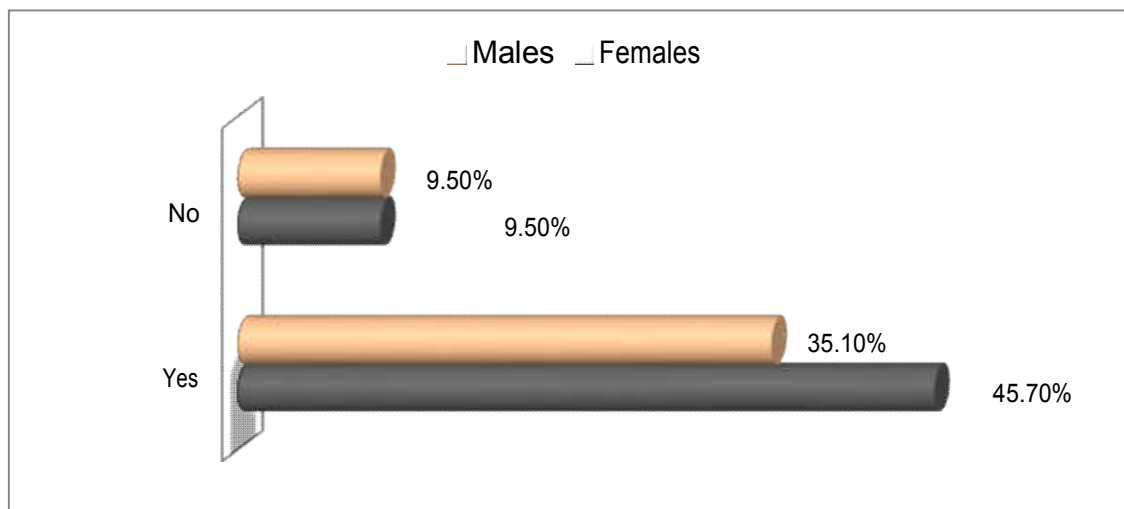


Figure 3.6: Support of the integration of ICT tools in education

This question attempts to ask the selected sample whether they support the integration of the ICT tools in education or not. The majority of the respondents (80.8%) are in favour of its integration. Further, the results show that female respondents with 45.7%, more than their male counterpart with 35.10 %, opt for the positive answer 'yes'. This finding has a direct relationship with the previous answer that is to say since females rely on ICT tools in their field of study, accordingly, they share the view to have them in education.

As for the students who replied positively, their justifications are classified according to their sameness and tabulated as follows:

1. The use of the ICT tools are helpful for learning process, they facilitate learning.
2. The students are encouraged to look for information from multiple sources
3. ICT tools help the students more to present their ideas.
4. Through the ICT use, the teachers could help the students to be more creative in the educational environment
5. They encourage the collaboration between the students through collective work
6. Their use increase the educational level, they play an important part in the educational system.
7. The ICT tools may save time and less effort
8. They have many advantages as simplifying the study and facilitating the process between learners and students through new technological techniques.
9. These tools open the doors for developing of languages through communication.
10. The use of technological tools could provide a clear and better understanding.
11. The excitement of the students while the use of those tools makes them interested more for the lessons.

3. Section three: ICT and Education

5. **Question Five:** Does your university provide effective support to the learners to use the ICT?

| | Males | Females | Total |
|-------------------|--------------|----------------|--------------|
| Yes | 6 | 27 | 33 |
| Percentage | 6,30% | 28,70% | 35.10% |
| No | 36 | 25 | 61 |
| Percentage | 38,20% | 26,50% | 64.8% |

Table 3.8: University' Support of ICT use in Learning

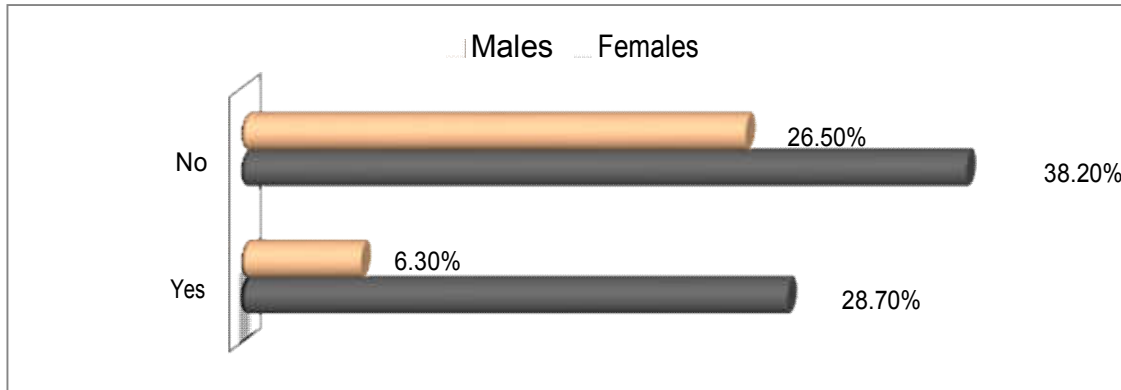


Figure 3.7: University' Support of ICT use in Learning

Concerning this question, 64% of the total sample answer with “no”, they state that their university does not provide an effective support to the learners to use the ICT. But 28.7% of the females, as opposed to 6.3% of the males, denote that as learners they receive support from their faculty to use these tools for their learning.

