**Sudan University of Science & Technology**

**College of Graduate Studies**

# Digital Technologies: An Analysis of English Self- Efficacy and Active Learning Opportunities

# التكنولوجيا الرقمية: دراسة تحليلية للكفاءة الذاتية للغة الانجليزية وفرص التعلم النشط

**A Thesis Submitted to Department of English, College of Education in Fulfillment of the Requirements for Ph.D. Degree in Education (Applied Linguistics)**

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# Dedication

**To my beloved**

parents, brothers and sister, husband, and my colleagues

**May Allah bless them all**

# Acknowledgements

I would like first to thank Allah for helping and giving me the inspiration, patience, time and strength to accomplish this thesis. Then, I should acknowledge that, although I take the responsibility for this work, it was the result of the collective efforts of a number of valued people who directly or indirectly supported me during my thesis research. To these people, I owe my gratitude and thanks. Every thing

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# Abstract

This study investigated the use of digital technologies in Sudanese university EFL classes in order to shed light on EFL students' English self- efficacy and active learning opportunities (Karari University and Sudan University of Science & Technology). The research also aimed to find out if using digital technologies played a role in sustaining EFL student' self- directed learning and learning autonomy or not. Moreover, the study intended to examine the Sudanese university teachers' attitudes towards using digital technologies in their EFL instruction. The study hypothesized that: (1) There are so many active learning opportunities provided by digital technologies to Sudanese university EFL students. (2) Digital technologies provide more challenges to Sudanese EFL students to be more independent learners. (3) The Sudanese university EFL instructors have positive attitudes towards using digital technologies to enrich their instruction and course delivery method.

To examine the above hypotheses, an analytical and descriptive method was adopted. Data were collected via classroom observation checklist and two questionnaires. The data which were obtained through questionnaires were statistically analyzed and critically discussed.

The research arrived at the conclusion that digital technologies at Karari University provides EFL students with ample opportunities to practice and acquire English. Furthermore, the study found out that using digital technology has a direct impact on sustaining EFL students' direct autonomous learning. Also, the research shows that university faculties were more likely to use digital technologies and have positive attitudes towards using digital technologies in their instruction.

So, it is strongly recommended that Sudanese university EFL class should be equipped with digital technologies. Moreover, EFL instructors should have more training courses in using digital technologies, and digital literacy should be a part of the EFL course specification at university level.

# Abstract

## (Arabic Version)

## المستخلص

تهدف هذه الدراسة الى التحقق من استخدام التكنولوجيا الرقمية فى فصول اللغة الانجليزية بالجامعات السودانية لإلقاء الضوء على فرص الكفاءة الذاتية وفرص التعلم النشط التى تتيحها استخدام هذه التكنولوجيا فى تعلم اللغة الانجليزية، كما تهدف الدراسة الى الكشف عن الدور الذى يلعبه استخدام التكنولوجيا الرقمية فى المحافظة على كفاءة التعلم الذاتى لطلاب اللغة الانجليزية، كما تهدف الدراسة للبحث فى مواقف واتجاهات اساتذة الجامعات السودانية تجاه استخدام هذه التكنولوجيا الرقمية فى تدريس اللغة الانجليزية (جامعة كررى – جامعة السودان للعلوم والتكنولوجيا) نموذجا.

افترضت الدراسة الفرضيات التالية:(1) استخدام التكنولوجيا الرقمية يزود طلاب اللغة الانجليزية بكثير من فرص التعلم النشطبالجامعات السودانية (2) استخدام التكنولوجيا الرقمية يمنح طلاب الجامعات السودانية فرص الكفاءة فى اللغة الانجليزية و التعلم الذاتى (3) اساتذة الجامعات السودانية لديهم مواقف ايجابية تجاه استخدام التكنولوجيا الرقمية فى تدريس اللغة الانجليزية.

وللتحقق من الفرضيات السابقة استخدمت الدراسة المنهج الوصفى وتم جمع البيانات عن طريق الملاحظه الصفية واستبانتين الاولى خاصة بالطلاب والثانية بالاساتذة .

وقد توصلت الدراسة الى النتائج التالية : أن استخدام التكنولوجيا الرقمية فى الجامعات السودانية يتيح كثيراً من فرص التعلم النشط كما ان له تأثيره المباشر على إتاحة الكفاءة الذاتية فى تعلم اللغة الانجليزية، وأن أساتذة الجامعات السودانية " جامعة كررى – جامعة السودان للعلوم والتكنولوجيا" نموذجا لديهم مواقف إيجابية تجاه استخدام التكنولوجيا الرقمية لتعزيز تدريس اللغة الانجليزية.

خلصت الدراسة إلى ان فصول اللغة الانجليزية بالجامعات السودانية لابد من تجهيزها بوسائل التكنولوجيا الرقمية لتعزيز دراسة اللغة الانجليزية . كما اوصت الدراسة بتأهيل اساتذة الجامعات بالدورات التدريبية فى استخدام التكنولوجيا الرقمية وأن يكون التدريس بواسطة التكنولوجيا الرقمية جزءا من توصيف المنهج فى المرحلة الجامعية.

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# Abbreviations

| Abbreviation | Word |
|---|---|
| DL | Digital Literacy |
| CALL | Computer Assisted Language Learning |
| EFL | English as A foreign Language |
| ESL | English as a second Language |
| ALA | American Literacy Association |
| SLA | Second Language Acquisition |
| VAK | Visual Auditory Kinesthetic |
| PLATO | Programmed Logic for Automated Teaching Operations |
| IWB | Interactive White Board |
| WBI | Web Based Instruction |

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# Chapter One

# Introduction

## 1-0 Overview

Higher education institutions have been going through dramatic and drastic changes associated with instruction and course delivery methods. The reason behind that can be closely correlated to the fast-pace of technology-enhanced instruction. Technology- enhanced instruction has become one of the major parameters in the global standards of accreditations and recognitions of higher education institutions. These new standards have brought more challenges to several universities to take a leap forwards to improving the quality of their instructions to meet these standards. According to Mustafa &Hassan (2005:48)

> "*The introduction of ICT in education at tertiary level has become one of the basic requirements for universities a part of new policies by the Ministry of Higher education for using technology in teaching and learning*".

Technology-enhanced instruction is a form of digital technologies that has been used for supporting classroom instruction. However, technology- enhanced instruction is not the only concept that refers to the use of technology for enhancing instructions. Other forms have been distinguished to exactly refer to the same areas: E-learning, Educational technology, Instructional technology, Digital technology, Online resources, and Web-Based instruction. Though, these terms seem slightly different in nature but they address the same issue of using technology for improving teaching and learning.

Improving the quality of instruction has been widely investigated. Many universities have invested a lot of time, money and efforts to probe into the

potentials of digital technologies and its impact on improving the quality of teaching and learning. These new strategies compel those who are in charge of instruction reformation to consider the facts that are closely associated with technology integration schema which requires meticulous explanation of the proper and frequent use of computer and associated media within a particular society. This investigation leads to shed light on different concepts: Computer literacy, Digital literacy, Media literacy, New literacy, Critical literacy, and Computer- technology literacy. However, these new concepts are in sharp contrast with the traditional definition of literacy which is known as the ability to read and write. Today, the stunning diffusion of information technology has extended the definition to include the ability to use state-of- the art technology for a number of purposes.

According to Lindsey (2011:45)"Being literate in these new technologies isn't just going to hold you back in school, it will hold you back in life". Likewise, Glister (1997:1) stated that the idea of digital literacy is "the ability to understand and use information in multiple forms from a wide variety of sources when it is presented via computers".

As previously mentioned, to be literate means demonstrating some sort of technical capabilities to meaningfully process and contribute to the information flow that we encounter, and how to communicate that information to others.

In terms of how these digital technologies could be integrated in supporting teaching and learning, many studies have been carried out to investigate what technology has to offer.

Teachers and learners in the 21st century which is remarkably known as the cyber information face drastic changes in many concepts related to teaching and learning. “We are living in one of the most momentous times of change of human history"(Davidson: 2011). This change of information explosion has

played an important role in fostering students learning and enriching teachers' experiences.

Digital literacy (DL), as a form of technology- enhanced instruction, is an increasingly debated and discussed topic. It has played an important part in reshaping the way we learn. As Rose (2006:4), observed "digital literacy is a key component of engaging students in learning process". Likewise, McFarlane (2001:230) noted that "It seems that the use of ICT can impact favorably on a range of attributes considered desirable in an effective learner: problem- solving capability, critical thinking skill and information- handling ability". Based on that, the importance of incorporating all these technologies a long with methods of teaching might have a positive impact on stimulating motivation and improving students' communicative skills. Moreover, students tend to be more talented in having full control over their learning.

Digital technologies have provided tremendous tools for fostering reading habits, traditionally; textbook represents the main source of knowledge in which it could be read in linear fashion. The idea of hypertext and hypermedia has brought some innovative strategies for enhancing the concept of being digital. Most people tend to do much of their reading on screens.

The impact of using digital technologies has been investigated by many contributors: National and international research has shown that today," digital literacy is a key component of engaging students in learning process Rose(2006:4).On the other hand, Bawden (2001:1) stated "Digital literacy" had been applied throughout the 1990s by a number of authors, who used it to mean essentially an ability to read and comprehend information items in the hypertext or multimedia formats which were then becoming available.

There are several conceptions of digital literacy which is reviewed by Nicholas (1995), who concluded that being digital allows for expanding learning

possibilities for future generations. Furthermore, typical of these is Lanham (1995: 6), who regarded it as a kind of “multimedia literacy" quite different from traditional literacy. His argument was that since a digital source could generate many forms of information- texts, images, sounds… etc., a new form of literacy was necessary; in order to make sense of these new forms presentation.

English teaching profession has taken the initiatives to integrate digital technologies to enhance classroom instructions. The idea was developed in 1960s as the first generation of computer- Assist Language Learning which known as Structural CALL, Then, through the historical development of CALL communicative CALL was appeared as a direct criticism of behavioristic mode of teaching. And again, communicative CALL had been replaced by integrated CALL which represents the last generation of CALL. Within this period, many concepts have been emerged and used interchangeably to refer to the same issue that is the use of technology for enhancing instruction. For example, digital technology, digital literacy, educational technology, e- learning, online reference tools, web-based instruction.

Throughout what has been mentioned above, it is clearly observed that digital technology plays an important role in teaching and learning processes and how this importance demonstrated by many experts in the field of teaching.

## 1-1 Statement of the Problem

It has been observed that Sudanese university EFL professors and instructors are still adhered to old fashion of teaching. Technology-enhanced instruction is not fully explored to determine its potentials and possibilities for boosting Sudanese university EFL instruction.

Moreover, the researcher has been an English language teacher herself in one of the Sudanese universities; she observed that despite the expansion of universities, the Sudanese EFL classrooms are not wired with internet, and the instructors depend on the traditional methods which shaped their minds using chalk across the board. This may lead to an important point that teachers may not be as technologically advanced as their students in this era. Based on this observation, professors, educators and administrators need to apprehend and appreciate the potentials of using of technology for creating ample opportunities for enhancing EFL classroom instruction.

So the present study tries to investigate using digital technologies in EFL classroom to find the students' English self- efficacy and open active learning opportunities, Moreover, it attempts to shed a light on the Sudanese EFL teachers' perception towards using these digitals in their instruction.

## 1-2 Research Questions

The study attempts to answer the following questions

1- What are the potentials of digital technologies for providing Sudanese EFL University Students with active learning opportunities?

2- In what ways do digital technologies develop Sudanese university EFL students' self- efficacy learning?

3- How do Sudanese university teaching staff perceive the necessity of using digital technologies for supporting instruction?

## 1-3 Hypotheses

The study would like to test the following hypotheses:

1- Digital technologies would provide many active learning opportunities for Sudanese university EFL students.

2- Digital technologies provide more challenges to Sudanese EFL university students to be more independent learners.

3- Sudanese university EFL instructors have positive attitudes towards using digital technologies to enrich their instruction and course delivery method.

## 1-4 Rationale of the study

Sudanese youth are taking interest in using digital technologies in learning for their intellectual and professions growth motivated and encouraged the researcher to conduct this study. Another reason is that most of university students have a full awareness and much stronger practical knowledge on how they use digital technologies in their learning. Moreover, the traditional ways of teaching are changed today.

## 1-5The objectives

The study tends to investigate the impact of using digital technologies as tools sustaining and promoting students' overall language proficiency and teachers' experiences. Hence, the objectives of the study can be briefly being summarized in the following points:

1- To investigate the potential of incorporating digital technologies in Sudanese university EFL classroom instructions.

2- To probe into the ways in which digital technologies can be integrated with methods of teaching English.

3- To investigate the impact of using digital technologies on promoting students overall English language proficiency.

4- To examine the role of digital technologies in enhancing EFL learners' self-efficacy.

## 1-6 Significance of the study

This study is a significant because it is one of the studies which try to investigate the impact of digital literacy among Sudanese EFL learners in tertiary level in order to pave a way for better teaching and learning English via the use of digital tools.

Moreover, the study is significant for two reasons. First, it is increasingly important to direct attention to the importance of using digital technologies among Sudanese EFL learners at university level which has been neglected. Second, this study will try to find out how do digital technologies develop Sudanese university students' English self- efficacy and learning autonomy. Third, it will try to probe the Sudanese university teachers' perception towards using digital technologies in their instruction.

The implications of the findings could be of paramount importance to the Sudanese EFL university instructors to pave ways for better teaching**.**

## 1-7 Research Methodology

The methodology used to conduct this study is the descriptive research method. Two tools were used for data collection. The first one were two questionnaires which were designed by the researcher and validated by a panel of experts. The second tool was classroom observation checklist which was designed to check the opportunities and English self- efficacy provided by digital technologies inside EFL classroom. In addition, the reliability and validity of the questionnaires were calculated statistically using Cronbach Alpha coefficient and the collection and tabulation of the data. The questionnaires which were designed in accordance with Likert's 5- point scale (strongly agree, agree, no

opinion, disagree, strongly disagree) were administrated to 235 EFL university students and 23 EFL university teachers.

The questionnaires were designed by the researcher and were subjected to some relevant changes to suit the research hypotheses. The first questionnaire directed to EFL students and consists of two parts, the first checks the opportunities provided by digital technologies, and the other part concentrates on challenges that provided by digital technologies to Sudanese EFL students to be more independent learners.

The second questionnaire directed to Sudanese EFL teachers to investigate their attitudes towards incorporating digital technologies in their instructions.

## 1-9Parameters of the study

This study concentrates on EFL university students in one representative university in Khartoum State. The study should select one university (Karari University) which represents the universities that implement and integrate digital technologies in EFL classroom.

The research will choose third year EFL university students because they are more likely to be mastering English language better than other levels and have ability to know their needs and suffice applications. Also, the study included the EFL instructors because they are a part of the process of learning.

Therefore, this study tries to investigate the impact of using digital technologies in Sudanese EFL university classes in order to find the students' English self-efficacy and open active opportunities.

Place: Sudan, Ministry of higher education
Time: 2014

## 1-10 The structure of the study

The study consists of five chapters. Chapter (1) includes the introduction, Chapter (2) consists of the literature review, chapter (3) outlines the research methodology, chapter (4) tabulates the research results of the various research tools including questionnaire, and chapter (5) provides the conclusions and recommendations.

## 1-11 The definitions of the key terms

### 1- **Digital literacy**:

Digital literacy is the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyze and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others, in the context of specific life situations, in order to enable constructive social action; and to reflect upon this process Martin & Grudziecki (2006: 255).

In other words, digital literacy goes beyond the mastery of technological skills and knowledge to engage complex non-linear cognitive and social processes that empower an individual to live, learn, and work in a digital era (JISC, 2012).

### 2-Self-efficacy

It refers to "beliefs in one's ability to organize and execute the courses of action required to produce given attainments". Bandura (1997: 3). In other words, self-efficacy refers to one's capabilities to execute a specific behavior in a specific situation. For the purpose of the present study, all the above-mentioned attributes will be measured as the participants' performance on specially designed questionnaires.

**3-Active learning**

Active learning is generally defined as any instructional method that engages students in the learning process. In short, active learning requires students to do meaningful learning activities and think about what they are doing. Bonwell,C.C., and J. A. Eison (1991).

## 1-12 Summary of the chapter

In this chapter the main research problem regarding using digital technologies in Sudanese EFL university classes, a study of English self- efficacy of technology active learning opportunity was discussed.

The research context and background for this study were outlined. Furthermore, the researcher discussed why this research was undertaken, value and purpose, beside the main research questions. In this chapter the research design, methodologies as well as the procedure were mentioned.

In the following chapter, the researcher shall try to deal with the literature review and previous studies.

# Chapter Two

# Literature Review and Previous studies

## 2-0 Introduction

This chapter deals basically with conceptual framework as well as a literature review on the importance of digital technologies around the world and how it can be starting point to develop EFL learning and teaching techniques. So the general appearance of Sudanese EFL university classroom justifies conducting this study to investigate the digital technologies in Sudanese university classes, how digital technologies develop EFL students' self-efficacy and active learning opportunities, and what the Sudanese instructors' attitudes towards integrating digital technologies for improving their EFL instructional strategies.

The chapter is divided into two main parts; part (1) is the conceptual framework the first is an introduction in which the importance of digital literacy is briefly presented. The second deals with definitions and classifications and types of digital literacy. The third deals with the styles of students learning and digital tools. The fourth section deals with learning through digital technology. The fifth section deals with opportunities provided by digital literacy. The sixths part deals with teaching provided by digital tools. The seventhes section deals witheffects of digital technology on Student's English self- efficacy. The eightieths and last section deals with the previous studies, and then the chapter concluded with a summary.

## 2-1Conceptual framework

As we advance further into the 21st century, digital literacy (DL) is becoming more and more integrated into our society, and the impact of electronic environment becomes so influential in all aspects of social and economic life.

Unsurprisingly, the new generation is now experiencing a new era of discovery in their new digital surrounding. As Jukes and Dosaj (2006:2), states:

> *"Today's generation has grown up in a digital landscape, for most of them there's never been a time in their lives when computer, cellphones, video games and the internet haven't surrounded them".*

Moreover, the rapid adoption of digital tools played a big and vital role in all aspects of their lifestyles especially education as Badwen (2008:30) states: "digital literacy is considered as an essential requirement for life in a digital age".

The revolution of digital technology has changed the climate of thought represented in the idea concerning second language education, and the importance placed by the use of digital technologies, like language lab, videos, Skype, Facebook, mobile phone, video conferencing, web seminar(webinar)…etc., undoubtedly have supported the richness and quality of education in general. "Digital literacy has become one of the main competencies in the 21st century" **(**Newrly&Veugelers, 2009**).**

Over the last few years there has been an explosion in the development of different types of portable technology that leads teachers and learners to adopt creative and new skills that go beyond the basic ones as listening, reading, speaking, and writing. Moreover, a digital technology has greatly facilitated the learning process and has been accepted as a method of learning and teaching all over the world, and using digital technology inside the classroom for educational experts is considered as a motivating tool for students, providing them with a good opportunity to develop and create different, enjoyable tasks and help them to be active, and involved in language learning.

The need of digital literacy is dictated by the fact that we are facing a serious process of cultural change; meanwhile, the development of the technological tools gave a wide scope for innovative practices in the classroom. The revolution in communication and information technologies has created new types of textual surface and hence, new literacies. Lanham believes and claims that literacy has extended its reach from meaning "the ability to read and write" to now meaning "the ability to understand information however it's presented." (1995:198).

In the same way, the International Journal of Instructional Technology and Distance Learning 2014 mentions that student "swims in a sea of technology" while out of class, and then is "beached" while in class, if the professor only lectures and uses the white board.