6. **Question Six:** do the ICTs have an impact on learning foreign languages?

| | Males | Females | Total |
|-------------------|--------|---------|--------|
| Yes | 33 | 41 | 74 |
| Percentage | 35,10% | 43,60% | 78.7% |
| No | 9 | 11 | 20 |
| Percentage | 9,50% | 11,70% | 21.20% |

Table 3.9: ICTs Impact on Foreign Languages Learning Process

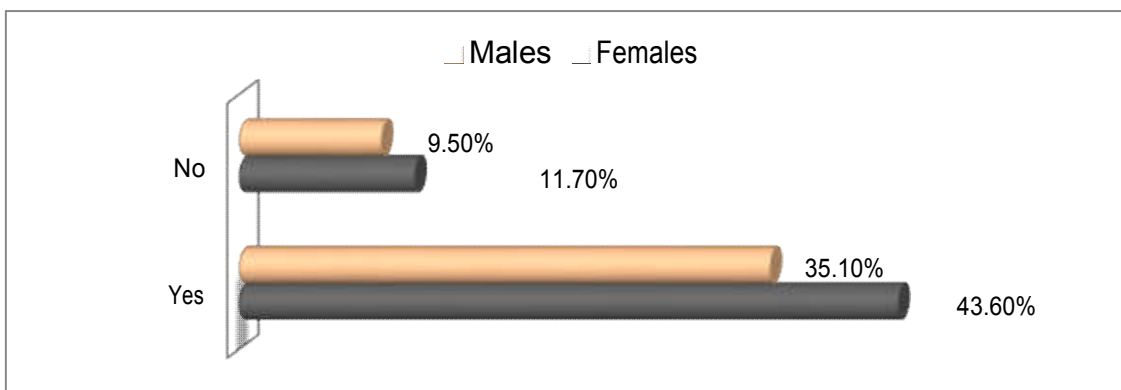


Figure 3.8: ICTs' impact on foreign languages learning process.

The purpose behind the suggestion of this question is to check if the ICT use has an impact on foreign languages learning process. It can be easily observed in graph 7 that 78% of the total sample believe that the use of such tools has an impact on learning foreign languages. As an illustration, although females are more likely than males, representing (43.6%) and (35.10%) of the entire sample respectively, to think that ICT effect their learning, 21.10% of the entire sample report that it does not.

Following this question, the respondents who opt for the positive answer ‘yes’ are asked to justify their responses. Their answers are grouped as follows:

1. ICTs help students by providing them with a vast range of resources.
2. These tools make the research easier in the target languages.
3. They help students to contact with native speakers (language and culture)
4. ICTs may increase and attract the learners’ motivation to acquire new different languages. They create enjoyable atmosphere in the learning process.
5. Technological materials facilitate studying information in the target language.
6. They help develop and improve the four skills of the language reading –writing- listening –speaking.
7. The learners gain the four skills independently outside the classroom.
8. The students become more engaged in the process of learning.

7. **Question Seven:** do you think that learners’ use of ICT increase their motivation?

| | Males | Females | Total |
|-------------------|--------------|----------------|--------------|
| Yes | 37 | 46 | 83 |
| Percentage | 39,30% | 48.9% | 88% |
| No | 5 | 6 | 11 |
| Percentage | 5,30% | 6,30% | 11.7% |

Table 3.10: Learners’ Motivation through ICTs use

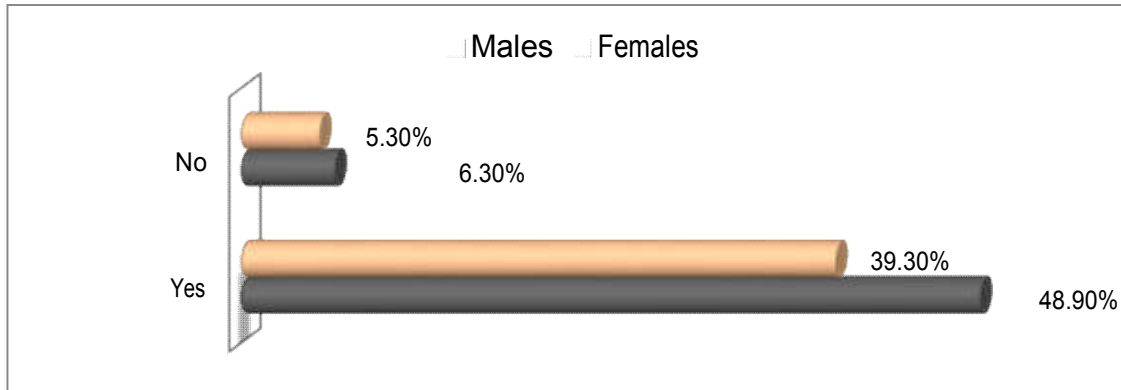


Table 3.9: Learners' Motivation through ICTs use

Figure 8 indicate that more than half of the respondents (88%) share the view that ICT tools use in education increase learners' motivation to learn. For the same view, the entire results of responses to each gender shows that females' response rates are higher than males with 48.9% and 39.3% respectively. This finding in fact justifies the previous answers where female informants rate themselves higher than their male counterparts.

4. Section Four: Gender Gap and ICT

8. **Question Eight:** who are among genders interested in the use of ICT in education?

| | Males | Females | Total |
|---------|--------|---------|--------|
| Males | 22,30% | 30,80% | 53.10% |
| Females | 19,10% | 21,20% | 40.4% |
| Both | 3,10% | 3,10% | 6.30% |

Table 3.11: Genders' Interest in ICT use in Education

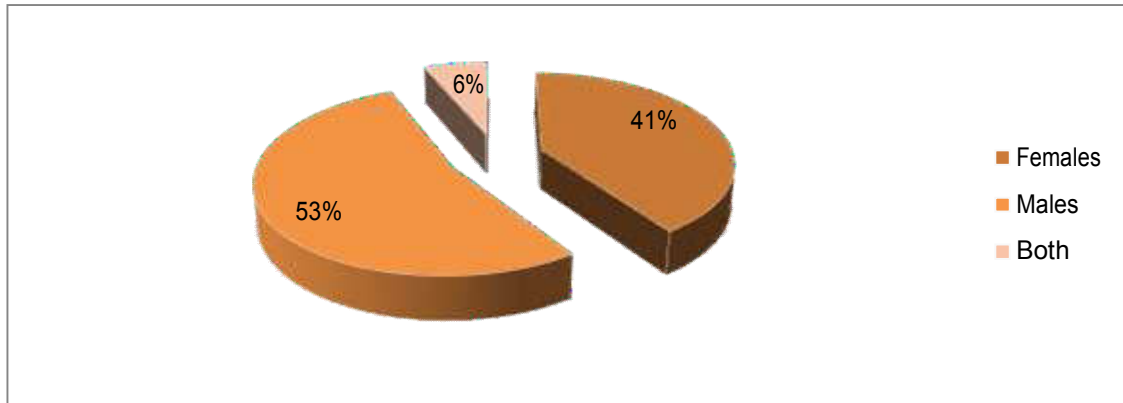


Figure 3.10: Genders' Interest in ICT use in Education.

The data obtained in figure 9 reveal that 53% of the participants said that males are interested in the ICTs' in education while less than half of them 40% report that females are interested in ICTs among genders. The findings also show that only 6% of the entire sample denotes that both genders are interested in ICT tool.

9. **Question nine:** Are there differences in the access of ICT between both genders?

| | Males | Females | Total |
|-------------------|--------|---------|--------|
| Yes | 23 | 28 | 51 |
| Percentage | 24,40% | 29,70% | 54.20% |
| No | 19 | 24 | 43 |
| Percentage | 20,20% | 25,50% | 45.7% |

Table 3.12: Disparities between Genders in the Access of ICT

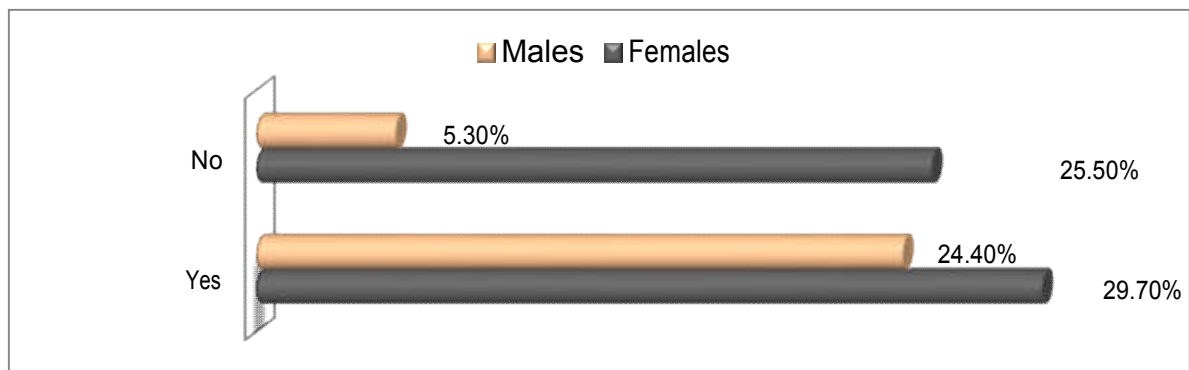


Figure 3.11: Disparities between Genders in the Access of ICT

This question attempts to know to participants' observation view about the disparities between both genders in the access of ICT. More than half of the respondents (54.2%) believe that there exist a gap between genders (refer to table 10). It can be stated that females and males have a slight difference in terms of opinion about such issue, their response rates are 29.7% and 24.4% respectively.

10. **Question Ten:** Do females have similar skills comparing males in the use of ICTs?

| | Males | Females | Total |
|-------------------|--------|---------|--------|
| Yes | 18 | 17 | 35 |
| Percentage | 19,10% | 18% | 37.20% |
| No | 22 | 37 | 59 |
| Percentage | 23,40% | 39,30% | 62.7% |

Table 3.13: Comparison of Skills between Males and Females in ICTs' use

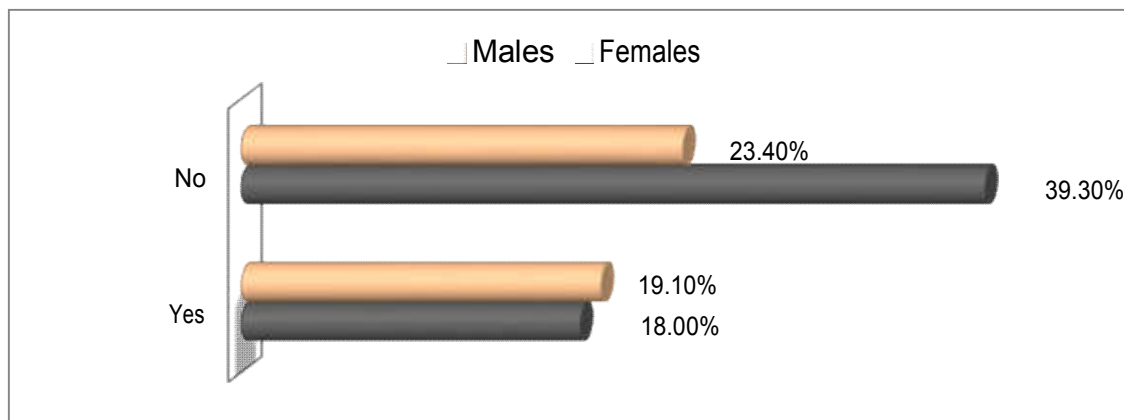


Figure 3.12: comparison of skills between males and females in ICTs' use.

This aim behind this question is to compare female and male students' ICTs skills. The results displayed in the table 11 show that 62.7% as compared to 37.20 % of the whole sample report that females do not have similar skills as males in the use of ICTs. This is full elaborated in figure 11, females (39.3%) while males (23.4%).

These 62.7% respondents are asked to justify their view. Their answers are ordered as follows:

1. ICT is considered as a male' domain, because males are familiar with it more than females.
2. Males are interested in technological gadgets; however females have lack of interest concerning the use of such tools.
3. Females are underrepresented at the most of ICT fields, they do not use other tools except phones.
4. Females lack confidence to use such tools. Lack of training concerning ICT may be is reason.
5. Females are less motivated to access, because of the negative culture influence.