### 2.1.1 Definitions and the concepts of the digital literacy

As a matter of fact, the more we investigate articles, books, reports, and papers related to digital literacy, the more evident it turns out that there are many definitions applicable to the term digital literacy or its opposing (digital illiteracy), and is of much interest with the increasing occurrence of computers into both our personal and work life.

Digital literacy is the Combination of the two terms – Digital and Literacy. Digital Information is a symbolic representation of data, and literacy refers to the ability to ready for knowledge, write coherently, and think critically about the written world. Digital literacy researchers explore a wide variety of topics, digital technologies. The term "digital literacy" concentrates on two aspects: one educational and the other technological. However, it is important to understand that digital literacy "cannot be reduced to a single component, or can it be assessed with just one type of test". Calvani et al. (2008:191-192)

With regards to educational aspect" literacy" is more precise and specific than the word "education". It refers in what we understand to be a metaphorical way – to concept of "literacy" (reading and writing). Thereby it indicates both the importance of the learning process for digital matters – as importance to classical literacy.

Literacy conventionally refers to reading, writing, speaking, viewing, and listening effectively in a range of contexts. In the 21st century, the definition of literacy has expanded to refer to a flexible, sustainable mastery of a set of capabilities in the use and production of traditional texts and new communications technologies using spoken language, print and multimedia. Learners need to be able to adjust and modify their use of language to better meet contextual demands in varying situations (National Curriculum Board currently ACARA, 2009).

Literacy is not a subject but rather a set of skills that include speaking and listening reading and writing. Digital literacy (DL) seems an appropriate and sensible name, in an age where information comes mainly through digital technologies. (DL) is a framework for integrating various other illiteracies and skill- sets.

Martin (2008:158) puts it; digital literacy is "a condition, not a threshold".

Today (DL) is an important skill to have because it allows people to learn about what is going on in the world and keep up with current events. "Digital literacy, allows one to acquire various capabilities required across range of future scenarios" Beetham, McGill, & Littlejohn (2009:4), is no longer a luxury, but a necessity NCREL & Metiri Group (2003), (Robertson, 2008 :4) It's includes not only the ability to use a computer for creating and saving files, but also the ability to interact effectively on the internet. So digital literacy has been defined in different ways:

In the Encyclopedia Britannica (1:662) digital literacy is defined as:

"The ability to effectively and critically navigate, evaluate and create information using a range of digital technologies". Moreover, Eshet-Alkalai& Soffer (2012:1) also defined "digital literacy as the skills which include the ability to operate computers and navigate the net effectively, to cope with large volumes of information, to evaluate the reliability of information, and to critically assess what seem to be natural (and not ideologically biased) technological tools."

The Australian MCEECDYA report (2010) into ICT in education in the middle school years identified three standards of digital proficiency: working with information, creating and sharing information, and using ICT responsibly. They further identified six processes involved in digital literacy. These are: accessing, managing, and evaluating information, creating new understanding, communicating with others, and using ICT appropriately.

Erstad (2008:177) attempts to at a definition of digital literacy which, instead of clarifying the issue, seems to become more ambiguous as each word is added:

"*One of the challenges in {development of everyday practices} is the issue of digital literacy. This related to the extent to which citizens have the necessary competences to take advantage of the possibilities given by new technologies in different settings*". (cited in Erstad, in Lanshear& Knobel,2008) Fieldhouse and Nicholas (2008:57) claim that:

"*Digital literacy requires students to have critical thinking skills for "determining how credible information is and to contextualize, analyze, and synthesize what is found online*"

Bawden (2008: 30) stated that:

"Digital literacy is considered "an essential requirement for life in digital age".

The digital literacy concept has been central to the DigEuLit project (EFDL) (a European Framework for Digital Literacy), which took a "Glister – like" broad approach in defining digital literacy as:

> *"the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, integrate, evaluate, analyze, and synthesize digital resources, construct new knowledge, create media expression, and communicate with others, in the context of specific life situations, in order to enable constructive social actions; and to reflect upon this process".* (Martin, 2006).

In rather similar vein, Eshet- Alkalai(2004:102) describes a new conceptual model for digital literacy, as a " survival skill in the digital era".

Digital literacy is defined by, Glister (1997:1) as: "The ability to understand and use the information in multiple formats from a wide range of sources when it is presented via computer".

A review of the concepts of digital literacy summarizes Gilster's view by saying there are "four core competencies of digital literacy: Internet searching, hypertext navigation, knowledge assembly, and content evaluation". Bawden, (2008: 20). It seems clear that Glister (1997) digital literacy is to be a very broad concept not restricted to any particular technology, form or information and focusing on personal capabilities and attribute, rather than on any particular skill set.

Glister (1979), when he defining digital literacy does not give a long list of competencies and skills that help defining or describing what it means to be digital literate. He simply describes it as an ability to make use and understanding of information; he just views digital literacy as literacy in digital

age. Glister also looks at literacy to read, write, and handle information using technology available at the time in which we live.

The concept of digital literacy is much broader than computer literacy, and instead represents an umbrella framework for integrating other- inter- related sub- disciplines / literacies and skills- sets such as technology literacy, information literacy, media literacy and visual literacy. (Covelo, 2010; Martin and Grudziecki, Badwen, 2008).

California Emerging Technology Fund (2008:3) defines digital literacy as follows:

> *"The ability to use digital technology and communications tools, and / or networks to access, manage, integrate, evaluate, create and communicate information in order to function in a knowledge society".*

Similarly, digital literacy as used by the European Reference Framework (2007:7) is defined as follows:

> *"The confident and critical use of information technology for work, leisure and communication…. underpinned by basic skills in ICT: the use to computers to retrieve, assess, store, produce, present, and exchange information, and to communicate and participate in collaborative networks via the internet".*

Educational researchers such as Voogt (2011), also see digital literacy as requiring an understanding of the "interplay between technology and society to understand the technological principles needed to develop relevant solutions and achieve goals", contending that "digital literacy should not be regarded as a separate set of skills, but instead embedded within and across the other 21st

century skills and core subjects." This is supported by recent Horizon Reports (NMC 2009, 2012) which contend that digital literacy is not about the tools, but thinking critically about how technologies shape identities and cultures.

Eshet (2002) concluded, like Glister (1997), that digital literacy must be more than the ability to use digital resources effectively; it is a special kind of mindset or thinking.

It is clear from the previous that Glister's (1997), digital literacy is not about particular technology, not even- paradoxically, given the term digital technology itself. It is about the idea and the mindset, within which particular skills and competencies operate, and about information and information resources, in whatever format.

The EU digital literacy High- level expert Group suggested that:

"Digital literacy is increasingly becoming an essential life skill and the inability to access or use ICT has effectively become a barrier to special integration and personal development." DG Information Society and media Group (2008:4).

Martin and Grudziecki (2006: 259) identified three levels or stages for digital literacy development: the lower stage of digital competencies (skills, concepts, approaches, attitudes, etc.), the central and crucial level of digital usage (application of digital competence within specific professional or domain contexts), and the ultimate stage of digital transformation where digital usages are developed to enable innovation and creativity, and stimulate significant change within the professional or knowledge domain.".

Digital Literacy that founded so far is a part of a presentation on digital Literacy in Primary School Sites, an experiment in 3 schools in Ireland Casey & Bruce, (2010:14-15). They present Digital Literacy as follows:

“Attitudes and ability of individual to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate and synthesize digital resources, construct new knowledge, create media.”

A person using these skills to interact with society may be called a digital citizen or digital native.

Digital literacy is important for language learning for two reasons:

1- It assists students to learn more effectively with the range of ICT- enabled affordances that have the capacity to motivate and enable better understanding of science concepts in general.

2- It lessens the working memory’s cognitive load, while learning language that is ICT-based.

Reimann and Goodyear (2004) proposed five ways in which ICT can support successful learning. These are:1- Increasing motivation 2- Providing highly interactive experience and rich feedback to engage with learning.3- Providing tools that demonstrate what has been learned.4- Providing for communication and collaboration.5- Catering to differences in learning.

Hiding- Hamann (2009) suggested that there are three components to this skill set (digital literacy):

1- Instrumental skills: The ability to operate hardware and software.

2- Informational skills: The ability to search for relevant information using digital hardware and software.

3- Strategic skills: Using the information for own purpose and position.

Based on the above definitions and concepts, digital literacy goes beyond teaching the basic ICT skills to the learner and let him/ her how to use this technology with confidence to operate safely and securely in the environment.

From the above mentions one could understand that a person who digitally literate should be able to understand the different types of digital services and what content they offer, have ability to use the basic programs to get connected, operate, and utilize the various digital technologies with full confidence.

Additionally, technologies can provide new personal learning mechanisms: new literacies, new opportunities, new challenges, and new values:

New learning: planning, logic-visual, screen manipulation, information organization-, purposeful re-chunking with new software, problemizing as a basic, component of digital use, connecting as an ecology of learners (Turner 2010)

New opportunities: global audiences, global connections, creating dynamic records of learning, design thinking, visible learning, learning from error

New challenges: catering for teacher diversity through teacher learning and teamwork, filtering skills, personal choice of technologies integrated into common learning frameworks, citizenship encompassing digital domains.

New Values: to what levels personal choice can be increased? What value collaboration and teamwork in diverse learning environments? How far to break down classroom walls? What level of personal choice for teachers? What value student personal interest and prior knowledge? What learning to value and in what ways?

Putting this all together could help develop a digitally literate learning community. In fact, many definitions of digital literacy appeared to be built on three principles: “the skills and knowledge to use a variety of digital media software applications and hardware devices, the ability to critically understand digital media content and applications, and the knowledge and capacity to create with digital technology”. (Media Awareness Network, 2010).

Now we have knowledge of what digital Literacy looks like, and how it goes beyond being able to read and write to be digital learner. This newly emerging concept of "digital literacy" may be utilized as a measure of the quality of learners' work in digital environments, and provide scholars and developers with a more effective means of communication in designing better user-oriented environments.

Another definition suggested by the researcher that:"digital literacy is the cognitive balance for using the digital technologies and how to deal with".

To sum up, digital literacy is an expression that suggests that the abilities required to use new technologies are similar in some respects to those for reading and writing.

### 2.1.3 The impact of using digital technologies on EFL classroom

Today digital technology has many benefits in education because it is a much needed vehicle of achieving the modern learning as it gives student a variety of options for learning, and the EFL textbooks used with technological and methodological developments are often viewed as an inspiration and motivation in classroom instruction. Technology initiatives in educational settings have been the topic of research interest for the past thirty years. This reflects that the using of digital technology provides opportunities for learners to adapt their studies to their interests and preferences. "Web-based learning has become a common choice in education institutions". (Bauer, 2002:31)

Research literature throughout the past decade has shown that technology can enhance literacy development, impact language, provide greater access to information, support language acquisition, motivate learners, and enhance their self- esteem (ACT, 2004; CEO forum, 2001; Boster et al, 2004; Mann et al, 1999; Tracy Young, 2006; West Ed, 2002). However, people are only utilizing

the fundamentals of technology and ignoring the importance of the role technology can play in education.

From a historical prospective digital technologies stated at the heart of language teaching as long as language has been taught, also has proven highly effective in EFL classroom. It has been observed that L2 Digital literacy, especially in English, is rapidly becoming desirable, because it plays a vital role in EFL instruction all over the world, and it has become a common phenomenon to integrate digital tools with EFL learning and teaching. Koc (2005) says that:

*"the integration of technology into curriculum means using it as a tool to teach academic subjects and to promote higher-order thinking skills of the students".*

Digital technologies allow students to receive the visual, auditory, and kinesthetic input they need to grasp English, as well as to understand the lesson content, so using digital technology is become a priority within education and especially EFL/ ESL classrooms. Moreover, the need for effective use of technology in the classroom is an increasingly important factor to student's success in this environment of global technological revolution.

Many studies have been conducted to support the claim that EFL technology tools have positive effects on the students' language proficiency, and EFL students tend to use variety of technologies to help them learning English language, and utilizing technologies in schools' curriculum has become not only a reality, but also a necessity in preparing students for effective transition into today's society. Cobel and Gruba (2004:4) present that:

"*For English teachers, there is a great urgency to look beyond traditional forms of print media in order to consider how we prepare students for careers that*

*require active participations in the new literacies of the digital age. Therefore, ICT are the learning and teaching tools of the 21st century*."

Warschauer and Meskill (2000:303) pointed out:

"*the key to successful use of technology in language teaching lies not in hardware or software but in "human ware" Our human capacities as teachers to plan, design, and implement effective educational activity".*

This illustrates how the teachers' training is viewed as an important factor in using digital technology inside classroom. However, findings the best ways of integrating digital technologies into the EFL classroom is one of challenges that the 21st century teachers faced. All education sectors are facing many of the same challenges with digital literacy, but embedding digital literacy lessons stands as a great obstacle faced teachers and, furthermore, Sandholtz et.al (1995, 1997) observed that the introduction of technology challenges teachers' beliefs about their role in the classroom.

Most importantly, digital technologies have played an important role in transforming the students' life; it represents an opportunity for them to express their thoughts, by presenting plenty of resources and materials on- line that can be used in the EFL classroom. In other words, the net- web stands as a gateway to new ideas, a means of self-expression and empowerment, a driving force for innovation and creativity, and it also allows easy access to information. Liza Renard (2005:175) states that:

"*People today have many sources of information; they can find information just about anything by pushing a few keys, without ever opening a book".*

Now English is the language widely taught as a foreign language in over 100 countries (Crystal, 2003:23), and the emergence of new digital tools increasingly influences the English as a foreign language learning and teaching. The digital age has given students the greatest opportunity to be motivated and engaged with English in an interested way. Warschauer and Healey contend that:

> *"Integrating digital technologies in the English language classroom allows for individualization in large classes; facilitates multimodal practice; encourages collaboration; and increases the "fun" factor for learners".*
>
> (1998, as cited in Brown, 2001, p. 145)

The learning environment is known by those who are involved in teaching as an integral part in the development of the new language. Now, with the aid of technology, more specifically, the internet stands as a real true English instruction that can be brought to the classroom to facilitate information on topics that are introduced in the materials that the students have in hands. Moreover, using digital technology in EFL classroom helps to create a healthy and positive learning and instructional environments that can facilitate active and meaningful learning, thus they can meet various students' learning needs. The online world is quickly becoming the source for primary information for both teachers and students, (Schrock: 1999).

Researchers and educators believe that integrating technology into the classroom increases students' performances (Sommers, Owens& Piliawsky, 2009). Thus, the utilization of technology in the educational setting has become norm rather the expectation. According to Mr. Kofi Annan, the former Secretary General of the United Nations, information and communication technology has transformed education. Therefore, the student needs to be digitally literate,

because using technology in the classroom is no longer a choice; it is a required common cores for any student in order to be prepared for future.

More importantly, the computer can improve the quality of students' learning language, so they must learn and acquire how to make use of the technologies in the classroom in order to develop their digital skills and abilities to learn through them. Students with higher computer knowledge benefit from their capabilities to use computer in their language learning activities.

Jeremy **(**2013:9), states that: *"Integrating technology into the classroom helps to*

*prepare students for the elaborate world they will face".*

In 1960s the Illinois University planned to teach students based on technology and it connected the computers so that students can gain information on a course when they are listening to its lectures. Also, in 1960 two professors from the University of Stanford decided to teach math while reading to young children by means of computers. Years passed and the use and the shape of using computers in educational technology changed. It was around 1990s that the World Wide Web entered into human beings' life. World Wide Web technology made teachers to rely on a method that has multi-object oriented sites and are either text-based or online virtual reality systems.

The using of technology really goes back to the origin of writing over five thousand years ago; when writing is invented, and this was a way of making visible things, then the print technology in fifteen century allowed for a widespread adoption of print technology. Next, the nineteenth century had sound recording technologies and the animation devices which spread out and allowed people to capture of ways so long with all the information as film technology. Recently, in the last fourteen years' computers have brought

together represented the multimedia which give people a new ways of learning and give them whole new ways of relating to one another (social media).

It is quite notable that the utilization of digital technologies as tools for fostering English language teaching and learning is not new; technology has been used for enhancing instructional purposes since 1960, and the history of computer assisted language learning (CALL) shows that the use of computers served language learning and teaching. In short, in many CALL studies technology is seen as a treatment or as "magic pill" applied to language learner, and because of the extraordinary fast growth in all aspects and types of technologies all around the world, recent years have seen radical and rapid changes in the technology - supported EFL all over the world as Sam Thompson (**2012**) pointed out:

> "*where once there were only textbooks we now have interactive CDs, DVDs, websites, e-books and phone apps, even virtual worlds on Second Life, to bring our language to life."*

Glister, (1997) refers to digital literacy in the sense of not only being able to scroll down on a web page but also fully understanding how pages are linked together to get the best and most information to one's benefit. From this point of view, it is important to teach the students how to use technologies in proper way and how to adopt effective tools on the students' language learning progress and improvement, therefore a well-managed classroom is not what many people think: students working silently at their desks, speaking only when spoken to, and providing verbatim recitations of what the teacher and textbook said as (Jack,2012:260) states:

> "*But if some of our goals are for students to acquire a meaningful knowledge base, become proficient problem*

*solvers, and learn how to work productively with others, then we have to accept the idea that these goals are best met in classrooms that are characterized by a fair amount of autonomy, physical movement, and social interaction*."

Bearing the above quotations in mind, it's clear that a successful EFL learning and teaching with incorporation of digital tools is considered to be important, that the digital technologies became a substitute for traditional learning and teaching, but not substitutes for students using their mind and imagination. Numerous studies demonstrate that students who learn in existing multimedia and/or hypertext environments show greater gains in areas of language development than students who learn in more traditional environments (Ayersman, 1996; Boone & Higgins, 1992; Charney, 1994; Martinez-Lage, 1997).

The integration of the computer and subsequent technologies are sparking as "a new area of innovation" (Kern & Warschauer, 2000:1) in the second / foreign language classroom, and digital media power up and enhance the powers of oral language because language itself has always been a mixture of sounds, words, images created in the mind, and has always been multimodal combining words, images, and sounds as are many messages conveyed via digital media, indeed, many other media today.

(Levy, 2009:776) states that:

*"the use of technologies in teaching language have an increased advantage on the development of grammar, vocab, reading, writing and listening and speaking skills".*

Therefore, increasing connection between English and technology creates new demands for College English education (Zhang, 2003). It has generally been accepted that digital tools enable and allow ESL/EFL students to be active,

confident, and successful participant to share ideas and co-create content to enable them to engage fully in experimental learning (Smith, 2001) while developing digital literacy skills.

Moreover, Barbara, (2009: 55) states that:

> "*Digital technologies provide a great opportunity to make students more active participants in classroom learning, to tailor learning better to individual students' needs and to give students access to the world's current research and thinking"*.

In order to improve learning in a digital world, teachers need to be engaged continually to improve and strengthen their digital competencies and their teaching. Research has shown that engaged teaching can enable students to achieve at high levels and gain better educational experiences, furthermore, using digital tools help teachers to do their jobs more efficiently by creating a motivated, interactive, conductive teaching environment.

So educators should better integrate computers into their curricula and classrooms, and policy makers should invest more in training teachers to use computers for teaching because the new generations of students (digital natives) are so used and familiarized to everything being interactive and quick and they are especially used to everything being fast paced and at their hands in an instant. Meanwhile, higher institutions have to adapt technology in order to prepare their students for the job of the future; students are demanding a higher level of digital literacy, which have fast become an essential demand of 21st century employers.

Cummins, Brown, & Sayers, (2007: 216) state:

> *"Integrating technology in instruction for adult*

*English language learners may offer the flexibility to extend learning beyond that available in a formal program and thus increase opportunities for language and literacy learning*."

In other words, they are more likely not to be able to sit and listen to their teacher lecture them for hours. Instead, using digital technology gives very wide learning options never been available in traditional learning. So the very use of technology for learning has been found to have a positive effect on the student's commitment to the learning process. Also, the use of technology creates a greater commitment on the students' part to learn.

From the above discussion it is clear that increasing the digital technologies for both students and their teachers is a fundamental policy, and the technology is merely the means to an end, rather than a goal in itself.

Haverback **(**2009:1), states that her students used Facebook collaboratively to discuss assignments and ask and answer questions in relation to their study. She found them more motivated to participate in discussions on Facebook. In brief, the Internet, with its asynchronous tools, is an effective teaching tool. In order to use it in EFL learning and teaching effectively, EFL teachers need to be trained on doing that (Eastment, 1999:2).

Higher education planners are now seeking to provide learners with more customized, personalized learning experiences, because this level can be a key force for modernization, development and economic growth. Meanwhile, teachers started adopting technological tools to enhance learning in their classrooms much more than the last decades. In order to increase effective technology integration in the classroom, Almekhlafi and Almeqdadi (2010:173**)** suggested the following to adopt a successful policy of digital technologies: "(1) regular professional development workshops, (2) enhancing curriculum with

technology- enhanced material such as CDs and videos, (3) increasing collaboration between schools across the country and (4) giving enough freedom for teachers in the selection and overage of curriculum materials".

It can be deduced from the above that digital technologies play an important role in holding the students' attention and help them to take control of their own learning, and education levels. Moreover, opportunities and motivation to learn are strongly tied to a person's ability to access and use of digital technology.

In most developing countries using digital technology is not usually part of education culture, and one of these countries is Sudan which has experienced many obstacles in digital technology implementation. The educational history dates back to the early eras as proved by archaeological evidence, and the educational ladder was changed in 1991 and higher authority of Arabicization was established in 1991, that Arabic language should be the language of teaching and learning at the Sudanese higher education institutions. However, English becomes a compulsory university required subject for university student, as English now is the principal language of sciences, commerce and technology.

In Sudanese universities English language is taught as a foreign language, students of different specializations learn English as a university requirement for three terms: in the first and second terms, they learn general English. At the third term, the teachers teach students English for specific purposes (ESP) regarding their different specializations (medical, business, engineering…etc.).

To date, no "publish" study has been conducted to assess the current status of digital literacy among Sudanese university EFL students. So this calls for the present study which focuses specifically on using digital technology at Sudanese university level. The study focuses mainly on EFL (English as A foreign language) because the "field of foreign language education has always

been in the forefront of the use of technology to facilitate language acquisition process" Lafford and Lafford (1997: 215).

Unfortunately, the limit implementation of digital technology at Sudanese universities due to some challenges that centered largely on the poor limited infrastructure technology which supports the university educators, internet speed problem, large EFL classes, and insufficient digital literacy education slow the adoption of digital technologies in Sudanese EFL university classrooms. Besides the unavailability of electricity, the unwillingness of digitals and the non- existence of digital tools in EFL classrooms in most universities especially the governmental ones. The other challenges facing Sudanese university students and instructors is that many of whom are digitally illiterate, and consequently the educational system in Sudanese universities is still traditional and kept behind.

In this respect, Ezza, et al (2000:11) stated:

> *"Unfortunately despite the early introduction integration of internet service into the University of Khartoum, it has not adopted a clear policy to enforce the integration of the internet in educational system, bearing in mind that there is high level of digital literacy among its teaching staff".*

The present research might offer a good opportunity for students' voices to be heard and their needs related to digital literacy because digital technology integration help learners to achieve other goals related to their job, family, or further education. It can also be beneficial to them in the sense that they may promisingly experience more effective acquisition and development in literacy skills in English. Vaughan (2010), found that the potential of using Web 2.0 technologies and educational design strategies can be a key to change the course from traditional to digital one actively or collaboratively in order to make the

students responsible for their learning and to match their understanding through discourse and discuss with their peers. From this satisfying finding, it is strongly recommended to involve digital technologies in EFL learning to create the students' digital literacy learning enhancement.

All of these reasons call for the present study to be an attempt to investigate the digital literacy among Sudanese EFL university students, and enlighten the digital technology's impacts and effects on their English self- efficacy and the role that plays in students' learning to create active learning opportunities.

## Topics and Outcomes of Digital (Computer) Literacy

| Digital (Computer) Literacy Topic | Digital (Computer) Literacy Outcomes |
|---|---|
| Computer knowledge and security | Basic knowledge of hardware, networks and security, virus information, memory, storage, audio formats, legal and health issues around computers and copyright knowledge |
| Presentation | Creating, formatting and preparing ; creating a variety of presentations for different target audiences; using graphics, charts and various slide-show effects |
| Operating Systems | Using the computer and managing files: how, why and where computers store files; how to use operating systems and the desktop environment; managing and organizing files and directories/folders; simple editing tools; and print management facilities Windows |
| Internet and Information retrieval | Knowledge of web browsers, URLs, internet service providers, bookmarks/favorites, using search engines, assessing credibility |

| | |
|---|---|
| | of information, security, cookies and firewalls |
| Email | Proficiency in using internet based email and email applications |
| Database Management | Designing and planning a simple database; retrieving information; using query, select and sort tools; creating and modifying reports |
| Web Page | Producing and editing a webpage that contains graphics and uploading it to a web server |

**Figure1. Digital literacy**

We have deduced from the above diagram that digital literacy is the ability to succeed in encounters with the electronic infrastructures and tools that makes possible the world of the twenty – first century.

## 2.1.4 Types of Digital Literacy

**1-Digital literacy**: Cognitive skills that are used in executing tasks in digital environment.

**2-Computer literacy** is defined as:

"The ability to use the computer and software".

**3-Media Literacy:** Ability to think critically about different types of media. Duncan (1989), Bowen (1996), and Thoman (1995) defined media literacy as "education that aims to increase students' understanding and enjoyment of how the media works, how they produce meaning, how they are organized, and how they construct reality (Chauvin, 2003, p. 121).

Media literacy is a series of communication competencies, including the ability to access, analyze, evaluate and communicate information in a variety of forms

including print and non-print messages (Alliance for a Media Literate America, 2010).

**4-Information literacy**:

The word information is from Latin word, information which means concept or idea. The word literate is from the Latin word literates meaning learned or lettered. Information literacy may seem too broad and overwhelming and the term coined by Paul. The beginning of 21st century has been called the information age because of the explosion of information output and information sources.

Information literacy is a set of skills needed to find, retrieve, analyze, and use information. Over the time the definition of information literacy has changed that the new definitions of information literacy are evolving that includes how to access information in digital formats and how evaluate information and use it appropriately.

According to American Literacy Association (ALA) information literacy is "increasing important in the contemporary environment of rapid technological change."

Informational literacy forms the basis for long life learning and is common to all disciplines, to all learning environments and to all levels of education.

Today with the rapid technological advances in society, and the observable increase of access by all people around the world, information literacy is becoming of the utmost importance and individuals who are very computer literate are sometimes called power users.

**5-Technology literacy**: The ability to use technology effectively in different ways.

**6-Political literacy**: The knowledge and skills needed to actively participate in political matters.

**7-Cultural literacy**: The knowledge of one's own culture.

**8-Multicultural literacy**: The knowledge and appreciation of other cultures.

**9-Visual literacy**: The ability to critically read images.it can be referred to at times as visual competencies emerges from seeing and integrating sensory experiences. Focused on sorting and interpreting- sometimes simultaneously- visible actions and symbols, a visually literate person can communicate information in a variety of forms and appreciate the masterworks of visual communication. Visually literate individuals have a sense of design- the imaginative ability to create, amend, and reproduce images, digital or not, in a mutable way. Their imaginations seek to reshape the world in which we live, at times creating new realities.

According to Bamford, "Manipulating images serve[s] to re-code culture." With this list in mind, it's simply irresponsible to continue to teach our students based on of the old definition of literacy.

## 2.1.5 The Effects of using digital technologies on Learning

In today's language classrooms, computer has been used in teaching language skills. Learners of any language can easily find a wealth of authentic audio and video to listen to. Borra's and Lafay-ette (1994:63) point out that digitalized speech and video offer great control for the listeners and the technologies used for supporting meaning, such as L1 and L2 captions, glosses and explanatory notes, can improve the learner's immediate comprehension and acquisition.

Generally digital literacy plays a vital role in acquiring second language acquisition (SLA). There are many studies focused technology impact second

language acquisition; Zhao (2005) examined studies that researched the use of digital multimedia and language. (Zhao, 2005:16), concluded that technology can be used to enhance language acquisition in the following ways:

1-Enhancing access efficiency through digital multimedia. Multimedia presentations (video, images, sound, and text) can create stronger memory links than text alone. In addition, digital technologies allow instant playbacks, which provide the learner with quick and easy access to different sections of instructional materials than when they are using a textbook.

2-Enhancing authenticity using video and the Internet. The Internet provides learners with access to authentic materials, like news and literature, while video can offer context-rich linguistic and culturally relevant materials to learners.

3-Enhancing comprehensibility through learners 'control and multimedia annotations. Video materials online can be enhanced with full captions, key-word captions, and speech slowdown, allowing the reader to more easily digest the information. Digital reading materials can be hyperlinked to different media; which students can choose to help their comprehension of the material.

4-Providing meaningful and authentic communication opportunities. Students can engage in authentic types of communication through e-mail, chat rooms, and other digital means.

In this digital age, learners are different from the past in all their lifestyle especially education. Tapscot (2009:11), describes nowadays students as the "Net Generation" learners, because they grow up with the technology which affected their personalities. Many studies showed that internet in the English language learning environment is regarded as a motivational tool for the language learner because it helps them to learn the language communication and daily life of English language learners. They also mentioned that the internet is

a good tool to learn English language vocabulary and grammar indirectly and this makes the learning task as Luskin B. (2010) & Parks E. (2013) more engaging, enthusiastic, and extended.

The integration of technology in the process of teaching and learning is thought by many researchers to increase student and teacher productivity as well as to make vast amounts of information available. Bena and James (2001as cited in Zaidiyeen, (2010:212) claim that there are three reasons for investing in technology: (1) to increase student's ability and interest in applying authentic settings, what district and states have identified as learning and tasks that students should know and able to do; (2) to prepare students for success in a technology centered world of work, and; (3) to prepare students to manage and use information so they can be productive lifelong learners and responsible citizens.

With more attention to instruction of English as a foreign language (EFL), digital literacy is so important because of three reasons: Firstly, the use of English language by non-native speakers is increasingly in communication. Secondly, the emergence of English as a global language has meant that desired online resources are mainly in English, despite of the rapid growing internet use of other languages, and thirdly, the majority of interpersonal communications worldwide will have become computer- mediated, rather than face to face.

The goal of this section is to describe how modern technology in the English Foreign Language classroom is useful for teachers as well as students. Some recent studies have investigated current classroom practices around digital pedagogies for literacy. For example, Oakley (2008) investigated using a language experience approach with digital storytelling using power point with voice recordings and Ciampa (2012) studied the use of electronic storybooks to

increase reading motivation. Both found the methods successful in motivating students and teaching an aspect of literacy.

With the use of digital tools, teachers of English create some innovative methodology to make teaching and learning process more informative, interactive, and interesting. So the use of digital tools in EFL classrooms should be taken in account in this digitized learning era since they provide a lot of fun games and communicative activities that can reduce the learning stress and anxiety. Moreover, the EFL students can relieve the discomfort of learning and a rouse their interest into deep learning and understanding (Rajanam, 2012). Teachers and students alike will be able to use technology as an instrument of creativity and empowerment, also they will be able to share and publish their work instantly. This alone is a huge advantage for teachers that they do not have to kill themselves planning and coming up with new ideas on how to teach their class.

Greenberg also stated that a foundation should be provided for the effective integration of the internet into the teacher and student's lives" (Greenberg, 2005:26). University students may use ICTs competently for social networking but need teacher guidance for learning based digital literacies (Luckin, 2009:11). So, Digital literacy can play an important part in learning for all students in all levels of education.

In 2000 researchers commissioned by the Software and Information Industry Association (SIIA) examined 311 research reviews and reports from published and unpublished sources. They reported that the reviews show that technology can have a positive effect on student attitudes toward learning, self-confidence, and self-esteem (Sivin-Kachala & Bialo, 2000:16). However, the traditional ways of thinking must be change if we are adopting technological changes and want to be successful at integrating technology into the EFL classroom.

## 2.1.6Active learning opportunities provided by using technology

The literature has persistently argued that successful integration of technology in education can lead to a number of benefits. Some of these benefits have been explored below.

The use of technology into the learning environment has become an unstoppable force in recent years (Cohen, Manion, and Morrison, 2004). Dede (1998) postulated that technology has the potential to enhance student achievement and teachers' learning (cited in Keengwe, Onchwari and Wachira, 2008). Indeed, in a study to establish the relationship between computer technology and student achievement in mathematics, Wenglinsky (1998) reported a positive correlation between computer proficiency skills and academic achievement. Students who used computers and incorporated constructive strategies reported significantly higher scores than students who relied only on computer-based drill-and-practice programmes to learn mathematics.

On review studies related to technology and student achievement, Sivin-Kachala and Bialo (2000:1) reported positive and significant gains for students who were engaged in technology-rich environments. Those students showed significant gains and achievement in all subjects, increased achievement and improved attitudes toward their own learning, and increased self-esteem (cited in Keengwe et al., 2008).

The Milken Exchange on Education Technology used a meta-analysis of research studies to examine the impact of technology on student achievement and found that there were measurable increases in achievement in classrooms where technology is embedded and properly utilized (Schacter, 1999 in Education Alliance, 2005).

Some researchers maintain that the application of technology can help to increase student motivation and engages students in the learning environment (Dunken, 1990; Lee, 2000 in Riasati, Allahyar and Tan, 2012). This perspective is supported by the Department of Education and Early Childhood Development (DEECD, 2010). The department found that learner's experience of technologies in the classroom can enhance learners' engagement and motivation in fulfilling task (Riasati, Allahyar and Tan, 2012).

The integration of technology into curriculum delivery has accelerated the shift from teacher-centered approaches to student-centered approaches by guiding and supporting students in their learning rather than the traditional bench-bound instructors (DEECD, 2010 in Riasati, Allahyar and Tan, 2012). As a result, it is now accepted that to effectively teach with technology, teachers must shift their instructional practices from a teacher-centered lecture approach to a more student-centered learning or constructivist approach (Jonassen, 2000, cited in Keengwe et al, 2008). With the teacher as facilitator of learning, students will be engaged in self-evaluation and peer evaluation; they also will become aware of the quality of their work and will accept feedback more willingly (Riasati, Allahyar and Tan, 2012:27).

Research, which examines constructivist teaching and learning models, indicates that technology brings complexity to the tasks that students perform and raises student motivation (Baker, Gearhert and Herman, 1994; Dwyers, Ringstaff and Sandholtz, 1990). Brooks and Brooks (2001) conclude that technology changes the roles of teachers and students; that the traditional role of the teacher as dispenser of information is challenged; and that the teacher's new role is that of guide—to challenge students' thinking and encourage reflection in the learning process (Keengwe, Onchwari and Onchwari, 2009).

Reeves (1998as cited in Keengwe et al., 2008) submits that learning with technology, incorporates the use of computers to help students develop higher order thinking, creativity and research skills. Barron and Orwig echo the same sentiment, when they postulated that integration of appropriate technology into classroom practices can positively impact important dimensions of learning such as active learning, critical thinking, cooperative learning, communication skills, instructional effectiveness, multisensory delivery, motivation and multicultural education (Keengwe et al, 2008). Novak (1998), goes further by asserting that these higher order skills are pivotal in helping learners become skilled at thinking purposefully and connecting life experiences to academic learning which might translate to meaningful learning (Keengwe et al., 2009).

Research has shown that many students benefit from the use of technology integration into the teaching environment (Schacter, 2001). Kulik (1994 as cited in Schacter, 1999) conducted a meta-analysis technique to aggregate the findings from more than 500 individual research studies of computer-based instruction. The findings revealed that students using computers learn more in less time, like classes more, and have more positive attitudes towards computers in classes that utilized computers for instructional purposes.

Schacter (1999) compiled and analyzed five large-scale studies of education technology for the Milken Exchange on educational technology. The findings revealed that in over 700 empirical research studies, in the study of the entire state of West Virginia, in a national sample of fourth- and eighth-grade students, and in an analysis of newer educational technologies that students with access to computer assisted instruction, or integrated learning systems technology, or simulations and software that teaches higher order thinking, or collaborative networked technologies, or design and programming technologies, show positive gains in achievement.

### 2.1.7 Styles of students learning through digital tools

Howard Gardner called for using current technology into the classroom as a method to reach as many students as possible; teachers can combine each learning style with a different type of technology giving the student the opportunity to learn more effectively with less worry about missing needed details from long lectures.

Students learn in different ways and often come to a course with different backgrounds and levels of preparedness. In the classroom, we bring material to life and make it animated in a way that appeals to different learning styles. The digital age means we now have interactive tools for the classroom to go alongside our more usual set of ideas and activities, and for those students who really get into a particular lesson topic – modern artists, for example – you can suggest websites where they can go and pursue their interests while getting even more exposure to English.

Learning style is an individual's natural or habitual patterns of acquiring and processing information in learning situations. The idea of individualized learning styles originated in the 1970s, and has greatly influenced education.

It is noted that digital content supports different learning styles, that digital resources provide media- rich content to supplement curricula. This resource allows teachers to create individual learning paths for their students, so they can learn in the most efficient way by taking most responsibility for their own learning. In general, using digital technology enabling teachers to create a richer learning styles, that there is an array of online learning, adoptive software and expanding library of digital learning that supports different styles of learning and increase student motivation and engagement.

Howard Gardner pioneered the concept of multiple intelligences in the 1980s, he challenged that all children learned the same way. Over the years, his theories have been wide accepted by educators. Instructional technology enables support of a wide variety of learners. The same content can be represented in different modalities, texts, audio, video, and hands- on practice so that students with different learning styles have multiple opportunities to learn and understand.

Although Gardner identified nine different learning styles, most e- learning makes use of three primary styles that can be summed up in the acronym –VAK for visual, auditory, and kinesthetic. Most of the learners show all three learning styles. For example, when students have access to digitals, they can select media that appeals to their interests and individual learning styles. Unfortunately, serious conflicts may occur between the learning styles of students and the teaching styles of the instructor causing undesirable consequences.

Students, then, lose interest in class, and become inattentive, do poorly on tests, get discouraged about the course, and may fail and be repeaters. Instructors, confronted by low test scores, unresponsive classes, poor attendance, students' continuous complaints, may become hostile towards their students, dissatisfied with their work and themselves. Then, many teachers feel that students are lazy and not motivated for learning, (Felder & Silverman 1988). According to Kadel (2010), a quality classroom allows teachers to match each lesson assigned to the individual student's learning style.

In today's language classrooms, computer has been used in teaching language skills. Learners of any language can easily find a wealth of authentic audio and video to listen to. Borra's and Lafay-ette (1994) point out that digitalized speech and video offer great control for the listeners and the technologies used for

supporting meaning, such as L1 and L2 captions, glosses and explanatory notes, can improve the learner's immediate comprehension and acquisition.