11. **Question eleven:** In your opinion, who are integrated more in ICT filed?

| | Males | Females | Total |
|---------|--------|---------|-------|
| Males | 27,60% | 23,40% | 51% |
| Females | 14,8% | 28,7% | 43.6% |
| Both | 2,1% | 3,1% | 5,30% |

Table 3.14: The Integration of Genders in ICT fields

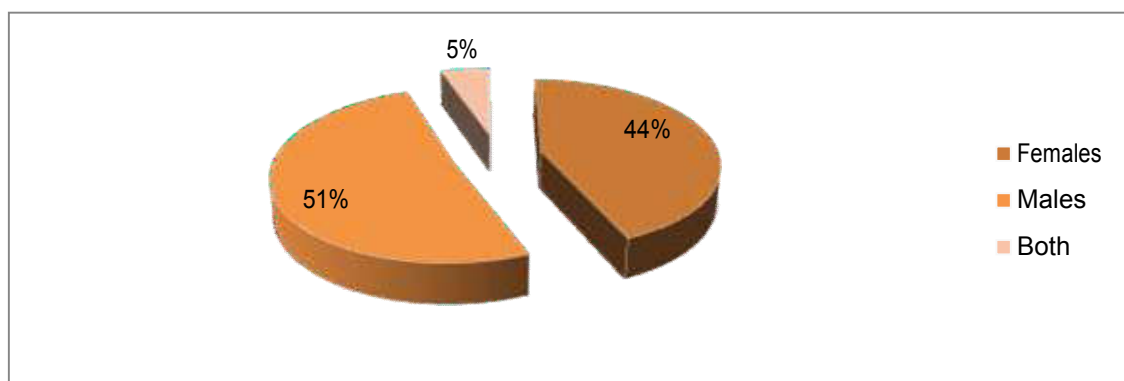


Figure 3.13: The Integration of Genders in ICT fields.

It can be noticed in figure 12, more than half of the informants (51%) report that males are more integrated than females in ICT fields. As opposed to 44% who opine that females who the ones more integrated, only 5% from the total selected sample assume that both of them share the same integration.

12. Question Twelve: Do females and males receive the same opportunities in different ICT fields?

| | Males | Females | Total |
|-------------------|--------|---------|--------|
| Yes | 19 | 15 | 34 |
| Percentage | 20,20% | 15,90% | 36.10% |
| No | 32 | 37 | 60 |
| Percentage | 24,40% | 39,30% | 63.7% |

Table 3.15: Gender Reception of Opportunities in ICT Fields.

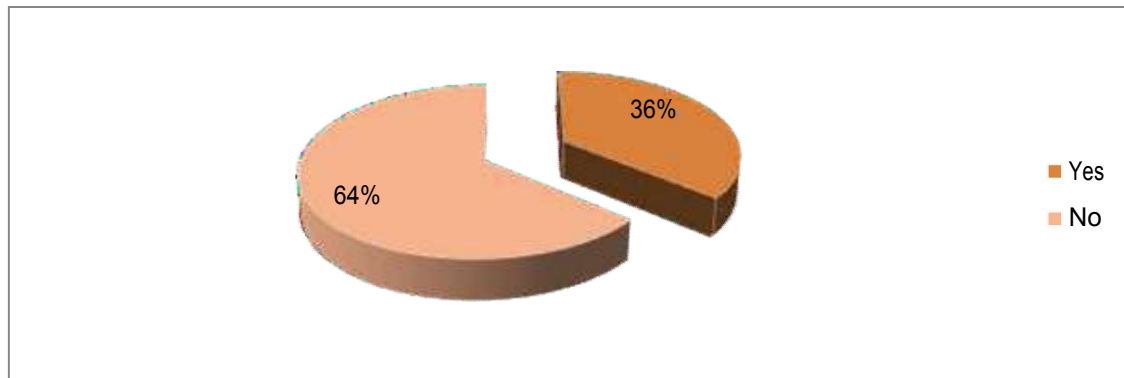


Figure 3.14: Gender Reception of Opportunities in ICT Fields.

This question sheds light on the opportunities that both genders receive in different ICT fields. The majority of the respondents (64%) opine that both genders do not receive the same opportunities in different ICT fields. As it can be seen in table 13, females show a higher percentage with 39.3% than males with 24.4%, this may reflect the claim that females do not receive the same opportunities as males due to perhaps the reasons already stated in the previous figure.

Question 13: Is there a (digital) gender gap in the use of ICT for academic purposes?

| | Males | Females | Total |
|-------------------|--------|---------|--------|
| Yes | 30 | 20 | 50 |
| Percentage | 31,90% | 21,20% | 53.10% |
| No | 12 | 32 | 44 |
| Percentage | 12,70% | 34% | 46.8% |

Table 3.16: Digital Gender Gap in ICT for academic Purposes

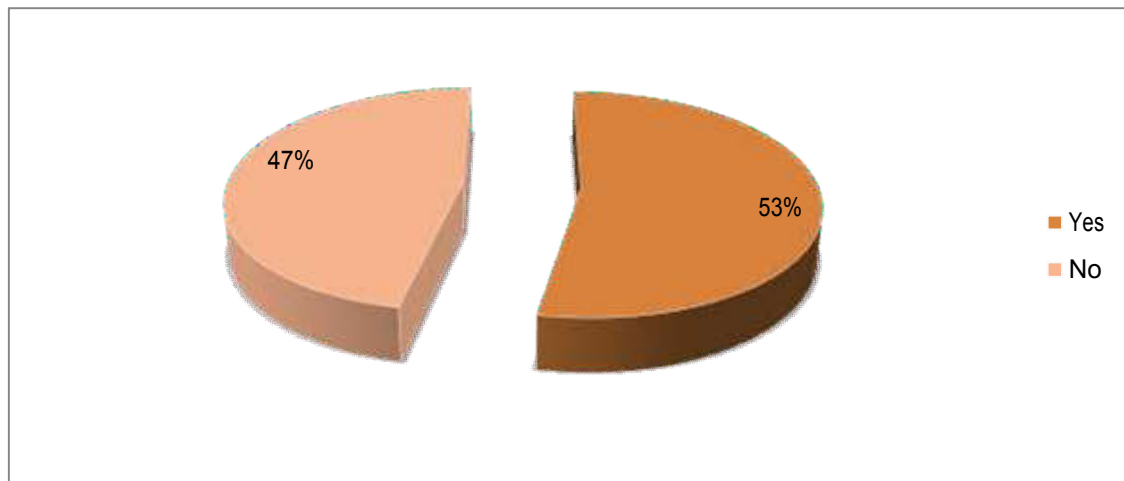


Figure 3.15: Digital Gender Gap in ICT for academic Purposes.

Concerning this question, it is found that the response rates of the respondents are close to each other. 53% of the informants answered with “yes”, and as it is presented in table 14, males with 46% and females with 21%. As opposed to this, 46% of the participants tick the negative response “no”, females with 34% and males 12%. That is to say there is a slight difference between the respondents’ answers in terms of the existence of digital gender gap.