CALL programs also play an important role in improving other language skills. Early CALL programs focused on grammar or vocabulary development because such applications were easy to program on computers. Burston (2001) indicates that grammar checkers have been used as aids to improve grammatical competence despite the fact that they need to be used with an understanding of their limitations. Employing CALL in teaching and learning ESL requires, according to Liou (1991), accuracy, real time immediacy and reliability.

Fox (1984) showed that unscrambling or rebuilding text activity in CALL could provide a considerable control of student learning. Yunan (2003), in her study, reveals that information aided with pictures and rich learning environment in multimedia instruction could arouse the learners' attention.

Nakata's (2008) study showed that the use of Low-First Method has positive effects on student's motivation because of the tools was conductive to learning vocabulary. This result was revealed when the use of computers was compared to List and Card. The study included 226 secondary schools. The data were collected from a questionnaire, pretest, immediate and delayed posttest. The researcher concluded a few important points, first, the participants should be given time for rehearsals as the program was still new. Second, the teacher must help students understand how the program was designed to improve their vocabulary.

A more effective approach appears to be useful in enhancing the EFL vocabulary repertoire is through benefiting from the latest technology available to many learners either at their homes or within the educational institutions. The recent field in computer-assisted language learning (CALL) can be helpful in

enhancing EFL learners' vocabulary. This can be achieved through exposing EFL learners to computer-assisted vocabulary testing programs (Dunkel, 1991).

**Al-Hammadi** (2007), in her study, measured the effectiveness of multi-media software for developing some listening skills among EFL Saudi secondary school students. To achieve this purpose, three tools were used. Firstly, a list of listening skills was collected from literature to determine the necessary listening skills needed by third year Saudi secondary school students. Secondly, a pre/posttest was prepared and programmed to measure the effectiveness of the software in developing some listening skills. It was administered at the beginning and end of the experiment to measure students' listening skills. Thirdly, multi-media software was designed, programmed, and administered by the researcher for developing students' listening skills. The results of her study showed the following:

1-The software has proved to be effective in developing some listening skills among EFL secondary school students.

2-Superiority of students' performance in the post-test measures is due to the effective use of multimedia annotations and the variety of activities that have been used.

3-Shy or inhibited students can be greatly benefited by individualization; student-centered learning. Computer can offer new opportunities for better language learning.

4-The use of MCALL software improves EFL secondary school students listening skills as well as their academic achievement.

5-This multimedia software supports the communicative language teaching approach in an interactive environment.

6- Linguistic accuracy is maintained throughout the software.

7- This software would be used in a language or computer lab by the class as a whole, with the instructor exploiting the authentic and contextual language situations and/or preparing the learners for further practice.

8- The importance of multimedia in the improvement of oral production deals with intonation and rhythm.

9- Multimedia allows us to use the best combination of media to present compelling information suited to specific situations and allow user control over how and when that information is accessed.

10- Teachers should be ready to allow students ask questions at any time during the class sessions. These dynamics may foster students' collaboration and cooperation learning styles.

11- The multimedia software can be a useful English language tool that raises students' motivation by increasing their confidence, encouraging them and broadening their listening and oral skills.

12- Multimedia is a great treasure for teachers and students because it has exactly what you need, whether it is for an activity in class, an activity out of class, to practice a specific skill, or to develop a specific language topic.

A study carried out by Ming-Chia Lin and Tsuo-Lin Chiu (2005), on the impact of an online explicit lexical program on EFL vocabulary gains and listening comprehension, shows that the experiment group performed better in the lexical and listening posttests but the control group did not. Significant relationships were found between the gains of lexical and listening abilities.

Robin (2007) claims that CALL applications can give the learners more control over speech and repetition of listening input. Rost (2007), points out that through online practices, EFL learners can focus on the specific lexical gaps that they need to fill in their lexicons. He also states that EFL learner' abilities of

mapping listening vocabulary onto contextual meanings, and interpreting meaning from complex sentences can be developed. This may enhance their listening comprehension.

Many researchers have pointed out the advantages of Computer Assisted-Language Learning for lexical and listening learning (Rost, 2007; Zapaza & Sagarra, 2007; Zapate &Sagarra, 2007) compared the effect of completing a paper workbook and an online workbook as homework on word learning for English-Spanish College Learners. The results of such a longitudinal study show that the internet-mediated lexical program allows the learners to go beyond theconstrains of classroom-oriented learning and to continue polishing their lexical and listening skills during the off-class time.

Rost (2007) claims that with the access to digital technology, EFL learners can have more control of input speed, pause, and relay function, making lexical pushdown available.

Wood (2001) discussed the possibilities of new technologies to develop learners' lexical knowledge either to stimulate the deep processing of new words or to give learners opportunities to apply new words to various situations. He also pointed out the positive effects of using hypertext versus linear text in enhancing children's vocabulary learning. By applying certain computer-based activities, children are able to tap into prior knowledge, to create semantic webs, to experience a new word in various contexts, to be responsible for their own learning by selecting the links that satisfy their curiosity, or to have an access to online definitions, glossaries or dictionaries.

As mentioned above one of the benefits of using digital tools that student taking more responsibility for their own learning and the teachers' role is shifting from a teacher – centered classroom to a student- centered classroom. This shift has been popularized as a move from "sage to stage" role to the "guide from the

side". That means digital learning creates a more powerful learning experience where students no longer depends on teachers and be more responsible and independent for their learning, thus contributing to learner autonomy as Benson (2001) pointed out.

Applying English to life has always been one of essential goals; if students can see a use for English then they'll be motivated. Since most of new students use the Internet for work, study, and life, the digital age of teaching finally helps bring this goal to fruition. Therefore, the implementation of such technologies in the EFL classroom has fostered autonomous learning thus encouraging students to become more independent and more responsible for their own learning process.

Once a student realizes he/ she can find out and understand things on the Internet, a whole world of real English use opens up. They can join online groups and find new friends around the world to email, message and Skype. If being online is what they like then they can try their hands at joining the blogging community and sharing their thoughts in English with others, or use many of other sites that will give them real language 'practice'. So, the true value in these ideas is that technologies lead students to be creative, to work in a team, to be responsible for their own learning, to work independently from the teacher, to express themselves and to feel part of the learning process by actively participating in it.

To carry out these ideas the students need to be very well equipped with computers at all levels especially at the university and possibly at home. It is obvious that a typical class can include vastly different skill levels and learning styles of students, and at the same times meeting those varied academics needs with a defined curriculum, time limitations, and traditional instructional tools can be a great problem even for the most skilled teachers.

Many researches show that leaning style uses different parts of the brain. By involving more of the brain during learning, the students remember more of what they learn, and many researchers recognized that each student prefers different learning styles and techniques. Some students may find that they a dominant style of learning and using multiple learning styles need multiple intelligences for learning.

Today, traditional classes used linguistic teaching and learning methods, it also used a limit range of learning and teaching techniques. But by understanding students learning styles, it can be easy to choose techniques and styles that are suited to them. So, learning styles can be defined as: "the ways in which individual characteristically acquire, retain, and retrieve information".

The most common learning styles are:

1- Visual (spatial): The student prefers to use picture, images, and spatial understanding. They remember things best by seeing something written.

2- Aural (auditory): The student prefers using music and sound. They remember best through hearing or saying items a loud.

3- Verbal (linguistic): The student prefers using words, both in speech and writing.

4- Physical (kinesthetic) also called tactile: The learners using their bodies, hands and sense of touch. They remember by writing or physically manipulating the information.

5- Logic (mathematical): The student prefers using logic, reasoning.

6-Social (interpersonal): The student refers to learn in groups or with other people.

7- Solitary (intrapersonal): The student prefers to work alone and use self-study.

## 2.1.8 Learning styles enriched with technology

### 1- Linguistic intelligence

Methods for mixing technology and the learning style linguistic intelligence can be as simple as recording each lecture and giving the students the ability to listen or re-listen to each lecture by downloading the lecture in its entirety onto the school's webpage or onto a public forum like YouTube. This method gives assistance to those students who learn best with "Linguistic Intelligence". A student who learns best by linguistic intelligence has an increased "sensitivity to spoken and written language" (Smith, 2002, 2008) with this ability comes, the ability to use different methods to accomplish goals (Smith, 2002, 2008). Another possible way to reach the linguistic learner is to assign those students to video record, tape record or to write any comments or rebuttals they may have in response to the lecture by posting those comments to the same website or electronic board, the teacher's lecture is posted to, giving each linguistic learner the ability to "effectively use language to express oneself rhetorically or poetically" (Smith, 2002, 2008) as well as thoughtfully.

Students who learn best with linguistic intelligence have keen verbal, linguistic skills and are often identified as "word smart" (Jackson, Gaudet, McDaniel, & Brammer. 2009). Outside of the classroom, the "students with verbal linguistic intelligences can easily access information through worldwide databases and computer networks" (Jackson, et.al. 2009: 71). Although computer searches are typically user friendly for every learning style, web searches for a linguistic learner would come easy to that learner, because of the innate ability to use words effectively in the search bar.

Being creative in the classroom to meet the needs of the linguistic learners can be a fun change in the monotone tones of the everyday long drawn out lectures. Most linguistic learners have the ability to "manipulate the syntax or structure

of language, the phonology or sounds of language, the semantics or meanings of language, and the pragmatic dimensions or practical uses of language" (Sariolghalam, et. al., 2010). Manipulating syntax can be made easy with a computer. Giving your students permission to bring their personal lap tops or tablets into the classroom can give them more than the ability to take notes. Their "capacity to use words effectively, whether orally (e.g., as a storyteller, orator, or politician) or in writing (e.g., as poet, playwright, editor, or journalist)" (Sariolghalam, et. al., 2010), gives the teacher an open invitation to create in-class group or personal assignments that can include writing stories, researching information for an in-class debate, or creating poetry that fits the class topic. This will help bring students the enjoyment of, "reading and writing, word games, stories" (Jackson, et. al., 2009: 72), to the classroom for each linguistic learner.

**2- Bodily-Kinesthetic Intelligence**

Many students who are accused of having issues with things like attention deficit are actually learners who can't sit still in their chairs because they are bodily-kinesthetic learners. Kinesthetic learners express their ideas and feelings through physical movement, having "the capacity for using one's hands to produce or transform things". (Jackson, et. al. 2009: 74). "The assessment of bodily-kinesthetic astuteness in learners may entail the teacher's use of a variety of unique learning opportunities" (Jackson, et. al. 2009: 74), engaging your kinesthetic learners in being the teacher's helper, specifically assigning a "technology helper" position, can help the student learn more about the topic at hand. Having a natural sense of the presence and use of our own bodies are experienced by many, even more so by the kinesthetic learners of your classroom. Presenting material in a tactile way will give your kinesthetic students the experiences they need to learn (Jackson et. al. 2009:71).

The class technological helper can assist in running the Power Point, projectors, and smart boards that are typically in each college classroom. This will assist the teacher in producing the multi-media portion of each lecture, giving those students firsthand experience in developing class room material. "This intelligence includes specific physical skills such as coordination, balance, dexterity, strength, flexibility, and speed, as well as proprioceptive, tactile, and haptic capacities" (Sariolghalam, et. al., 2010). The kinesthetic learners have an innate understanding of the space their bodies use and the roles that each of their body parts "play in their learning" (Mc Coog, 2007:26).

**3- Spatial (Visual) Intelligence**

Learning topics such as anatomy or topology can be an easy topic for visual learners. (Jackson, et. al., 2009: 71). However, reaching visual learners does not have to include only math and science topics. Simply using a Power Point presentation in the classroom to present your topic will help the visual learners remember the important items of your topic. "Visual learners are skillful when it comes to visualization and memory, but may be challenged with auditory memory. Learning for visual-spatial students takes place all at once, with large chunks of information grasped in intuitive leaps." (Jackson, et. al., 2009: 71). An in-class assignment creating a mind map with the use of the WORD program, or on-line resources such as Mind meister for presentation to the rest of the class can be used with any topic.

To create a mind map in WORD, the students click on "Insert" then click on "SmartArt". Once a topic and type of mind map is chosen let the students be creative, working as a group to fill in the mind map as they brain storm together. The students will watch visually as their own mind maps show transformations of their own perceptions (Sariolghalam, et. al., 2010). The

spatial-visual learner learns when the lesson involves "color, line, shape, form, space, and the relationships that exist between these elements" (Sariolghalam, et. al., 2010), including "the capacity to visualize, to graphically represent visual or spatial ideas, and to orient oneself appropriately in a spatial matrix" (Sariolghalam, et. al., 2010).

"The visual spatial learner is well adept when it comes to visualization and memory" (Jackson, et.al., 2009, p 73), and is known for being very organized, while placing objects in appealing formats. (Jackson, et. al., 2009: 73). Visual learners "…look to artists and architects for inspiration. Creativity is the key for these learners. They enjoy digital and video-camera projects. Computer-aided design and paint programs…" and "are result driven" (McCoog 2007: 26). Visual learners"…can research famous quotes and images and then give a short introspective speech" (McCoog 2007: 26) that will include the linguistic learners in the classroom. Students can perform an internet search to locate hundreds of quotes and pictures. "Once their research is complete, they can share their work with the use of presentation software. This activity allows the spatial student to express his or her creativity while still covering necessary content" (McCoog, 2007:26) while reaching other learning styles represented in the classroom.

**4- Naturalistic Intelligence**

The ability to make connections between patterns and nature (Wilson, 1997) can assist a chef in designing a new dish, a farmer to solve problems with wild animals, and hunters to stay safe. The human ability to "discriminate among living things (plants, animals) as well as sensitivity to other features of the natural world (clouds, rock configurations)" (Gardner, 2012) is an intelligence the community at large cannot do without (Gardner, 2012). This intelligence also speculates "that much of our consumer society exploits the naturalist

intelligences, which can be mobilized in the discrimination among cars, sneakers, kinds of makeup, and the like" (Gardner:2012).

The naturalistic learner is considered to be "nature smart" (Wilson, 1997) individuals gifted in this intelligence area showing interest in the environment and caring for the earth. Although, challenging, no matter the topic the naturalist learner can be reached in the classroom with technology. "People possessing nature smarts are keenly aware of their surroundings and changes in their environment, even if these changes are at minute or subtle levels. Often this is due to their highly-developed levels of sensory perception" (Wilson, 1997). Reaching the naturalistic learner can be as easy as rotating the technological tools used in the classroom to change the immediate environment. An example would be to change the presentation format each time the class meets.

On day one present with a Power Point presentation, on day two present using a smart board, on day three present using a video. The student's "heightened senses may help them notice similarities, differences and changes in their surroundings more rapidly than others" (Wilson, 1997) giving the naturalistic learner an environment that is not mundane or boring. "People with naturalistic intelligence may be able to categorize or catalogue things easily too. Frequently, they may notice things others might not be aware of" (Wilson, 1997). Software like Nvivo 9 can assist a naturalistic learner with categorization and cataloguing qualitative information about their immediate environment.

The Nvivo 9 program "handles virtually any data, including Word documents, PDFs, audio files, database tables, spreadsheets, videos and pictures" (Microsoft partner, 2011), giving the naturalistic learner the ability to organize, categorize and catalogue. The conclusions, query results, models and charts of any research done can be exported, copied or pasted into reports and presentations

(Microsoft partner, 2011) “Naturalists learn best by making connections between how content interacts with the natural world” (McCoog, 2007:27), including the environment of the learners’ immediate environment.

### 2.1.9 Learning and teaching through digital technologies

Learning is natural, adaptive human process, active learner participation is critical, active learning is also about keeping learning an 'active' process for the learners. Therefore, there has to be ways to make learning sustainable. Most academic learning is confined to the classroom and at the most to homework/assignments outside the classroom. When learners are actively and willfully trying to achieve a cognitive goal (Scardamalia & Bereiter, 1993/1994), they think and learn more because they are fulfilling an intention. Technologies have traditionally been used to support teachers’ goals, but not those of learners. Technologies need to engage learners in articulating and representing their understanding, not the teachers.

When learners use technologies to represent their actions and construction, they understand more and are better able to use the knowledge that they have constructed in new situations, furthermore, learners use computers to do skillful planning for doing everyday tasks or constructing and executing a way to research a problem they want to solve, they are intentional and are learning meaningfully. Therefore, technologies can support this conversational process by connecting learners in the same classroom, across town, or around the world. We argue throughout this research that technologies can and should become the tools of meaningful learning, and afford students the opportunities to engage in meaningful learning when they learn with the technology, not from.

Active learning occurs when students are participating in the learning process both inside and outside the classroom, by organizing information, manipulating materials, and/or constructing new knowledge should be about making learning

relevant to their life-experiences or future work experiences – and the students should be able to apply this learning when they work, view others at work, watch movies, documentaries, television, or hear about others experiences. This can help them relate well to things that they are learning and also give them more sustained mechanisms of retaining learning longer.

During the 1950s, programmed instruction emerged as the first true educational technology, that is, the first technology developed specifically to meet educational needs. With every other technology, including computers, educators recognized its importance and debated how to apply each technology for educational purposes. Unfortunately, educators have almost always tried to use technologies to teach students in the same ways that teachers had always taught. So information was recorded in the technology (e.g., the content presented by films and television programs), and the technology presented that information to the students.

It is obvious that the effectiveness of each technology has been determined by how effectively it communicates ideas to students. The students' role was to learn the information presented by the technology, just as they learned information presented by the teacher. The role of the technology was to deliver lessons to students, just as trucks deliver groceries to supermarkets (Clark, 1983). If you deliver groceries, people will eat. If you deliver instruction, students will learn.

Rolf Arnold (1993) demands, the digital learning environment will probably be the most efficacious "enabler" of independent and self-determined learning and the introduction of modern computer technologies in classrooms has followed the same pattern of use. Before the advent of microcomputers in the 1980s, mainframe computers were used to deliver drill and practice and simple tutorials for teaching students lessons.

When microcomputers began populating classrooms, the natural inclination was to use them in the same way. A 1983 national survey of computer use showed that drill and practice was the most common use of microcomputers (Becker, 1985). Later in the 1980s, educators began to perceive the importance of computers as productivity tools. The growing popularity of word processing, databases, spreadsheets, graphics programs, and desktop publishing was enabling businesses to become more productive. So, students in the classroom begin word processing and using graphics packages and desktop publishing programs to write with.

The development of inexpensive multimedia computers and the eruption of the Internet in the mid-1990s quickly changed the nature of educational computing. Communication tools (e-mail and computer conferences) and multimedia, little used according to Hadley and Sheingold, have dominated the role of technologies in the classroom ever since.

Now, Web 2.0 is more rapidly changing the landscape of educational computing. According to Schrum and Levin (2009), Web 2.0 is more distributed, collaborative, open source, and free, with more shared content produced by multiple users than Web 1.0. But what are the students producing? Too often, they are using the technology to reproduce what the teacher or textbook told them or what they copy from the Internet.

Technologies provide rich and flexible media that students can use to communicate their ideas with other students in collaborative groups. A great deal of research on computers and other technologies has shown that technologies are no more effective at teaching students than teachers, but if we begin to think about technologies as learning tools that students learn with, not from, then the nature of student learning will change.

Koehler and Mishra (2009) and Mishra and Koehler (2006) have added to PCK (personal computer knowledge) what teachers ought to know about integrating technology in their instruction. This newer component argues that good teaching requires knowledge of content, pedagogy, and technology. Guskey (2002), argues that to teach 21st century skills, teachers need to be provided with on-going professional development that is supportive and allows teachers to question, practice, and explore emerging technologies, also, he states that before a teacher can effectively teach and encourage 21st century learning, they must have the interest, motivation, and support to do so.