Question 14: If yes, would you please suggest some recommendations to close this digital gender gap?

This question is mentioned for the participants who replied positively in order to suggest some solutions to close this digital gender gap . From the total percentage of the sample, only 12% of them answer this question by saying that:

1. Females should work on themselves concerning these fields.
2. Gender stereotypes about ICT use have to be avoided; cultural beliefs' influence should e avoided for the presence of the women in the field.
3. Motivate female learners to use such tools during the learning process.
4. Exchange the experiences with those who are attached in this use and help other in the field.
5. In order to bridge this gap we should give more opportunities to those who are not attached to these fields
6. We should increase the digital literacy capacities.
7. We should support the integration of ICTs in the educational environments.
8. Women should be aware about their rights in these domains.
9. Since females are less engaged in this use , they should be encouraged to cope with this challenge .
10. In order to keep the balance between the users, the internet adaptation should be encouraged in some places.
11. The balance between genders should be sufficient concerning the training opportunities. .

3.6.1.1 Discussion of the questionnaire results'

The questionnaire contains four sections. The first one collects the personal information of the learners. The questionnaire deals with master two students specialties

“linguistics” and “didactics” both males and females this result reveals that 44% males participate while females 55%.

As for the second section contains three questions deal with the point of view of the students towards ICT tools , the scrutiny indicates that 64% of the students are interested in ICTs’ .For the rest of the respondents 35% they are not interested on these tools , this result shows that the majority of the students are interested in ICT use . The second question, 67% of the informants said that they rely of ICTs in their studies; in contrary, only 32% of them they do not rely on these devices during their studies. The last question of this section represents the students support the integration of digital tools in education , only 19% of them they support this integration while , the majority of these informants are with the this support regarding to its benefits , as it is mentioned in their justifications related to this question.

Third section, includes three questions also, the first question aims to know if the university provides an effective support of this use to learners. The most of the answers are negative with 64%. These participants said that the university does not provide this effective support while, 35% of them they said it support this digital use. The second question of this part proposed for students in order to know the ICT impact on foreign languages learning. 78% said that digital devices have an impact in learning languages and positive one in different ways as it is mentioned in their justification related to this question .The rest of them with 21% their answer said that the impact do not exist . For the result of the last question of this section, suggested to know the existence of the motivational impact through ICT use by learners .the majority of the answers are “yes” with 88% that ICT’ access increases their motivation in contrary, only 11% they said that this motivation do not exist .

For the last section, that deals with Gender Gap in ICT use which includes seven questions .The first one attempts to ask the students, among genders are interested in ICT access in the educational sector .53% of them said males are more interested while, 40% of the respondents said that females are interested however, only 6% said both of them are interested in ICT use in education .Second question of this part , the majority of the students said there are differences in this access, in contrast 45% of them they said this

differences do not exist., this question devoted to know if there are disparities in ICT access among males and females . The following question asked to know the comparison between the both genders if they have the same skills in the digital access. 37% of the students said they said they have similar skills while, 62% of them said they do not have same skills which is related to many reasons as it is represented in the justifications related to the question .the result of the fourth question reveals that 51% of the students said that males are more integrate in ICT field .In contrast 43% of them they said females are integrate however, only 5% said both of the genders are integrate .When it comes to the fifth question attempts to know who are among the genders receive opportunities in ICT field .36% of them they said that they receive the equal opportunities ; whereas , the majority of them with 63% they said do not receive the same opportunities in the digital field .the sixth question proposed to explore the existence of the digital gender gap in the academic purposes ,53% of the respondents are with the existence of this digital divide however, the rest of them are against this existence with 46% .The last question is provided in this section in order to suggest same solutions to bridge the digital gender gap .

3.6.1 The Analysis of the Interview

The interview is designed for six teachers of English department at Ibn Khaldoun University. This instrument includes 8 questions about the digital gender gap, the reasons behind this gap and the recommendations that can be suggested.

Section one: Gender

| Gender | Number | Percentage |
|---------|--------|------------|
| Males | 4 | 4,2% |
| Females | 2 | 2,1% |

Table 3.17: Teachers' gender

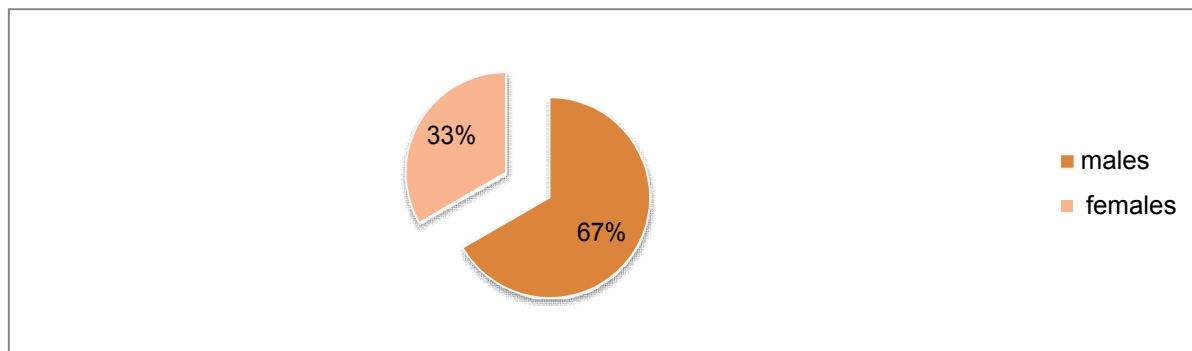


Figure 3.16: Teachers' gender

Question 01: Do you rely on ICT tool when preparing and presenting the courses?

Teacher 01: Yes, I do these tools allow me to produce and modify resources quickly and easily. They allow access to a wide range of data in multifarious formats, and interaction.

Teacher 02: No, because there is no equipment in the department.

Teacher 03: Yes, mostly a data show and loud speakers for listening class.

Teacher 04: Yes, I rely on them.

Teacher 05: Yes, I do during only on the presentation of the courses.

Teacher 06: Well, on preparing those courses yes, but presenting them no.

Comment 01: The aim behind asking this question is to know, if teachers in the department rely on the ICT tools during their preparation and presentation of the courses. The majority of the selected teachers said they use it but differently, some of the interviewees said that they use it in both preparing and presenting courses regarding its benefits for both teachers and students; others focus only on the presentation of the courses through these tools. However, others answer with only the preparation of the courses not the presentation because of some reasons.

Question 02: Do you ask the students to use ICT tool to do their assignment? Say why? Please.

Teacher 01: Yes, I do insist on their regular use. In the digital era, ICTs have permeated all aspects of life, offering newer, better and faster ways for students to interact, network, ask for help, access information and learn. I'm doing so, three things can be ensured: time and efforts saving and efficiency.

Teacher 02: Yes, they will do better, especially if it's about a presentation; it would guide them and help them to remember what to talk about, in addition, attract their class mates' attention.

Teacher 03: Of course , it will affect their marks also , because using ICT is an additional skill .

Teacher 04: Yes , it is faster brings more explanation. Young generation is attached to new technology.

Teacher 05: I believe that students do their assignment using ICTs without even being asked by the teachers .

Teacher 06: Students are free , I do not oblige them to do ; but if they do , it will be better .

Comment 02: Most of the teachers believe that they motivate and insist on their students to do their assignment through the use of ICT use for many different reasons. According to the interviewees, these tools may guide them while the learning process, help them with clear explanations, support an active learning environment and ensure time and efforts saving. Other answers show that most of the time students use ICT without being asked by the teachers.

Question 03: Do think that the use of ICTs increase learners' motivation ? How?

Teacher 01: Undoubtedly yes, ICTs improve learners' commitment to learning of education . Their appropriate use can enhance the quality of education in several ways. These tools are also transformational ones which can promote the shift to learners Centered learning environment. In fact, they support active in-class and out-class learning environments. Videos, independent research, different apps ...Can boost students' motivation.

Teacher 02 : Yes, the new generation uses ICTs in every single minute even if they are in class room so using ICT s increase the learners' motivation ; attract their attention and make learning enjoyable .

Teacher 03: Without a doubt using ICT reduces the anxiety of the students and will help them to present their information in creative way which boost their motivation .

Teacher 04: Yes, in some cases – other cases it is nice to rely on books .

Teacher 05 : It depends on the learner himself , each learner has his own learning style , some learners find a pleasure in using printed materials rather than using ICTs .

Teacher 06 : The teacher answers the question , by suggesting another question “ the question here is that whether the learners are motivated by the methods rather than ICTs or not .

Comments : This question is addressed to know if the use of the ICTs tools increase the learners’ their motivation in different ways. The findings also indicate that ICTs tools support an active learning environment and reduce learners’ anxiety. Besides, they may make the learning atmosphere enjoyable. However, few of them said that in some cases it depends on the learners’ style.

Question 04: Regarding gender , who do you think are more interested in the use of ICT?

Teacher 01: According to some researchers , males have positive attitudes towards ICTs use and more knowledge and skills about technology in general , than females .

Teacher 02: Both gender , are interested in ICTs use . but males are interested more in this case .

Teacher 03: I think , that males are more interested in gadgets and ICTs than females .

Teacher 04 : Can’t decide , but I guess they are equally interested .

Teacher 05 : Both males and females are interested in the use .

Teacher 06 : I guess , both of them since they can access them evenly.

Comment 04: This question attempts to find out the opinions of the teachers about the genders’ use of ICTs and who are more interested in this use , three interviewees said that males have a positive attitude towards ICT use and they are interested in it , while the rest said that both of them are equally interested in ICT use .

Question 05: In your opinion , who have better skills ? Females or Males?

Teacher 01: Referring to previous studies , it is concluded that males have greater perception / perceived competence in digital tools .

Teacher 02: Males , because they are more interested in computer science and programation .

Teacher 03: Out of the experience , I found that males are more at ease using ICT's than females .

Teacher 04 : Can't decide

Teacher 05: Both genders , do have similar skills .

Teacher 06: Generalization here is illogical because males and females are not fixed machines . Skills vary not because, but because of gender, but because of interest.

Comment 05: Asking the teachers this question is A way to find out the disparities between men and women concerning the ICTs skills. The answers of three teachers reveal that male students have better skills in access of ICT than females because of different reasons. On the contrary, other two interviewees opine that both of them have those capacities. However one of the teachers said that it depends on the interest of the gender.

Question 06: Do you think that gender gap exists in access of ICT at higher education ?

Teacher 01 : I think that there is a remarkable gender gap in the ability of ICTs' usage among students . in fact , the gap resides at level of access and the ability to use such tools .

Teacher 02 : No , there is no gender gap in access of ICT .

Teacher 03 : honestly , I do not think that there is a gap in accessing but , it is obvious that males use more of them than females .

Teacher 04 : Sometimes, in some cases .

Teacher 05 : No, this gap does not exist

Teacher 06: In my opinion , this gap does not exist .

Comment 06: This question is asked to know the views of the selected teachers about the existence of the digital gender gap . Answers are equal, some of them agree that there is a digital divide, others said that this gender gap does not exist in using such tools.

Question 07: If yes , what are the reasons behind this digital gender gap ?

Teacher 01: In fact, several factors contribute in such a digital gender gap internet connectivity , ICT infrastructure literacy and data availability , and stereotypes as regards females' use of such tools can impact females' access to ICTs , thus widening the gap males and females . In the so-called developing countries, poverty, lack of hardware are the most important hardships.

Teacher 02: Did not answer the question .

Teacher 03: Males have more interest in gadgets . They are able to afford gadgets.

Teacher 04: Maybe, parents do not allow their children to have digital devices , mainly traditions .

Teacher 05: Since , there is no digital gender gap . There are no reasons.

Teacher 06: Did not answer the question .

Comment 07: The intention behind this question was to check out the reasons behind this digital gender gap. For the teachers with the existence of the gap the suggest different factors that contribute in it such as; the interest of both genders, the affordability of the gadgets , it can also related to the stereotypes toward females' use of such devices . For the rest of the teachers did not answer the question.

Question 08: Would you suggest some recommendations in order to avoid this digital gap in Algerian universities ?