Fairman (2004) studied the effect of the use of laptops on the relationship between the teachers and the students with the latters being more competent in the operation of the laptop. The study findings indicated that "teachers have begun to see themselves as partners in learning with the students and report more reciprocal relationship with students" (p. iii). Teachers also reported that the introduction of laptops created a better learning environment that was characterized by "more interaction and cooperative work across all groups of students and between students and the teacher". What is more, "increased communication and respect among students and between students and the teacher" helped create a "community of learners" (ibid).

From the above it is clear that digital technologies provide learner with active learning opportunities that allows him / her to take part and participate in learning process.

### 2.1.10 Types of Learning opportunities provided by digital technologies

The use of digital technology in EFL classrooms has many advantages for developing the EFL learners' language skills. We mean by English language skills, the development of the main parts or elements of the language which are

speaking, listening, reading, and writing. The uses of digitals present the EFL learners with gateway to various activities for developing their language skill as (Sharma, 2009) mentions that the use of several technical tools has a significant effect on the learning process of each area of the language. So, the digital technologies have changed learners' life and utilizing and integrating technology tools in the educational setting has become the norm rather than the exception.

Today digital technology is an amazing and powerful tool that can help learners to get more profitable and promise opportunities for all of them. The learners can learn at home on their private network computer. Moreover, using digitals offers ease speed and flexibility in accessing information. Less time and energy is required for exploring and searching information. So, as mentioned above digital literacy can play integral part in providing EFL students with valuable language experiences when they learn English. Student today can learn anywhere and anytime; with future digital world we can expect blended learning.

One of the most important opportunities that provided by digital technology is active learning which is differ from passive learning. It helps students to learn more information, and provides them with opportunities to adapt their studies to their interest and preferences; above all, it reduces the chance of feelings disinterested. So the digital tools help the learners to enjoy their studies and become lifelong learners and challenge them to find what studies best for them.

Another important opportunity, that the using of technology increased opportunities for learning and let students to have a healthy benefit which help relax and de – stress. Digital technology provides a rich learning by presented array of online materials that students need, and let them to be fully participates in a connected world.

The digital technologies could offer enormous opportunities to support education in general. In other word, the use of computer technology offers many opportunities for language. In general, using digitals give students opportunities for practicing English language and provides opportunities for EFL learners to work both on their own and as part of a group to find their own learning needs and to use the English language in an authentic situation. Researchers report that regardless of the subject matter, students working in small groups tend to learn more of what is taught.

One more important open opportunity that can be enhanced and developed by using digitals is teaching writing skill. The study by Cunningham (2000) concluded that his students found that his writing class was more productive when he used word processing software with his students. He surveyed 37 EFL students in his writing class to study the students' attitudes towards using computers in their writing. 88% of students indicated that they had improved their writing skills whilst using word processing.

These students indicated that using a word processor during the writing process helped them to concentrate on certain aspects of their writing, for example: grammar, vocabulary and the organization or structure of their text. Similar results were also reported by Kasper (2000) which highlight the useful role of the use of computer technology in developing writing skill of EFL learners. Using digitals provides a variety of current reading materials compared to dated reading materials sourced from textbooks (Kasper:2000). Computer based reading instruction also allows for many active opportunities:

> *"increased interaction with texts, attention to individual needs, and increased independence through an ability to read texts they would not otherwise be able to read"*
>
> (Case & Truscott, 1999: 361).

The varieties of reading materials, available with the use of computer technology and internet can encourage EFL learners and open opportunities to read widely in foreign language like English. This can be highly effective for developing vocabulary through wide reading and in mastering important structures in the target language. That is why it is argued that computers can promote extensive reading; build reading fluency and rate; develop intrinsic motivation for reading; and contribute to a coherent curriculum for student learning.

Jonassen (1999:55) defines technology-enhanced meaningful learning as active, authentic and cooperative. First and foremost, ICT–and the Internet in particular–provides language learners with the opportunity to use the language that they are learning in meaningful ways in authentic contexts. The Internet provides an easy and fast access to the use of current and authentic materials in the language being studied, which is motivating for the language learner. Such authentic materials include, for instance, online newspapers, webcasts, podcasts, newsroom, video clips or even video sharing websites such as, say, YouTube. Where language teachers earlier searched and carried authentic materials like maps and train timetables to a classroom, they can now ask learners to access such information online, thus helping them learn with current and real-time materials.

Another motivating language learning opportunity using digital technologies is provided by chat rooms and virtual environments such as second Life where the language learner can practice not only the written use of the language, but also practice speaking and pronunciation, without the fear of making mistakes.

### 2.1.11 Teaching provided by digital tools

Today integrating digital technologies inside the classroom is one of the challenges the 21th century teachers faced, and using digital tools is no longer

an optional in the classroom. The power of digital technologies has changed teaching process drastically that technology can provide several useful tools that would help teachers to collaborate on teaching innovation: Open educational resources, the teaching patterns. Moreover, digital technologies can facilitate and motivate the teaching process and the effective integration of teaching aids and methodology promotes the learning environment. Koç (2005:) says that: "the integration of technology into curriculum means using it as a tool to teach academic subjects and to promote higher-order thinking skills of the students*".*

The use of the internet has become wide-spread in the last few years. The World Wide Web (WWW) enables students to search through millions of files around the world within seconds to access authentic materials, moreover, the internet can be used to help create an environment where authentic and creative communication can be integrated into the content of the course (Warschauer, 1996).

There are many factors play an important role in the success of the implement of technology in an educational programme. One of these factors is the attitudes of teachers involved. It has been suggested that if teachers believed or perceived computers not to be fulfilling their own or their students' needs, they are likely to resist any attempts to introduce technology into their teaching and learning (Askar & Umay, 2001).

Many studies proved that using technology in the classrooms increased teacher productivity, planning and collaboration, and revision of curriculum and instructional strategies. A study carried out by Meskill & Rangelova (1995) tested how Bulgarian students benefited from a high-tech/low-tech combination to implement an integrated skills approach in which a number of language skills are practiced with the aim of building communicative competence. This study was based on a collaborative, interpreted study of American short stories, with

the aid of three technological tools: Email communication, concordance, and audio-tape. These activities were accompanied by a variety of other classroom activities, such as in-class discussions and dialogue journals, which helped the students in developing their responses to the elements of the short stories, such as plots, themes, and characters.

From cognitive load theory they adopted the idea that "humans are limited in the amount of information that they can process in each channel at one time" (Mayer, 2001). So teachers must change the way that they adopt in teaching inside classroom to create a meaningful teaching. "Technology will not have a significant impact on student learning until teachers change the way they teach". (Cuban: 1986:9).

Digital technology can be an integral part to achieve significant improvement in teaching and lead the students to be creative, to work in team, to be responsible for their own learning, to work independently from the teacher. The classroom supports with digital teaching tools, such as computers and hand held devices, expanding courses offering and represents a wide variety of strategies that help students to have open active opportunities. Technology also has the power to transform teaching leading in a new model of connected teaching. This model links teacher to their students and to professional content, and systems to help them improve their own instruction and personalize learning. Rockman (2000) argued that:

> "*If schools have access to the Internet and there are computers in reasonable numbers, we also need to know that the teachers are prepared, that the technology is maintained and in working order, and that the appropriate software is available*".

Teaching with technology stands as a style many teachers are familiarizing themselves with. According to digital revolution teaching simply is changed, that teachers in all educational sectors, have to cope with technological environment. The U. S. Department of Education has determined that schools should deliver their curricula digitally by 2015. Teachers should design and test new ways of teaching using learning technology to help their learners by representing structured teaching patterns lessons plans.

Further, administrators must also have a culture that encourages and supports the use of digital technologies. That is why some researchers indicated that the results of technology implementation are "independent of any computer platform or software environment".

Today's teachers must have opportunities to study, observe, reflect, and discuss their practice including their use of technologies, in order to develop a sound pedagogy that incorporates technology (Kearsly &Lynch, 1992). Capper (2003) points out that many teachers who have access to the technology will not use it because they do not have technical knowledge and are satisfied with their current approach to teaching. He says that these teachers either find many difficulties while using technology or they do not have sufficient time to gather relevant lessons supported by technology.

Educational theorists and researchers have realized that an important factor in the implementation of computers is users' acceptance, which is in turn influenced by their attitudes towards the media( Koohary, 1989).Teacher's attitude have been found to be a major predictors of the use of technology in instructional settings (Almusalam, 2001), many researchers from different parts of the world believe that the use of ICT tools for educational purposes depends upon the attitudes of teachers toward the technology (Albirini, 2004; Teo, 2008; Huang & Liaw, 2005). Abundance of previous research focus on these factors

and the most important one is teachers' attitudes towards using digital technologies which measured as a motive to integrate digital technologies successfully in the classroom.

Briton (2001:461) supposed that multimedia tools serve as an important motivator in the language teaching has attracted the attention of teachers, academia, educationalists, and experts. Ajzen (1988), stated that English language teachers may welcome or resist introduction of computer technology into school. This may avoid it altogether; he claims that using computer in education depends on teachers with positive attitudes (cited in Abdullah et.al 2006:58). This means that having positive attitudes towards computer technology is very important and crucial to the teacher who uses digital technologies in teaching English language. So, teachers are faced with some barriers that prevent them to use digital tools in the classroom to develop materials through digitals, this includes the teachers' familiarity with using technology, shortage of class time, insufficient technical supports and little access to the internet, and few technical supports.

## 2.1.12The effects of digital technologies on student's English self-efficacy

The importance of personal factors such as personality traits, learning strategies, self-esteem, and self-efficacy in the complicated task of language learning has been established for years. However, the introduction of computers, networks and their wide communication affordances, seem to impact many aspects of learning and teaching and particularly language learning and teaching. Today the absence of input-rich learning environment and students' motivation has been one of the problems in English as foreign language (EFL) learning all over the world.

There are different definitions of the concept self- efficacy given by linguistics and educators as followed "It is about learning how to persevere when one does not succeed". (Pajares, 2005: 345), "It is related to individuals' beliefs about the possibility of successfully performing a given academic task". (Kornilova et al, 2009:597)., "It is the beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments". (Bandura, 19973), "It is a process in which students' sense of ability to perform a task influences their success, which in turn contributes to increased effort and persistence". (Aliegro, 2006:18).

As it can be drawn from the definitions of the concept 'self-efficacy', the main logic behind all of the definitions is the same: individuals' beliefs have a very important place in their lifelong learning journey. Individuals' self-efficacy beliefs have a significant effect on how they think, feel, motivate themselves and take actions. These beliefs can increase or diminish their success in every field of their lives. It is clear that if one person has the ability to organize himself or herself and control himself or herself, it can be said that he/she is autonomous.

Quinn (1974) claimed language teaching and learning is an autonomous art and it has accumulated over long periods. As he asserted, the process of language teaching and learning should be autonomous because language learning is a life-long journey. During this process, students should learn how to become autonomous and take the responsibility of their learning since there will not their teachers helping them during their life.

As indicated in Chinese proverb "Give a man a fish and you feed for a day. Teach a man to fish and you feed him for a lifetime", teachers should teach students how to be autonomous and support autonomous learning in their classrooms due to the fact that language learning is also a life-long process.

Moreover, a person's autonomy allows new interpretations of the world and possibility of change (Kenny, 1993:440). It can be said that if students have high self-efficacy, they will be aware of their abilities and they will be more autonomous. Most investigations on self-efficacy in academic settings have sought to determine the predictive value of self-efficacy belief on varied performance. This is why Bandura (1996) argued that the stronger the self-efficacy, the more likely the person is to select challenging tasks, persist at them and perform them successfully.

Studies already conducted on self-efficacy and the use of electronic information and suggest that the two variables may be related to academic performance. it is also said that a person's self-efficacy and technological acceptance are also related to their online learning performances Lent, Lopez and Beischke (1993) showed how efficacy can be tailored to varying levels of academic outcomes and still remain highly predictive. In other studies, researchers reported that girls perform as capably as boys in varied academic tasks but nonetheless report lower self-efficacy, particularly at higher academic levels (Pajares and Johnson, 1996; Pajares and Miller, 1994).

Studies have further confirmed that the self-efficacy of students is more predictive of their interest in major school subjects than their prior achievement or outcome expectations and that male students report higher self-efficacy than female students. Tella and Tella (2003) report that self-efficacy has a significant relationship with academic achievement and is a better predictor of academic achievement. In a study of library instruction and self-efficacy, Ren (2000), also showed a positive correlation between students' self-efficacy and the frequency of use of library electronic resources.

We can now get that students with high self-efficacy will be more likely to take advantage of what is around them (e.g., technological tools). If they are familiar

and feel comfortable with electronic information (Internet, electronic journals, CD-ROM database, etc.), they will use them, and if they feel that learning through these electronic information resources will enhance their academic performance, they will learn about them.

Bandura also looked at how self-efficacy related to computer use, linking computer use with educational achievement, especially since computers provide "a ready means for self-directed learning. Disparities in computer skills can create disparities in educational development" (Bandura, 1997). He stressed further that "belief in one's efficacy to master computers, predicts enrollment in computer courses independently of beliefs about the instrumental benefits of knowing how to use them" (Bandura, 1997:435). Waldman (2003), when drawing inference from Bandura's position, asserts that "students with high self-efficacy regarding computers would also be more likely to explore new technologies, software or databases.

The sense of technological self-efficacy, including computers, affects the learner's decision to use computers and is not dependent on their beliefs on the value of using that technology. One type of self-efficacy is computer self-efficacy. It is "an individual's belief in his or her ability to use a computer effectively". Some discovered that those who are more confident about their computer skills are motivated more to learn, and having more experience would lead to higher self-efficacy and indicated that when students have successful and positive experiences with similar technologies, their self-efficacy for using those types of technologies increases (Bates & Khasawneh, 2007). So it is clear from the above details that using digital technologies provided EFL students with English self- efficacy.

## 2.1.13 Digital technology and learning theories

It is quite notable that the utilization of digital technologies as tools for fostering English teaching paradigms is not relatively new. Technology has been used for enhancing instructional purposes since 1960s. However, the potentials of using these vibrant and innovative tools have not been fully explored. Yet, English language practitioners have been investigating the proper ways in which digital technologies could effectively and efficiently implement. Many studies have proposed a framework for integration based on teachers' expertise knowledge in using technology effectively with their pedagogical sound practices.

Other factors, for instance, students' language proficiency level and the readiness to integrate technology in the part of teachers have become critical issues related to the use of digital technologies. Obviously, and based on some studies, digital technologies have provided a range of tools and resources in which their possibilities for promoting EFL/ESL students' overall language proficiency could not be debated.

The proliferation of digital technologies in the scene of languages teaching and learning has closely connected to the development of the learning theories and methods of teaching. The earliest outward appearance of digital technologies for fostering English language instruction represented in the use of mainframe computers for providing drills and practice as claimed by behavioristic learning mode which dominated learning methodology at that time. **Behavioristic learning theory** implemented a simple and less complicated form of digital technology to enhance their structural system and provide unlimited drill, practice, tutorial explanation, and corrective feedback. (Warschauer& Kern: 2000:13).The earliest types of digital technology used in learning provided arrange of applications, for instance, (**P**rogrammed **L**ogic for **A**utomated **T**eaching **O**perations) PLATO, are basically designed to provide tutoring

system to enhance students reading, -grammar, translation and vocabulary skills. In addition, programmed instruction was developed based on the pedagogical sound practices advocated by Grammar-translation Method and Audio-lingual method.

A dramatic shift in learning theories took place as a result of hard criticism to behavioristic learning theory at theoretical and pedagogical levels. A group of psychologists started investigating the relationship between mind and language. They claimed that language learning would therefore, based on exploration and discoveries rather than a tabulation of prefabricated forms. Learning should no longer seen as a matter of habit formation. Therefore, they strongly proposed that learners should rely on their existing knowledge to develop a new understanding. As a result, **Constructivism Approach** to learning was proposed.

According to Pritchard (2007: 2) "Constructivism, in contrast to earlier theories, puts understanding at a high level of priority. Constructivism, as the name suggests, sees learning as a building activity in which individuals build an understanding of events, concepts and processes, based on their personal experiences and often supported and developed by, amongst other things, activity and interaction with others". The scope of language teaching changed to illustrate the purpose of languages in greasing the wheel of communication. Communicative approach to language teaching was proposed to provide learners with ample opportunities to communicate effectively and efficiently. This era correlated to the invention of the Personal Computer. PC has become a turning point in widening the scope of digital technologies for fostering learning and teaching.

This type of technology-enhanced instruction is known as Communicative CALL. Warschaure and Kern (2000: 9) Stated "In the line with cognitive

constructivist views of learning, the next generation of CALL programs tended to shift agency to the learner. In this model, learners construct new knowledge through exploration of what Seymour Pa Pert has described as micro worlds, which provide opportunities for problem solving and hypothesis testing, allowing learners to utilize their existing knowledge to develop new understandings". The well-known types of digital technologies made available for English instruction, based on the assumption of Communicative Approach, are Courseware for pacing reading, Text reconstruction and Language games.

The appearance of the Socio-cognitive theory has brought a new assumption to English teaching and learning paradigms. Learning has been seen as a process of social interac

tion in which learners construct knowledge and understanding of new experiences through direct contact with others either in formal or informal settings. Pritchard (2007: 5):

> *"Obviously learning is not restricted to the location of the classroom. Social interaction with anybody, at any time, and in any place may well lead to learning. The building and exchange of thoughts and ideas which takes place in the course of a discussion, in any context at all, is likely for at least one of the participants, to lead to a greater understanding of, or insight into, the topic in question".*

Based on the paradigm advocated by Socio-cognitive theory, it is claimed that the best way to teach/ learn a language is through social settings. The role of teachers in Social constructivism is to create authentic and meaningful contexts for students to make use of language efficiently and effectively.

Activists of social constructivism have deeply appreciated the role of digital technology in providing tools and resources for better representation of

language in an authentic discourse. However, the way that digital technologies are used for the representation of language still needs to be clarified. “It will not be sufficient to utilize computers to simply encourage communication. Rather, teachers will engage students in utilizing technology to plan and carry out meaningful tasks and to solve problems which are relevant to students' personal, academic and professional goals”. (Krauss, 2002).

The manifestation of the Internet and multimedia has brought a new sophisticated dimension in intellectually and critically maintaining social ties through a range of applications and resources. Digital technologies have been seen as a powerful drive for social interactions. It provides two types of communication: synchronous and asynchronous communication channels. These types of channels provide “Provide alternative contexts for social interaction; to facilitate access to existing discourse communities and the creation of new ones”. Warschaure and Kern (2000: 13). Twitter, Facebook, Wiki, you tube are among the most popular social media that facilitate social interaction.

From what are mentioned above it is clear that using digital technologies provide more opportunities for EFL students.

## 2.2 Previous studies

The last few years have seen an increase in research studies on the impact and effectiveness of digital technologies in the teaching and learning of English as a foreign language. The studies identified in this review that are concerned with changes in learning outcomes as a result of technology use tend to focus on a particular aspect of the learning process.

### 2.1.2 Research and studies conducted in Sudan

**Sadig Y. Ezza, Gamar A.El-Booni, Mahammadain. Y (2013**) in their paper entitled (Integration of the Internet in a Sudanese EFL Classroom). Explored the

integration of the web resources into the EFL classroom activities at the University of Khartoum, Sudan. In this connection, the study aimed at achieving three objectives.

Firstly, it sets out to give insight into the nature of the Internet as a rich educational resource that can provide EFL classrooms with authentic situations of language use. Secondly, it intends to popularize internet in the traditional educational system not only in the EFL classroom but also in all disciplinary tracks. Thirdly, and most importantly, it calls on Sudanese tertiary institutions to take on either or both forms of web-based learning, i.e. e-learning and blended learning, since they have been proved to accommodate all types of learners unlike traditional education which is conceived to put a good deal of learners at disadvantage.