Teacher 01: With respect to the Algerian universities, I think the first thing to start with is the internet, connecting availability (internet flow), besides increasing digital literacy among females empowering them in digital era, increasing their skills ...etc. All these

together can bridge digital gender divide.

Teacher 02: There is no digital gender gap , it means there is no recommendations.

Teacher 03: I believe that , having access to ICTs' is related to affordability of gadgets (Smartphone , computers ...) and it is also related to internet access .

Teacher 04: Did not answer this question.

Teacher 05: Did not answer the question .

Teacher 06: For the last question , he suggested a question instead of answering it which is ; “is there a gap in the first place ?”.

Comment 08: Last question was asked for the teachers in order to suggest some recommendations to close this digital gender gap . Most of teachers did not answer this question. Only two teachers answer it by suggesting the following recommendations:

- a. the access of ICTs is related to the affordability of devices and also they should be linked to the internet access
- b. Empowering females in this field and increasing their skills, in this way we could bridge this digital divide.

3.6.2.1 Discussion of the Interview Results'

The interview is used as qualitative instrument that includes eight important questions about the research which tackles the disparities among men and women in terms of ICTs' access, this interview addressed to teachers at Ibn Khaldoun University in English department however, results obtained 4% males and only 2% participated in this research work.

First question, its result reveals that the teachers in the department use ICT in the process in different ways, some of them use it in both preparing and presenting the lessons , others use it only while preparing the courses however, the rest use it in presenting them because of some reasons .This question asked in order to shed the light on teachers use of ICT tools in teaching process. The second question, proposed to them to know if they ask and motivate their students these digital tools to do their assignments. The majority of the teachers they insist on the students to use ICTs in their studies

regarding to its benefits and positive impact on them .Third question represented to obtain data from the teachers taking their experiences into consideration , about the students motivation through ICT access .Most of them agree that the digital access increases their motivation in various ways ; for instance the active learning environment and they are considered as an attractive tools in the process however , these answers have other different point of views in which some teachers support the printed materials rather than the digital one .The fourth question , attempts to know who among the genders are interested in ICT use , according to the interviewees' observations ,result of this question are ; majority of them said that males have a positive attitudes toward this use while , the rest report that they are equally interested in this use .The aim behind the fifth question is to obtain the participant' point of views about the comparison between both genders in terms of the ICT skills . Teachers said males have better skills comparing to females which related to many reasons. Others said that both of them have better skills .As for the question six , which suggested to know the existence of the gender digital gap in education ;results are equal some of them they agree with the existence of this gap while , the rest said that it does not exist . Concerning the seventh question aims to find out the reasons of this digital gender gap, for those who agree with the existence of the digital divide they suggest factors that contribute in this gap for instance; the interest toward this use and also the affordability of the digital tools and the discrimination of women in the access, the rest of the teachers they do not answer the question since they do not believe in this digital divide .The last question asked to the teachers to suggest some recommendations to bridge the digital gender gap however, only few of them they answer this question by suggesting some recommendation in for an effective access and in order to avoid this gap .

3.7 Recommendations and Insights for Further Research

The digital gender gap in education is the existence of the divide between both genders (males and females) in the use of the information and communication technology those who gain benefits from the digital devices and those who are not aware enough about the use in education sector.

Recommendations are considered as an important part of the analysis phase that is based

on the result obtained from the research. Concerning the investigation that is about the digital gender gap, we provide the following recommendations;

- Government should support the integration of ICTs in different domains.
- The ministry of higher education should support the integration of these tools at universities.
- Support the infrastructure availability in different fields.
- Resistance to change the negative attitudes towards technologies use.

- Since this gap is concerned with females, the government should provide an effective and academic training to build their capacities in the fields.
- Effective policies should be provided helping to bridge the digital gender gap.
- Women's awareness of the gender equality towards these technologies.
- both genders should be involved equally in different technologies sector.
- Immediate efforts are needed to ensure greater affordability of digital tools and internet flow balance in different areas in the country.
- Reduce the cultural beliefs that influence negatively the access.

The gender digital gap in higher education not only among students, but also it could be among teachers. However, the digital gap between both males and females is not purely only technological problem, but also a complex issue in other different fields; economic, socialMoreover, this gap is not fundamentally linked to the problem of the gender inequalities variable; it could be also related to other variables as "age".

3.8 Limitation of the study

We had some limitations when conducting the practical part of the present research. First, due to the spread COVID 19 and the system that had been suggested by the government and the ministry of education, studying in groups, we had to write the questions of the interview on papers and distribute them, instead of having a direct interview with teachers and recording their answers. We also faced Reluctance obstacle concerning the interview sample, in which most of participants did not answer the

questions asked. Besides, for the questionnaire sample, it was difficult to find students who volunteer to answer the questionnaire may be due to the lack of the culture of helping researchers.

3.9 Conclusion

In fact, the bulk of this chapter provides a description of the practical part of our research, It is about the discussion of the main findings that offers an interpretation of the data collected, though questionnaire by learners and the interview addressed to teachers at English department, Ibn Khaldoun University The purpose of this part is to prove the hypotheses have been suggested, which attempts to explore the gap between the gender and the use of the information communication technologies .

General conclusion

General conclusion

Today, the entire world is surrounded with technology tools such; media, radio, computer, which come under the cover umbrella of what is called ICTs .the use and access of these digital tools, have a clear effect on the gender disparities .These differences between males and females interaction at various levels, especially the digital one, which is considered as an important issue has always seen worthy to be studied.

The current study includes a theoretical part devoted two chapters; the first one provide an overview about Gender and ICT use in Education. For the second chapter presents gender gap in ICT use however, the last chapter is devoted to the practical phase; which includes the methodologies used in this survey and about the findings. Our research employs a method that combines the quantitative and the qualitative approaches to spot the light on the digital gender gap at Ibn Khaldoun University and to explore the reasons behind this divide . this chapter includes a series of questionnaire are distributed to(96) students, and the interview directed to (06) teachers in English department at Ibn Khaldoun University .Thus , they provide us with information related to the subject under investigation about the disparities between both genders in ICTs' access .

On the basic data obtained, it is found that the majority of the samples students and teachers believe in the existence of the gender digital gap at university and there are many barriers prevent a certain group of students to use and gain benefits from the digital field.