The study made three predictions about the use of the Internet in the EFL classroom: 1. Most EFL teachers use web-based materials to enrich courses content; 2. Most EFL teachers integrate their students' Internet skills in the classroom activities; and 3. there are no gender differences with respect to the integration of web-based materials into the EFL course content. A questionnaire was designed and distributed to 25 respondents who were randomly drawn from the total of 41 EFL faculty members who are currently in the service of the University of Khartoum. The data obtained was analyzed using SPSS.

The findings confirmed the three hypotheses and the study found that unfortunately despite the early introduction integration of internet service into the University of Khartoum, it has not adopted a clear policy to enforce the integration of the internet in educational system, bearing in mind that there is high level of digital literacy among its teaching staff.

This paper tackles the same area of the present research EFL class and both of the study followed the same methodology to obtain the responses.

**Badawi, E.B. Hassan (2014)** in his study entitled "EFL Teachers' Attitudes towards using computer Assisted language learning in classroom", which attempts to investigate Sudanese EFL teachers' attitudes towards using CALL, the researcher used a descriptive analytical method, the data collected from English teachers (n50) working in three universities: Sudan university of science & technology, Omdurman Islamic university, and Al-Ahfad university for women through questionnaire which analyzed through descriptive statistics in SPSS. The study illustrated a positive inclination towards benefiting from computer in EFL classrooms.

The results also indicate that computer use in considered highly advantageous. The study suggests that computers accessibility in classrooms is crucial so, EFL classes should be equipped with computers and teachers should have training courses in using ICT.

Both of the studies reveal the importance of using technologies for EFL teachers. Furthermore, they share some of the recommendations.

**Kmanour, E.L (2001)** in his study entitled as " Developing Higher Education at Sudanese University with the utilization of instructional Technologies" mentions that the main objective of his study has arisen from the fact that higher education in the universities of Sudan being the driving force in achieving progress- for urgent development via current challenges manifest in the technology development and information explosion, taking into consideration, the growing number of students at the Sudaneseuniversities. The main question addressed in his study were: (1) How can the utilization of instructional technology develop and improve university education in Sudan? (2) To what extend can the instructional technologies contribute in problem solving and critical thinking.

The hypotheses of his study were: (1) Teaching staff at Sudanese universities have strong positive attitudes towards solving all the problems concerned with higher education with the help of instructional technologies. (2) Using instructional technologies represented novel ways and ideal solution for problem solving compared with traditional ways and methods and (3) Using instructional technologies have a deeper impact on improving Sudanese university education. The data was obtained and processed through appropriate statistical method by applying (SPSS) and on the bases of the descriptive method by depending on its analytical qualities in the field of instructional technologies.

His research has yielded a number of findings such as (1) the utilization of instructional technologies in Sudan universities instruction lacks a definite clear perspective concerning the concepts of instructional technology, despite the complete satisfaction and the firm conviction of all those who would be directly or indirectly concerned with the adaptation and the utilization of instructional technologies and (2) the study showed positive attitudes to the teaching staff towards the possibility of developing university intuition and solving its problem by using instructional technology issues. Depending on the results of the study, the researcher put forward some suggestions and recommendation, with hope they contribute to a suitable infrastructure for developing university instruction in the Sudan.

The recent study is in the same line with the current research in term of area and the method. Moreover, they are shared some recommendations.

**Elsadig Y. Ezza, Mohamed A. H., Abbas M, B. (2012),** their paper entitled "Social Media and EFL Learning among Sudanese Students". Their paper particularly intended to assess the educational dimension of Sudanese EFL learners' use of these applications given the general observation that the

competing Internet providers in Sudan offer mobile Internet services at low rates that are accessible to all subscribers. This paper argues that participation in SM could provide EFL learners with avenues to practice their English in ways that are more authentic than their artificial classroom environment. The main questions addressed in their study were (1) Do Sudanese EFL Learners use SNs for academic purposes? (2) Does the students' academic level affect their use of SNs for academic purposes? (3) Does the students' gender affect their use of SNs for academic purposes? A questionnaire was used as an instrument.

Research findings indicated that the vast majority of the students use SM for educational purposes as evidenced by the first two columns despite some undecided and disagreement preferences expressed by many participants "girls tend to have less positive beliefs about the value of ICT" Vekiri (2010:17). This choice reflects high awareness of the significance of innovation in language education, which could, of course, be further reinforced institutionally. However, except for the University of Khartoum, websites of Sudanese universities do not inform of any attempt to legitimize the use of LMSs and, thus, SNs into the existing educational system.

Apparently, the participants see no educational value brought about by communication in English with Arabic-speaking interlocutors. Also, they do not consider blogs as appropriate educational avenues. The study concluded that despite the non-academic nature of most SNs, they can contribute to EFL learning in significant ways. For instance, they can enable learners not only to practice their English on native speakers and other EFL/ESL learners across the globe but also provide them with rich spaces, e.g. blogs, wikis, podcasts, etc., to create and share content. In other words, LMSs employ the interactive, non-threatening nature of SNs in implementing online classes where learners can sign in anytime to access classes and contribute to the ongoing course-related discussion.

The participants of this study optionally employed SNs to improve their EFL performance. This study reflects high awareness of the significance of innovation in language education, which could, of course, be further reinforced institutionally. However, except for the University of Khartoum, websites of Sudanese universities do not inform of any attempt to legitimize the use of LMSs and, thus, SNs into the existing educational system.

With reference to the recent study, it shares some points concerning same area and methodology.

### 2.2.3 International researches and studies

Al-Hammadi (2007), in her study, measured the effectiveness of multi-media software for developing some listening skills among EFL Saudi secondary school students. To achieve this purpose, three tools were used. Firstly, a list of listening skills was collected from literature to determine the necessary listening skills needed by third year Saudi secondary school students. Secondly, a pre/posttest was prepared and programmed to measure the effectiveness of the software in developing some listening skills. It was administered at the beginning and end of the experiment to measure students' listening skills. Thirdly, multi-media software was designed, programmed, and administered by the researcher for developing students' listening skills. The results of her study showed the following:

1-The software has proved to be effective in developing some listening skills among EFL secondary school students.

2-Superiority of students' performance in the post-test measures is due to the effective use of multimedia annotations and the variety of activities that have been used.

3-Shy or inhibited students can be greatly benefited by individualization; student-centered learning. Computer can offer new opportunities for better language learning.

4- Multimedia is a great treasure for teachers and students because it has exactly what you need, whether it is for an activity in class, an activity out of class, to practice a-10 International Research and studies.

This study results reveal and confirm many of the current study result, in term of that both of them discuss the opportunities provided by using digital technologies to EFL students, and they get the same results that using digital technologies open a world of opportunities for the learners to practice the language freely.

**Ibrahim Mohamed Al-Faki (2014),** in his study entitled "the difficulties that teachers experience when they use the interactive whiteboard in English language classes" in Saudi context, the study aimed to investigate the interactive whiteboard if it is use or not, and to mention the difficulties occur when teachers use it. The study finds out While ICT presents new challenges for teachers; it also offers great opportunities for teacher education. ICT's media can improve training through providing access to educational resources, breaking the traditional isolation of teachers, and enabling individualized training opportunities. The study revealed that here are a few research studies, which investigate the drawbacks of IWB.

The study focused on the difficulties, which teachers faced in the classrooms in the Saudi contexts. Those difficulties are categorized into four groups. These are: teachers', school administrations', technical support's and students' factors. Each factor entails a number of challenges. The main questions addressed in his study were: (1) what computer skills do teachers have? (2) What type of professional training do teachers have in using the IWB? (3) What type of

technical support do teachers have? (4) How do teachers and learners co-operate to use the IWB? (5) What problems do teachers face when they use the IWB in English language classes? The hypotheses of his study was based were: (1) Most teachers lack computer competency. (2) There is a lack of pedagogical in-service training in using IWB. (3) Ongoing technical support is insufficient. (4) Learners know technology better than teachers do. (5) Teachers face several types of difficulties when they use the IWB in teaching English language. The data was obtained through a questionnaire consisting of twenty-five statement besides the researcher's observation and his own experience. The subjects were chosen purposively from Jeddah Schools' English language teachers. The researcher conducted a pilot survey and used statistical techniques through which validity and reliability of the questionnaire were verified. The overall research method used was the descriptive analytic method. The findings of the study have revealed that there are many challenges that teachers faced when using the interactive whiteboard. Those challenges interact together to hinder IWB integration into teaching and learning.

With reference to this study it is confirmed some findings of the current research that digital technologies provide many active opportunities for English learners.

**Abdallah A. (2013)** in his study which entitled "Effect of Using Internet Tools on Enhancing EFL Students' Speaking Skill" aimed to examine the effect of using shared online oral diaries on the EFL Saudi First year university students' speaking proficiency. It used one male and one female EFL Saudi First year university student's classroom sections to represent the experimental group and one male and one female classroom sections to represent the control group.

An equivalent speaking proficiency test, developed by the researcher, was applied on the control and the experimental groups before the study started to

ensure their equivalence; and was also used as a post-test. The results of the post-test revealed significant differences between the mean scores of the experimental group and the mean scores of the control group in favor of the experimental group. The clustral random sampling method was used because it was impossible to redistribute students into new classroom sections. All of the participants were of level two in the English language proficiency placement test which the English Language Skills Department in the Preparatory Year Deanship usually runs at the beginning of each academic year.

This study agrees with the current study in the term of both of them tackle the importance of using digital technologies to enhance students' English skills. The both studies get the same results that using digital technologies have clear impact on handling students' skills.

**Sultan A. M. Arishi (2011)** in his study entitled: "attitudes of students at Saudi Arabia's industrial colleges towards computer – assisted language learning (CALL). This paper identified attitudes toward CALL of students studying English as a foreign language (EFL) at industrial colleges in Saudi Arabia. Seventy students who were enrolled in the orientation year of an English program were chosen to participate in this study by expressing their attitudes toward CALL. Standardized and local instruments were used along with interviews and observation techniques to collect data. The results of the study revealed that students had positive attitudes toward CALL. Looking at the daily hours students spend using a computer, a slight correlation was found between this variable and the students' attitudes toward CALL. Other variables, such as students' background knowledge of English, ownership of a computer, and their computer knowledge, were found to be irrelevant to their attitudes toward CALL.

These results were in line with previous research conducted by Al-Shammari (2007), Alrumaih (2004), and Almekhlafi (2006). The results reinforced conclusions about CALL revealed by researchers, such as Chen (2003), Chikamatsu (2003), Egbert (2005) and Levy (2005), who found that it helps students learn better and more independently, and gives them the ability to have more control of their learning and to have more opportunities to practice English.

To some extent this study has some features that make it agreed with the recent study, but the current one tackle the teachers' attitudes as art of the study unlike this study deals with students' attitudes.

**Al-Balawi, M, S (2007)** in his thesis entitled as "Critical Factors Related to the implementation of web- based instruction by higher- education faculty at the universities in the kingdom of Saudi Arabia, university of West Florida, college of professional Studies is occupied with the current use of web- based instruction (WBI) at Saudi Institutions and the facilitating and the impending factors affecting faculty decision to participate or not in (WBI). The instrument used was a questionnaire. The purpose of his study was to investigate the attitude of the faculty members at three Saudi universities towards web- based instruction (WBI) and to provide the Saudi universities and the faculty with insight into the use of WBI. The main questions addressed were: (1) what are the attitudes of Saudi Faculty towards web- based instruction, and (2) how do the factors related to barriers influences faculty participation in web- based instruction.

He concluded that, Saudi faculty has positive views about potential incentives when implementing WBI. Based on the findings of his research, he suggested a number of recommendations: (1) This study should be replicated and similar study should be conducted using additional Saudi Universities and (2) further

studies should be conducted to determine if there are other factors affecting the implementation of WBI at Saudi universities beyond those investigated in his study.

Both of this study and the current study discussed the teacher's attitudes towards using digital technologies, and they followed the same method to collect the data. Moreover, they get the same results.

**The Asian Conference on Education (2013)** Official Conference Proceedings ISSN: 2186-5892 Xuan Nguyen, Unitec Institute of Technology, New Zealand in study entitled (English Language Teachers' Digital Literacy Development: A Case Study of English as a Foreign Language Teachers at a Vietnamese University). The paper discussed the Digital technology has significantly contributed to the shaping of an increasingly digitalized landscape of English language teaching (ELT) over past decades. Recent years have seen initial changes in the technology-supported English as a Foreign Language (EFL) education in Vietnam including a number of emerging initiatives aiming to developing teachers' technological competencies. With this purpose, a case study into the digital literacy professional development of a group of EFL teachers at a Vietnamese tertiary organization was proposed. The intent of this article is to provide an overview of this current research project.

The paper starts with a critical review of literature on English language teachers' digital literacy and technology-focused professional development. In the second part, the rationale for and significance of this research are justified, giving rise to its aims and questions. Following this is a brief specification of planned methodology and methods of data collection as well as data analysis. The subsequent section is dedicated to a brief discussion of research relevant ethical issues. Finally, a concise summary completes the paper.

This paper discussed the Digital technology has significantly contributed to the shaping of an increasingly digitalized landscape of English which has some features shared with the recent study that both of them discussed one issue concerning digital literacy at the university level. But the current study examined the digital literacy among teachers and students unlike this paper takes the teachers side only.

**Emhamed, Ebraiek Deen Hamed; Krishnan,K,Sarojani Devi (2011)** their study (Investigating Libyan teachers' attitudes Towards Integrating English in Sebha Secondary Schools). This study aimed to investigate Libyan English language teachers' attitudes towards integrating technology in teaching EFL students, and the difficulties faced in using technology in secondary schools in Sebha city. This research adopted a mixed method design. The conceptual framework of the study was adopted from Saaid (2010). A questionnaire adapted from Wozney and Abrami (2006) was administrated to 40 selected Libyan teachers in Sebha city to elicit information to their attitudes towards integrating technology in teaching EFL students, their preparation to integrate technology, the types of technology used and the difficulties they faced in integrating technology, A semi- structured interview was also conducted with eight respondents selected randomly from the sample to collect in – depth data on their attitudes towards integrating technology and problem faced. The findings suggested that the most of the teachers had positive attitudes towards integrating technology in teaching EFL students. However, they faced problems related to time constraints and the lack of administrative supports. The findings of the study have implications for Libyan English Language teachers to improve the use of technology in their teaching to enhance student' learning.This study aimed to investigate Libyan English language teachers' attitudes towards integrating technology in teaching EFL students. It has relation to current study that they are tackled the same topic but they are followed different methods.

**Cunningham, K, (2000),** his on- line article entitled "integrating CALL into writing Curriculum", Osaka Seikei Women's Jounior College (Osaka,Japan), 2000. The main objective of his study is to describe and analysis the ways in which the technology can enhance writing development. The main questions addressed in his study were: (1) can computer applications help improve students' performance in basic skills and bother key areas? (2) For what specific areas, grades, levels and content areas are computer applications most effective? (3) Which kinds of computer applications are most effective for which skill and content areas? And (4) can computer applications improve students' attitudes and their abilities to learn? Many hypotheses were set in which (1) writing quality of students can be improved by using word processing, (2) higher grades tend to be achieved for word processed assignments, (3) effective factors such as attitudes towards writing and motivation can be improved, and willingness to write multiple drafts is higher when word processing is used. The researcher has adapted experimental method. He introduced a system of computer usage which he designated the name "Work Station". The students were assembled in pairs, triads, quads or many even work alone depending upon the criteria of the particular programme and its goal. A total of thirty- seven EFL learners enrolled in writing classes completed survey questionnaire eliciting their attitudes towards their experience in the computer assisted classroom.

The researcher has provided many findings of which (1) analysis of the data indicated that the students in general, found the word processing class to be challenging and non-threatening and believed that the word processing benefited their performance in writing, (2) They also felt that using word processing helped concentrate their attention on certain aspects of their writing and (3) Ideally, learners in a control group (taught in traditional classroom) should be taught by

the same teachers and with the same material and curriculum as learners in the computer classroom.

This study is Agee in term with the present study in topic itself and how digital technologies provide many sorts of opportunities to practice language skills.

**Piano – Silver, J. (2006)** in his paper entitled as" Extensive reading through the Internet" Is it worthwhile? Is occupied with a new scheme involving the use of the Internet for developing Reading skills? The main focus of the paper is to describe the 3- phase gradual process that led to the current design of the web-based Extensive Reading (ER) scheme. The objective of the paper is to describe a web- based ER program (W-ERP), which evolved from an earlier page-based version) P- ERP, both carried out with college students enrolled at Universidad Simon Bolivar, Caracas, Venezuela. The main question addressed in his study is to which extend can the Internet develop students reading abilities. A questionnaire of ten open ended questions on the potential benefits of downside of web-ER was constructed. One of the most important results of the paper is that, web projects provide opportunities for the students and teachers to work together by finding materials on the web they would like to read or lean about. He suggested that it is necessary to emphasize the role of web-based ER, as a new way of delivering instruction in contrast to paper-based procedures.

This study is in the same line with the current study that both of them look for the opportunities that provided by digital technologies either for EFL learners or teachers.

## 2.2.3 The discussion of the previous studies

The previous studies have been checked to find out the previous procedures and cases studies to bring new research which contribute at side of this research.

They largely match with the most views discussed in the literature reviews. This shows and indicates the importance of using digital technologies in EFL learning and teaching fields.

All of the previous studies that were checked by the researcher related to the recent study that they tackle the importance of digital technologies as an introduction means. These results were in line with some previous studies which carried inside and outside Sudan. This results in the same linewith the study carried out by Kmanour, E, L(2002) that his study entitled the developing higher education at Sudanese university with the utilization of instructional technologies. His study showed positive attitudes of the teaching staff towards using the instructional technologies. Likewise, Y.Ezza. Gumma, Mohammed.Y (2000), their paper investigated the internet in Sudanese EFL classroom, their findings showed that there is a high level of digital literacy among its teaching staff. Also, Badawi, E, B, Hassan (2014), their study attempted to investigate the EFL teachers' attitudes towards using computer Assisted Language Learning in the EFL classroom. The researchers used descriptive and analytical methods. Their study illustrated a positive inclination towards benefits from using computer in EFL classroom.

The researcher observed that:

-It is remarkable to say that when the researcher compared the cited previous studies with the current study, however, it is agreeable to say that there are many points in previous studies corresponding with the present study such as research entitled.

-Most of the selected previous studies followed the analytical method in their studies as the recent study.

-Most selected previous studies directly and indirectly have relation with the researcher study objectives.

-Most previous studies suggested and recommended the use of digital technologies in EFL learning and teaching.

-Most of the studies agree that teachers have positive attitudes towards using digital technologies in their English classroom instruction. (Digital literacy).

-Some of previous studies mention the crucial role that played by digital technologies at the university EFL classroom.

- Most of the previous studies have close relation with the present study and most of them are match the conclusion and the results and literature reviews.

- All of the previous studies that mentioned above their sample either from EFL students or teachers, unlike the present study which include the both.

- Most of the studies agree that using digital technologies and the internet open more opportunities for both EFL students and teachers.

All of the stated points above show the validity of this study, and also show the contribution of this study in improving learning and teaching via digital technologies.

## 2-2-4 Summary of the chapter:

This chapter provides the essential theories and concepts of the digital literacy as well as previous studies which were conducted by national, regional, and international researchers. These theories concepts and the previous studies that are discussed throughout the chapter assist in answering the questions and the hypotheses of the study.