Concerning the hypotheses has been suggested. The first one confirmed, which is the digital gender gap exists in Algerian universities .the second hypothesis corresponds with what is noticed that there are reasons of this digital divide for instance; lack confidence and limited skills in the access that women suffer from to reach the challenge .Last hypothesis has been confirmed also, through many recommendations can help to bridge this digital gap .As result , in spite of the existence of the gap , Algerian government should take this issues as an important one .

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APPENDICES

APPENDIX ONE

Appendices

STUDENTS' QUESTIONNAIRE

Questionnaire

Dear students,

You are kindly requested to fill in this questionnaire to express your opinions and attitudes about gender gap in ICT uptake at Algerian universities. Your cooperation and contribution are highly appreciated and strongly needed to investigate our research topic.

Section One: Personal Information

1. Gender Female Male

Section Two: Attitudes towards ICT use for academic purposes

2. Are you interested in ICT?
Yes No

3. Do you rely on ICT tools for your field of study?
Yes No

4. Do you support the integration of ICTs in education?
Yes No

- Please, say why?.....

Section Three: ICT and Education

5. Does your university provide effective support to the learners to use the ICTs?
Yes No

6. Do the ICTs have an impact on learning foreign languages?
Yes No

- If yes, say how, please?

Appendices

7. Do you think that learners' use of ICTs increase their motivations?

Yes

No

Section Four: Gender Gap and ICT

8. In your opinion, who are among genders interested in the use of ICT in education?

Males Females

9. Are there differences in the access of ICT between both genders?

Yes No

10. In your opinion, do females have similar skills comparing to males in the use of ICT?

Yes No

• Please, say why?

11. In your opinion, who are integrated more in ICT fields?

Females Males

12. Do females receive the same opportunities as males in different ICT fields?

Yes No

13. Do you think there is a (digital) gender gap in the use of ICT for academic purposes?

Yes No

14. If yes, would you please suggest some solutions to close this digital gender gap?

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ICT: stands for the information and communication technology defines as divers set of technological tools and resources used to communicate, create, store and manage the information.

APPENDIX TWO

Appendices

TEACHERS' INTERVIEW

Dear teachers,

We will be extremely grateful if you take a part in this interview that is served as data collection tools pertaining to master's dissertation on **"investigating gender gap in ICT uptake at university "** . This interview aims to examine the issue of the digital gender gap, including the access and the competences (digital skills). Your collaboration and contribution will be available and reliable data for our research. Please answer the questions taking into consideration your teaching practice in order to ensure the credibility of this investigation.

Gender:

Male

female

1/ Do you rely on ICT tool when preparing and presenting your courses?

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2/ Do you ask the students to use ICT tool to do their assignments? Say why? PLEASE.

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3/ Do you think that the use of ICTs increase learners' motivation? How?

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4/ Regarding gender, who do you think are more interested in the use of ICTs?

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Appendices

5/ In your opinion who have better skills? Females or Males?

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6/ Do you think that gender gap exists in access of ICT at higher education?

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7/ If yes, what are the reasons behind this digital gender gap?

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8/ Would you suggest some recommendations in order to avoid this digital gender gap at Algerian universities?

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Appendices

الملخص

يعد استخدام التكنولوجيا الحديثة في قطاع التعليم من أهم توجهات العملية التعليمية العالمية، لذا تهدف هذه الدراسة إلى استكشاف وجود فجوة رقمية بين الجنسين في الجامعات الجزائرية. لذلك، نحاول تكريس الفصول الأولى؛ المفهوم الرئيسي للدراسة. إضافة إلى ، الفصل الأخير المصمم للإطار المنهجي ومناقشة النتائج. والذي يجمع بين مجموعة متنوعة من التقنيات المنهجية المعروفة؛ مقابلة موجهة لستة (06) معلمين واستبيان الذي وزع على ستة وتسعين (96) طالباً في قسم اللغة الإنجليزية بجامعة ابن خلدون. حيث تكشف نتائج هذا البحث عن وجود فجوة بين الجنسين في استخدام تكنولوجيا المعلومات والاتصالات (ICT) في الجامعة الجزائرية، نتيجة للعديد من الحواجز التي تمنع مجموعة معينة من الطلاب في هذا الاستعمال.

الكلمات المفتاحية: التكنولوجيا ، القطاع التعليمي ، الفجوة الرقمية بين الجنسين ، الفجوة بين الجنسين ، تكنولوجيا المعلومات والاتصالات ، الحواجز

Abstract

The use of the modern technology in educational sector is the most important trends of the global educational process .This study aims to explore the existence of the digital gender gap in Algerian universities. Therefore, we attempt to devote the first chapters; the major concept of the study. However, the last chapter is designed for the methodological framework and discussion of the findings .this research combines a variety of well-known methodological techniques; interview directed to six teachers and questionnaire distributed to ninety six students in English department at Ibn Khaldoun University. The findings of this research reveal that gender gap exists in the information and communication technology (ICT) use in Algerian university, as result of many barriers the prevent certain group of students in this access .

Key words: technology, educational sector, digital gender gap, gender gap, information and communication technology (ICT), barriers.

Résumé

L'utilisation de la technologie moderne dans le secteur éducatif est la tendance la plus importante du processus éducatif mondial. Cette étude vise à explorer l'existence de l'écart numérique entre les sexes dans les universités algériennes. Par conséquent, nous essayons de consacrer les premiers chapitres; le concept majeur de l'étude. Cependant, le dernier chapitre est conçu pour le cadre méthodologique et la discussion des résultats. Cette recherche combine une variété de techniques méthodologiques bien connues ; entretien réalisé auprès de six(06) enseignants et questionnaire distribué à quatre-vingt-seize (96) étudiants du département d'anglais de l'université Ibn Khaldoun Tiaret. Les résultats de cette recherche révèlent qu'il existe un écart entre les sexes dans l'utilisation des technologies de l'information et de la communication (TIC) dans les universités algériennes, en raison de nombreux obstacles qui empêchent certains groupes d'étudiants de cet accès.

Mots clés : technologie, secteur éducatif, écart numérique entre les sexes, écart entre les sexes, technologies de l'information et de la communication (TIC), obstacles.