It can be seen from this chapter that digital technology has a significant role to play in enhancing the delivery of English teaching and learning. Moreover, it is reflect how using technologies can support teachers in different ways both inside and outside classroom.

# Chapter Three

# Methodology

## 3-0 Introduction

This chapter describes the research methodology that is used in this study to investigate the digital technologies in Sudanese EFL university classes: An analysis of English self-efficacy and active learning opportunities. The research methods that can be utilized in this study will be mentioned in this chapter and the methodology of this study is presented in the following sections: research design – population – sample – size – and sampling procedures- instrument – data collection and data analysis.

The methodology used to conduct this study was the descriptive and analytical method. Two questionnaires were designed by the researcher which used for data collection and validated by a panel of experts. Beside the two questionnaires, classroom observation checklist was used. The researcher will attend some lectures with the target subject to observe the nature of the active learning opportunities and English self- efficacy provided by digital technologies. The classroom is regarded as one of the most important communication contexts, especially in the process of Second Language and foreign language Learning.

In addition, the reliability of the questionnaires was calculated statistically using Cronbach Alpha coefficient and the collection and tabulation of the data. The questionnaires which were designed in accordance with Likert's 5- point scale (strongly agree, agree, no opinion, disagree, strongly disagree) were administrated to 235 EFL students and 23 EFL teachers.

### 3-1 Method of Research

This research used two questionnaires and an observation. The first questionnaire directed to identify the Sudanese EFL university students' opinions on the use of digital technologies in order to find the impact of these technologies on their English self-efficacy and active learning opportunities. The second questionnaire was directed to Sudanese university teachers to find out their attitudes towards using digital technologies in their EFL instruction. The two questionnaires consist of 40 items. Moreover, classroom observation checklist was used and aimed 200 EFL students at Karari University to investigate the active learning opportunities and English self- efficacy provided by digital technologies.

## 3-2 Populations of the study:

### 3.2.1 Students' questionnaire:

The first part of the population of this study is the Sudanese EFL university students in Khartoum State (Karari University) as a case study which integrate technology in teaching English language. The questionnaire designed by the researcher and consists of two parts; the first part checks the open active opportunities that provided by using digital technologies to Sudanese EFL university students and includes 16 items. The second one examines how digital technologies develop Sudanese EFL university students' self- efficacy autonomous learning which consists of 8 items.

### 3.2.2 Teachers' questionnaire:

The second questionnaire was directed to EFLuniversity teachers, the questionnaire was also designed and formed by the researcher and it consists of

16 items which tried to check the attitudes of those teachers towards using digital technologies in their EFL instruction.

### 3-3 The sample of the students:

The students' samples that were chosen to conduct this study are 3rd year EFL university students, College of Languages. These classes were chosen because they are available and easy to be contacted. Moreover, in this stage or level the students have enough awareness about the opportunities that offered by using digital technologies. The students' sample of this study consisted of 250 students, but only 235 copies were completed.

### 3.4 The sample of the teachers:

The teachers' sample are chosen randomly from the English language teachers in two universities in Khartoum State (Karari University- Sudan University of Science & Technology), and they are representing teachers of English as FL. Thirty copies of the questionnaire were distributed to those teachers but 23 copies of the questionnaire were completed.

### 3.5 The data collection methods:

The researcher composed questionnaire to ensure the maximum degree of validity and reliability. The questionnaire generates data on general opinions on different dimensions of the study. Moreover, class observation checklist was used for data collection.

#### 3.5.1 Questionnaires:

**a- students' questionnaire**:

The questionnaire was written in simple, clear and understandable English language. It consists of 24 multiple choices that clarify the use of digital technologies among university students. The subjects were required to choose

one of the frequencies by making (A tick) for each option which most closely represented their preferences. They were also reminded that all questions must be ticked once. After completing all questions, the copies were collected by the researcher and taken for analysis.

**b- Teachers' questionnaire:**

The questionnaire was written in simple, clear and understandable English language. It consisted of 16 multiple choices that clarify the using of digital technologies among university teachers and their attitudes towards using these digitals in their EFL instruction. The subjects were required to choose one of the frequencies by making (A tick) for each option. They were also reminded that all questions must be ticked once which most closely represented their preferences. After completing all questions, the copies were collected by the researcher and taken for analysis.

**c- The classroom observation**

As mentioned previously, the researcher also made classroom observation for a sample (200 students). The classroom observation covered 3rd year EFL students at faculty of Languages, Karari University.

**Classroom observation checklist:**

The classroom observation checklist was used to check the active learning opportunities and English self- efficacy that provided by using digital technologies to Sudanese EFL university students.

**Table (3.1) Information about the Classroom Observation:**

| Karari University | Number of subjects | male | female | Time of the lecture | Hall | Academic status | Date of observation |
|---|---|---|---|---|---|---|---|
| First lecture | 65 | 33 | 32 | 8-10 | Room 1 | Lecturer | 30/6/2016 |
| Second lecture | 68 | 33 | 35 | 11-1 | Room (4) | Assistant professor | 20/8/2016 |
| Third lecture | 67 | 39 | 28 | 10-12 | Room (2) | Assistant professor | 1/10/2016 |

For class room observation, the researcher prepared a checklist for observation revised by the supervisor. She attended two-hour lectures with each group observing both the students and the lecturer. The researcher used The researcher used blank papers during the lectures to count the frequency of each statement of the observation, and later filled in the observation formats.

**Table (3-2) Active learning opportunities checklist**

| Opportunities | Fair | Good | V. Good | Excellent | Percentage |
|---|---|---|---|---|---|
| Active learning | | | | | |
| Increased student's motivation | | | | | |
| Problem solving | | | | | |
| Participation | | | | | |
| Supporting learning styles | | | | | |
| Creativity | | | | | |

**Table (3-3) English self- efficacy checklist:**

| Example | fair | Good | V. Good | Excellent | Percentage |
|---|---|---|---|---|---|
| Independent role | | | | | |
| Individualization | | | | | |
| Increased autonomous learning | | | | | |
| Flexibility | | | | | |
| Responsibility | | | | | |

## 3.6 Procedure of designing questionnaires:

The hypotheses and the questions of the research are the main elements in conducting the questionnaires for EFL teachers and the students, and they were used to generate the statements of the questionnaires.

## 3.7 Procedure of designing the classroom observation checklist:

The hypotheses and the questions of the research are the main elements in conducting the observation for EFL students, and they were used to generate the items of the observation.

## 3.8 Procedure of data collection:

The two questionnaires were directly administrated to students and teachers and allowed 20-30 minutes to complete the questionnaires. The subjects were told that the results of the questionnaires, which constituted an integral part of the study. Subjects were told that complete confidentiality would be observed regarding their answers. The information mentioned previously were reached by processing the data obtained from the students' and teachers' questionnaires via mathematical software called SPSS. The observation was conducted by using a checklist to observe the active learning opportunities and self- efficacy provided by using digital technologies.

## 3-9 Scale of the Study:

Likert Scale Pentathlon is used to measure the degree of potential responses. In the distribution of weight to the respondents' answers which is distributed from the top weight give (5) degrees and represents the answer (Strongly agree) to its lower weight given (1) degree and represents the answer (Strongly disagree) and in between three weights. The purpose for that is to allow respondents to leave the exact answer to the discretion of the respondents.

**Table (3.4) shows the degree to approve statistical Measure:**

| Approved Degree | Relative weight | % | Statistical Significance |
|---|---|---|---|
| Strongly Agree | 5 | Greater than 80% | Very high degree of Approval |
| Agree | 4 | 70 – 80% | high degree of Approval |
| No opinion | 3 | 50 – 69% | Medium |
| Disagree | 2 | 20 – 49% | Low approval |
| Strongly disagree | 1 | Less than 20% | Nonexistent degree of approval |

To correct the measure used in the study we follow the following: The total score of the scale is the sum of the individual scores of the items (5 + 4 + 3 + 2 + 1) $=\frac{15}{3} = 5$ which represents the center premise of the study and hence if the mean deviation of the item increase than center premise, it means that the respondents approve on the item.

## Table (3.5) Scale of the study:

**Cronbach's Test to Measure the Results of coefficient values**

| Questionnaires | Cronbach's Alpha |
|---|---|
| 1/Teachers' Questionnaire | 0.78 |
| 2/students' Questionnaire | 0.81 |

From the table (4/2), the result of reliability tests that Cronbach's values for all items are greater than 60%. Dealing with these values the availability of a high degree of internal consistency for all items and the Cronbach's values is 0.78, (Teachers' Questionnaire), and 0.81(students' questionnaire) which has high stability. So, we can say that the standards adopted by the study to measure the (students' questionnaire) and (teachers' questionnaire) has internal stability for their words, so we can rely on these answer to analyze the results.

## 3. 10 Evaluation of Measurement Tools:

Truth or validity of the measurement tool is defined as the performance ability to measure what was designed for and based on correct measurement theory dealing with free tool of measurement errors, whether random or systematic. The study in the first phase based on evaluating the appropriateness of the measures used in the measurement of the study items using consistency and honesty tests to exclude non – moral term of study metrics and verify that the phrases that have been used to measure the concept of certain actually measure this concept and warded other dimensions and features of these tests its ability to provide a set of metrics that determine the applicability of the data to the model that has been detected and the exclusion of any other alternative models can explain the relationship between the scale phrases based on the response of the study sample vocabulary.

In the following the researcher presents the results of analysis of the measures used in the study:

### 3-10-1 The Sincerity of the Scale Content Test:

After the completion of the preparation of the initial version of the standards, the study was presented in the form of a questionnaire to a group of arbitrators and experts (five professors). The experts were asked to express their views about the study tool and validity of the statement to represent the hypotheses, also they were asked to amendment, add what they see suitable for the purpose of measuring the sincerity of the study. As stated by Ebel that the best way to make sure the virtual honesty of performance measurement that the number of specialists reports about to what extent the statements represented by the formula to be measured. After the questionnaire has been retrieved from the experts, it has been analyzed and taking their observations and made adjustments that they have suggested and then it was design in its final form.

**Appendix (1):**

| Professor' Name | University | Academic Status |
|---|---|---|
| Dr. Muawya DafAllah | Alneelain University | Assistant professor |
| Dr. Kerya Ahmed Mohammed | Open university of Sudan | Associate professor |
| Dr. Manal Al-Gazo | Al-Baha University | Associate professor |
| Dr. Abdelgadir Mohammed | Al-Taif University | Associate professor |
| Dr. Osama Nourain | Jazan University | Assistant professor |

### 3.10.2 The Consistency & stability Test of the internal Standard Used in the Study:

Stability means (1), the stability of the scale and not contradiction with itself, any measure that gives the same results as a possible equal to the parameter value if reapplied to the same sample. Therefore, it leads to the same results or compatible in every time it is re – measurement results. The greater the degree of consistency and stability of the tool, the more confidence in it. There are several ways to check the stability of the scale, one of them Alpha Cronbach's Coefficient to ensure internal consistency of the scales.

Alpha Cronbach's coefficient has been used which takes values ranging from zero to one, if there is no stability in the data, the parameter value is equal to zero and on the contrary, if there is complete stability in the data, the parameter value is equal to one. In other words, increasing the coefficient alpha Cronbach's means increasing the creditability of the data from the sample.

**3.10.3Analytical Statistics Tools used in the Study:** To analyze the results and to test the hypotheses of the study, the researcher used the following tools:

**a)** Reliability Test for the questions of the questionnaire by using:

Cronbach's Alpha: it was used to measure the internal Stability for the phrases of the questionnaire.

**Statistical Validity and Reliability**: The validity also is a measure used to identify the validity degree among the respondents according to their answers on certain criterion. The validity is counted by a number of methods, among them is the validity using the square root of the (reliability coefficient). The value of the reliability and the validity lies in the range between (0-1). The validity of the questionnaire is that the tool should measure the exact aim, which it has been designed for. The researcher calculated the validity statistically using the following equation:

**Validity =** $\sqrt{\boldsymbol{Reliability}}$

The researcher calculated the reliability coefficient for the measurement, which was used in the questionnaire using (split-half) method.The (reliability coefficient) was calculated according to Spearman-Brown Equation as the following:

**Reliability=** $\frac{\mathbf{2}\times \boldsymbol{r}}{\mathbf{1}+\boldsymbol{r}}$

r = Pearson correlation coefficient

**b-Descriptive Statistics Methods**: to describe the characters of the sample of the study using the following tools: -

(i) Frequency Distribution for the Phrases of the Questionnaire: to recognize the frequency distribution for the result of the sample.

(ii) The Weighted Mean: it is used to describe the opinions of the sample about the hypotheses of the study as it is one of the measures of central tendency.

(iii) Standard Deviation: it is used to measure the dispersion in the result to the arithmetic mean.

**C- chi square–Test**: it used to test the significance of the stated hypotheses at the level 5% which means that if the value of (sig) is less than 5% the

phrase would be positive & if the (sig) is greater than 5% the phrase would be negative.

## 3-11 Summary of the chapter

This chapter has described the methodology of the study, which was used to direct the study. It sheds light on the populations of the study that were the sources of the data needed to study, the procedure of the data collection, and the analytical statistical tools.

# Chapter Four

# Data Analysis, Results, Findings and Discussion

## 4.0 Introduction

This section includes the steps and procedures that have been followed in this study including questionnaire design, the description of the research sample and population sample, and perform significance tests of the questionnaire to check the validity of statistical methods by which the data analyzed and extract the results.

This chapter consists of three parts. Part one consists of procedures of applied study & part two consists of data analysis. Part three tests the significance of the stated hypotheses.

### 4.1 Data Analysis:

procedures of applied study

### 4. 1.1: Population and Sample of the Study:

**(a)/Population of the Study:**

Teachers 'Population of the study included:

1 / Sudan University of Science &Technology

2/ Karari University

**(b)** Students 'Population Sample of the Study:

1/Karari University.

## Part One: Questionnaires

**Students' questionnaire**:

All the sample of students was selected randomly from Karai University. (250) copies of questionnaire were distributed, and the age of students ranged from 18 to 24 and above. It was received back (235) questionnaires by retrieving reached 94% and stated as follows:

### 4.1.2 The Study Tool:

This study based on the questionnaire and classroom observation as a key tools to obtain the data necessary for the subject of the study. In order to achieve the purpose of the questionnaire, it consists of two parts**.**

**Table (4-1)**

**Questionnaires Distributed Returned (students' questionnaire)**

| Issue | Number | Percentages% |
|---|---|---|
| Questionnaires were returned | 235 | 94% |
| Questionnaires were not returned | 15 | 6% |
| Total | 250 | 100% |

### 4.2 Students' population:

It consists of the following characteristics:

1-Distribution of the sample according to university

**Table (4-2)**

**Frequency Distribution of the Sample according to university**

| Issue | Number | Percentages |
|---|---|---|
| Karari University | 235 | 100% |
| Total | 235 | 100% |

As we see from the table (4-2) that all of the sample taken from Karari University (235) are accounted (250) % of the total sample of the study.

**2-Distribution of the sample according to age groups**

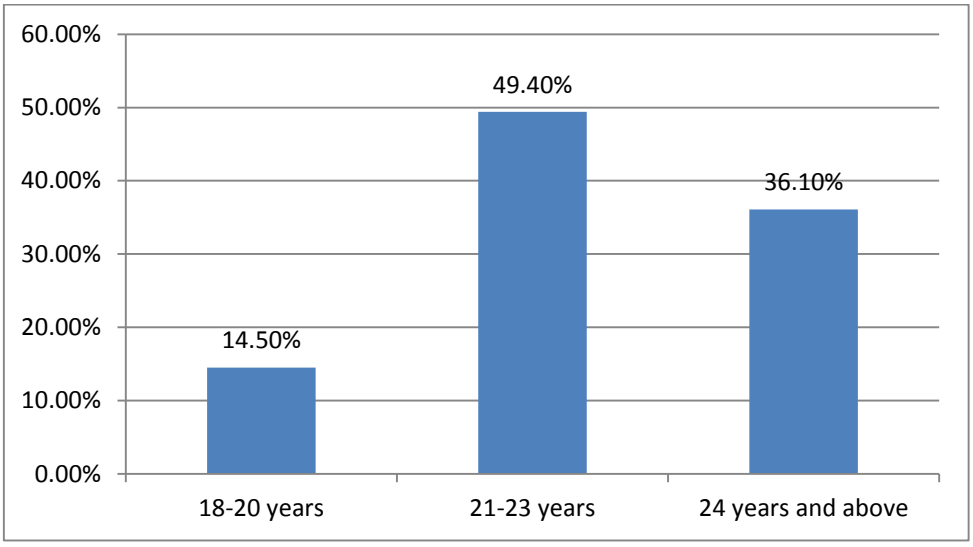
**Table (4.3)**

**Frequency Distribution of the Sample according to age groups**

| Age group | Number | Percentages |
|---|---|---|
| 18-20 years | 34 | 14.5 |
| 21-23 years | 116 | 49.4 |
| 24 years and above | 85 | 36.1 |
| **Total** | **235** | **100** |

Frequency distribution and cases according to age was shown in Table (4.3) for age group, 116 out of 235 (49.4%), 85 out of 235 (36.1%), and 34 out of 235 (14.5%) their ages 21-23 years, 24 years and above, 18-20 years respectively

**Fig (4.1) showed distribution of percentage of the sample according to age groups:**




All students sample taken from Karari University, the age of students ranges from 18 to 24 and above.

**1-Distribution of the sample according to gender:**

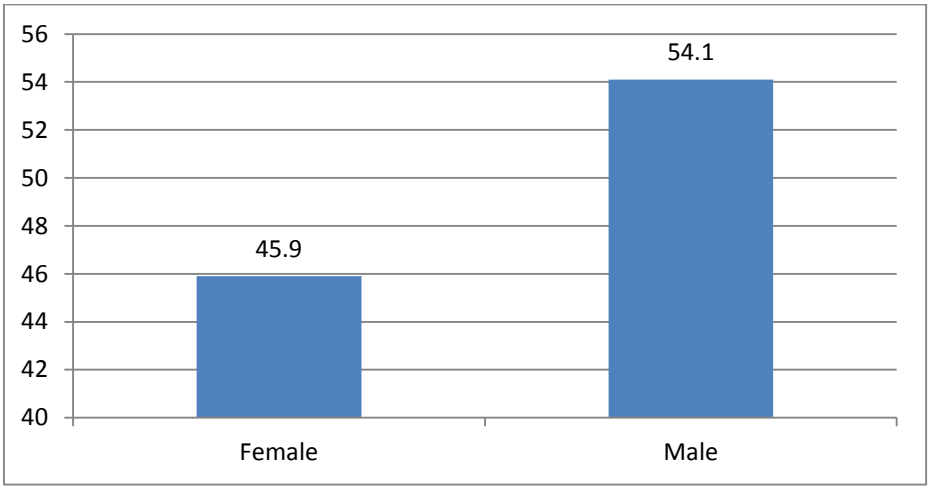
**Table (4.4)**

**Frequency Distribution of the Sample according to gender**

| Gender | Number | Percentages |
|---|---|---|
| Female | 108 | 45.9 |
| Male | 127 | 54.1 |
| Total | 235 | 100 |

Frequency distribution and samples according to gender was shown in Table (4.4) for gender, 127 out of 235 (54.1%) were male, 108 out of 235 (45.9%) were female.

**Fig (4.2) showed distribution of percentage of the sample according to gender groups:**




## 4.3Teachers' questionnaire:

The sample of teachers was selected intentionally and is one of non–probability sample chosen by the researcher to obtain the information from the specific vocabulary of the population under study. It was distributed (30) questionnaires. It was received back (23) questionnaires by retrieving reached76.7% and stated.

**Table (4-5)**

**Questionnaires Distributed & Returned (Teachers' questionnaire)**

| Issue | Number | Percentages% |
|---|---|---|
| Questionnaires were returned | 23 | 76.7 |
| Questionnaires were not returned | 7 | 23.3 |
| Total | 30 | 100% |

1-**Distribution of the sample according to university**

**Table (4.6)**

**Frequency Distribution of the Sample according to university**

| Issue | Number | Percentages% |
|---|---|---|
| Karari University | 21 | 91.3 |
| Sudan University of Science& Technology | 2 | 8.7 |
| Total | 23 | %100 |

As we see from the table (4/5) that the majority of the sample (Karari University) where they accounted, (91.3) %and the sample ( Sudan University of Science& Technology) are (8.7) %of the total sample of the study.

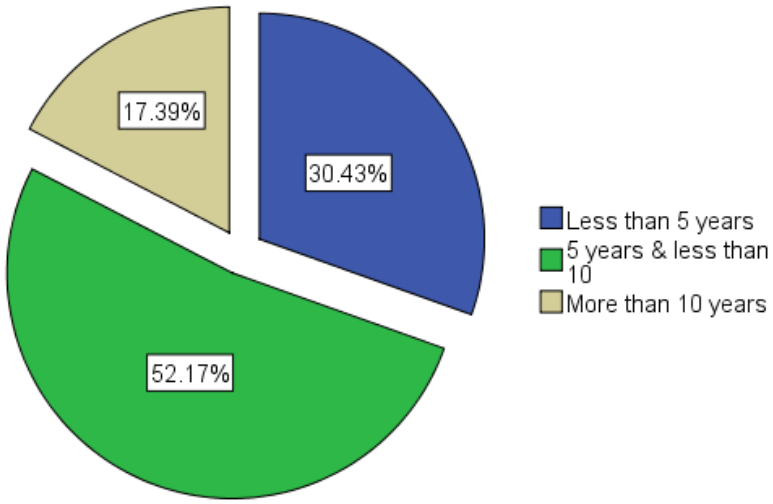
**2/ Distribution of the sample according years of experience**

**Table (4.7)**

**Distribution According to Experience**

| Years of Experience | Number | Percentage |
|---|---|---|
| Less than 5 years | 7 | 30.9 |
| 5 years & less than 10 | 12 | 52.2 |
| More than 10 years | 4 | 17.4 |
| **Total** | **23** | **%100** |

**Fig (4.3) showed percentage distribution according to Experi**




As we seen from table (4.6) the majority of the sample is working between 5 years & less than 10 years and they reached 52.2% of the sample. The proportions of years' experience More than 10 yearsare17.4%. Teachers with experience of less than 5 years are 30.9%of the sample.

### 4.5.1 The testing of the Study Hypotheses

The research results will be presented according to the research questions and hypotheses, and after analyzing the data the researcher reached many results, also this chapter sheds light on statistical analytical results to test hypothesis, here the researcher performed interpretation for any hypothesis separately, aimed to judged is it correct or not based on the general analysis.

## 4.5 Analysis of the Students' questionnaire:

**Hypothesis (1):**

Digital technologies would provide tremendous active learning opportunities to Sudanese university EFL students.

1/ Using digital technology helps me to be a creative learner.

**Table (4-8) The frequency distribution for the item (1)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 117 | 49.8 |
| Agree | 19 | 8.1 |
| No opinion | 3 | 1.3 |
| Disagree | 3 | 1.3 |
| Strongly disagree | 3 | 39.6 |
| **Total** | **235** | **100** |

From the table (4-8) it is clear that the majority of the sample agree that :( Using digital technology helps me to be a creative learner) most of the respondents show their agreement on this notion and this represented by (57.9) %of the informants, while the percentage of (40.9) % of the informants do not agree on the use of digital technology in their English class. On the other hand, (1.3) % of them are in the state of uncertainty.

This means that most of the EFL respondents at Karari University have positive attitudes towards using digital technology in their English class. As it was stated before, using digital technologies help them to be creative learners, then they would be expected to achieve higher in the language. This item reinforces the research assumption that using digital technologies provide Sudanese university students with ample opportunities.

2. Using digital technologies helps me to acquire English easily.

**Table (4-9)The frequency distribution for the item (2)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 121 | 51.5 |
| Agree | 90 | 38.3 |
| No opinion | 12 | 5.1 |
| Disagree | 7 | 3 |
| Strongly disagree | 5 | 2.1 |
| **Total** | **235** | **100** |

According to the table above (4-9) almost all of the students revealed the fact that they do believe that using digital technology help them to acquire English easily and this is supported by 89.8% of the informants, while 5.1% of the students represent their disagreement that using digital technology help them to acquire English easily. Moreover, about 5.1 % of the respondents have no clear idea.

The high percentage showed by EFL students proved that the university students were motivated instrumentally to use digital technology in their English class. However, at the same time it is clear that the university students are aware about the vital role played by technology in acquiring and facilitating mastering English language in order to help them during their life.

3/ Using digital technologies in EFL class helps me to promote my communication easily.

**Table (4-10) The frequency distribution for the item (3)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 127 | 54 |
| Agree | 73 | 31.1 |
| No opinion | 20 | 8.5 |
| Disagree | 11 | 4.7 |
| Strongly disagree | 14 | 1.7 |
| **Total** | **235** | **100** |

From the table above 85.1 % of the responses agree with the notion that the using of digital technology in EFL class helps to promote their communication easily, another parallel view represented by 6. 4 % disagree that using digital technology in their EFL class promote their communication easily. In addition, 8.5 % of the students show no opinion.

The importance of digital technology as a communication tool is becoming increasingly recognized. According to Zhao (2005: 16) states that:

> "*Providing meaningful and authentic communication opportunities to students can engage in authentic types of communication through e-mail, chat rooms, and other digital means".*

As stated above the digital technology provides students with many types of communication. So this show the importance of digital technology and how it is viewed as an open active opportunity that provided an open communication for students. This result illustrates how the use of digital tools in EFL classrooms should be taken into account since digital technologies provide a lot of communicative activities that can reduce the English learning stress and anxiety.

4/ I can improve my interaction with my English language teacher via digital technologies.

**Table (4-11) The frequency distribution for the item (4)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 104 | 44.3 |
| Agree | 105 | 44.7 |
| No opinion | 13 | 5.5 |
| Disagree | 13 | 5.5 |
| Strongly disagree | 0 | 0 |
| **Total** | **235** | **100** |

According to the above table, a considerable number of the students that is represented by 89.0% of the total number, view that using digital technology can improve their interaction with their English teacher. A number of 5.5%

don’t believe that using digital technology can improve their interaction with their English teachers. On the other hand, 5.5% of the students show no opinion.

Thus, it is clear that the university students at Karari University know and understand the crucial role played by digital technology in interaction with their English teachers. This also revealed that they can join online groups and find new friends around the world to email, message and Skype. If being online is what they like, then they can be sharing their thoughts in English with their English teachers or others. So, the true value is that technologies lead students to be creative, to work in a team, to be responsible for their own learning, to express themselves and to feel part of the learning process by actively participating in it.

5/ Using digital technologies creates a more meaningful /effective English learning.

**Table (4-12) The Frequency Distribution For The item(5)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 78 | 33.2 |
| Agree | 109 | 46.4 |
| No opinion | 25 | 10.6 |
| Disagree | 22 | 9.4 |
| Strongly disagree | 1 | 0.4 |
| **Total** | **235** | **100** |

According to the figures above (4-12) digital technologies is thought to create a meaningful and effective learning English and these forms by 80.6 % of the total number of the informants. According to 9.0% % of the students’ digital technologies is not thought to create a meaningful and effective English learning. A number of 10.6 % show no opinion.

It is clear from the above items that the university students reflect a positive orientation of using digital technologies in improving their English learning.

6/ I can learn English in much greater depth through digital technologies rather than traditional method.

**Table (4 -13) The Frequency Distribution For The item (6)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 96 | 40.9 |
| Agree | 111 | 47.2 |
| No opinion | 13 | 5.5 |
| Disagree | 14 | 6 |
| Strongly disagree | 1 | 0.4 |
| **Total** | **235** | **100** |

The table (4-13) shows that 40.9% of the students believe and highly estimated using digital technologies rather than traditional method for learning English. This supported by 47.2% of the total number of the informants. In contrast, 6.4% are not in favor of this idea digital technologies will not help them to learn English in depth. Only5.5 show no opinion.

Using digital technologies in learning English is highly appreciated by university students. However, this identifies how students experienced the big difference between the two methods. Furthermore, this item reflects the real knowledge of the students about their needs of digital technology, and to carry out these ideas the students need to be very well equipped with computers at all levels especially at the university.

7/ Using digital technologies increases my EFL motivation.

**Table (4 - 14) The Frequency Distribution For The item (7)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 102 | 43.4 |
| Agree | 117 | 49.8 |
| No opinion | 9 | 3.8 |
| Disagree | 6 | 2.6 |
| Strongly disagree | 1 | 0.4 |
| **Total** | **235** | **100** |

A striking number of the informants believed that using digital technologies increases their motivation towards English and this represented by 93.3%, about 3% of the total number disagree that digital technologies increases their motivation towards English. A third group represents 3.8% who adopts a neutral point of view.

Using digital technologies in EFL learning become a necessity, because using these tools help more to capture the interest of the students and help to further motivates students to achieve higher level of proficiency in their English. So in order to enhance the students' motivation towards English, the researcher suggested the use of digital technologies in the classroom.

Since most of new students use the Internet for work, study, and life. The digital age of teaching finally helps to bring this goal to fruition. Therefore, the implementation of such technologies in the EFL classroom has fostered autonomous learning thus encouraging students to become more independent and more responsible for their own learning process.

8/ Using digital technologies makes English learning more enjoyable

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**Table (4 - 15) The Frequency Distribution For The item (8)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 82 | 34.9 |
| Agree | 103 | 43.8 |
| No opinion | 29 | 3.8 |
| Disagree | 16 | 2.6 |
| Strongly disagree | 5 | 0.4 |
| **Total** | **235** | **100** |

From the above table the dominant numbers of the informants believe that using digital technologies makes their learning more enjoyable and showed by 78.7 % of the respondents, while 3.0 %, show their disagreement on this notion. 3.8% of the informants show no opinion.

The above table shows that most of the informants feel that using digital technologies in their learning English makes it more enjoyable and this may due to many factors: first the uses of digitals present the EFL learners with gateway to various activities for developing their language skills, and secondly, the using digital in English class provides an easy and fast access to the use of current and authentic materials in the language, which motivating the language learner. For instance, online newspapers, webcasts, podcasts, newsroom, video clips or even video sharing websites such as, say, YouTube.

The biggest impression students have of using digital technologies plays an important role in achieving the higher standards of English. Therefore, one can argue that the students' acceptance of using digital technologies in their English class illustrated the view that the university students perceive digital technologies as having a vital role to play in their English learning and considered it as adequate tools for their learning.

9/ Digital technologies help me to participate within English class.

**Table (4- 16) The Frequency Distribution For The item (9)**

| The Answer | Number | Percentage % |
|---|---|---|
| strongly agree | 103 | 43.8 |
| Agree | 87 | 37 |
| No opinion | 26 | 11.5 |
| Disagree | 13 | 5.5 |
| Strongly disagree | 5 | 2.1 |
| **Total** | **235** | **100** |

Concerning the participation in English class, the percentages shown on the table above, reveal that a considerable number of the students were found digital technologies help them more to participate in their English class and this represent by 80.8% of the total group, while, 7.6% of the informants do not agree with the idea. Further, 11.5% of the students show no opinion.

Another motivating opportunity that provided by using digital technologies are the chat rooms and virtual environments where the language learner can practice not only the written use of the language, but also practice speaking and pronunciation, without the fear of making mistakes. Moreover, using digital helps those students and to be kept in active role rather than passive role played by teachers and textbook only (traditional method).

Active learning which provided by using digital technology involves teaching techniques that are something other than straight lecture. So in order to consider something active learning students must be doing something including discovery processing and applying information not just listening to a lecture or reading materials. Therefore, active learning is seen as a best way to get the burden off the teacher's shoulders and this stands as the great opportunity provided by using technology.

10/ Using digital technologies helps me to freely interact inside English class

**Table( 4-17) The Frequency Distribution for The item (10)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 117 | 49.8 |
| Agree | 89 | 37.9 |
| No opinion | 16 | 6.8 |
| Disagree | 11 | 4.7 |
| Strongly disagree | 2 | 0.9 |
| **Total** | **235** | **100** |

According to the table above, almost of the students veiled the fact that using digitals let them a chance to interact freely inside their English class and this supported by 87.7%, while 5.6 % of the students disagree with this idea. About 6.8 % have no idea.

It is observed form the above figures that the university students think that using digital technologies help them to be engaged and motivated to interact freely and close the gap between them inside their English class. Therefore, the true value of technology integration in EFL classroom is that they lead students to be creative, to work in a team, and to interact freely without any burdens. Collaborative online social learning opportunities increase peer interaction and access to each other's ideas, experiences, and knowledge either inside or outside classrooms.

11/ Using digital technology helps me to be a responsible learner.

**Table (4 - 18) The Frequency Distribution For The item(11)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 96 | 47.2 |
| Agree | 96 | 34.5 |
| No opinion | 24 | 11.5 |
| Disagree | 13 | 5.5 |
| Strongly disagree | 6 | 1.3 |
| **Total** | **235** | **100** |

As for the students' response to how they view learning English through digital technologies, the majority of them show their agreement and this represent by 81.7%., whereas, 6.8% do not believe on this notion. On the other hand, 11.5 % of them are in the state of uncertainty.

This means that using digital technologies in English class has it is status for the students and stands as an attractive method for them which help them to be responsible learners. Once the university students are appreciate using this tools this means that they are love learning English through using these digital technologies. That is, beliefs on the value of digital technologies greatly enhance students' perceptions of the effectiveness of digital technologies for their learning.

12/ Using digital technologies will help me to understand English better

**Table (4 - 19) The Frequency Distribution For The item (12)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 110 | 46.8 |
| Agree | 78 | 33.2 |
| No opinion | 28 | 11.9 |
| Disagree | 13 | 5.5 |
| Strongly disagree | 6 | 2.6 |
| **Total** | **235** | **100** |

From the table (4 -20) The dominant number of the sample agree that using digital technologies will help them to understand English better and this shown by 80% of the informants, while 8.1 % the percentages don't believe in the idea

that digital technologies help them to understand English better. About 11.9 % show their uncertainty about the idea.

With reference to the above item, the university students understand that using digital technologies in their English class helps them to understand English better and this stands as a good indication that the university students know the importance of using digital technologies in their English class. It is no secret that the ways of learning English are changing and classroom activities are different from the past traditional way. Today the students have access to the whole world of information. Moreover, using digital technologies in English class can create a positive environment by improving all of their English skills and prepare the students for digital job after their graduation from the university. All of these factors show how students believe on the role of digital technologies in English enhancement.

13/ Using digital technologies will help me to get unlimited English resources

**Table (4-20) The Frequency Distribution For The item (13)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 111 | 47.2 |
| Agree | 81 | 34.5 |
| No opinion | 27 | 11.5 |
| Disagree | 13 | 5.5 |
| Strongly disagree | 3 | 1.3 |
| **Total** | **235** | **100** |

From the table (4-21) The majority of the sample agree that using digital technologies will help them to get unlimited English resources and this represent by 81.7% from the informants, whereas, 6.8% of the informants show

their disagreement on this idea. On the other hand, 11.5% do not show specific answers.

Similar to John Seely Brown and Richard Adler describe the growth and expansion of the Internet as brewing the perfect storm of opportunity for education Providing online access to high-quality tools like scanning electron microscopes and supercomputer simulation models that allow students to engage personally in research and that foster a new culture of sharing in which content is freely contributed and distributed. This stands as important reason for students' acceptance of using digital technologies.

14/ Good digital literacy can enhance my English learning.

**Table (4-21) The Frequency Distribution for The time(14)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 112 | 47.7 |
| Agree | 88 | 37.4 |
| No opinion | 24 | 10.2 |
| Disagree | 7 | 3 |
| Strongly disagree | 4 | 1.7 |
| **Total** | **235** | **100** |

According to the percentages on the table above**,**85. 1% of the students believe that good digital literacy can enhance their English learning. Another group represents by 4.7 % show their disagreement with this notion. About 10.2% have no certainty.

This strong agreement by university students gives highest rankings that the students affirmed that a good digital literacy provides abundant opportunities for them to build and modify their personal knowledge through the rich experiences that technology affords.

15/ Using digital technology supports my learning style.

**Table (4 -22) The Frequency Distribution For The item (15)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 107 | 45.5 |
| Agree | 82 | 34.9 |
| No opinion | 22 | 9.4 |
| Disagree | 13 | 5.5 |
| Strongly disagree | 11 | 9.7 |
| **Total** | **235** | **100** |

According to the table above, the majority of students' sample agrees that Using digital technology supports their learning style and this represents by 80.4% of the students, while 15.2% do not believe in the idea that using digital technology supports their learning style. On the other hand, 9.4 % have no clear opinion.

From the figures, it is clear that the respondents look motivated to use digital technologies in their English class to support their learning styles. This result stand as indication that university students believe on using digital technologies in their English class and this may due to the active learning opportunities that provided by digital technologies.

On the other hand, positive attitudes towards using digital technologies are largely responsible for the intensity of the university students' responses towards this item.

16/ Digital technologies encourage me to participate in achieving English learning goals.

**Table (4 -23) The Frequency Distribution For The item (16)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 104 | 44.3 |
| Agree | 63 | 26.8 |
| No opinion | 21 | 8.9 |
| Disagree | 24 | 10.2 |
| Strongly disagree | 23 | 9.8 |
| **Total** | **235** | **100** |

From the table above, a considerable number of the sample agree that digital technologies encouraged them to participate in achieving English learning goals and this represents by 71.1%, while20% of the percentage do not believe in the idea that using digital technologies encourage them to participate in achieving English learning goals. About 8.9% did not show specific answers.

It is noticeable from the statements discussed above that the university students understand the great influence of using digital technologies to pave ways towards sustaining their English goals. The successful integration of digital technologies in EFL class can extended learning in powerful ways that using this digital provide those students with many opportunities for expressing themselves via digital technologies.

These result similar to B. Means (2009) which reported that the greatest educational benefits of online social learning and technologies are putting students in touch with each other. Social learning is based on the premise that our understanding of content is socially constructed through conversations and through interactions, especially with others, around problems or actions.

**Descriptive Statistics for the Phrases of the first hypothesis**:

When we calculate the arithmetic mean and standard deviation for each phrase in the first (Hypothesis), we compare the arithmetic mean for a phrase with the middle premise of the study. We approve the phrase if the arithmetic mean is greater than the middle premise of the term (3), and we realized disapproval if the arithmetic mean less than the middle premise. Table (4/29) shows the standard deviation of the phrases and arranges them according to their answers.

**Table (4-24) Descriptive statistics for the Phrases of the first hypothesis**

| The Phrase | ST D | Average | Relative | Disagree of Approval |
|---|---|---|---|---|
| 1/ Using digital technology helps me to be a creative learner | 1.89 | 3.27 | 65.4% | Medium |
| 2/Using digital technologies help me to acquire English easily. | 0.874 | 4.34 | 86.8% | Very high |
| 3/ Using digital technologies in EFL class help me to promote my communication easily. | 0.934 | 4.31 | 86.2% | Very high |
| 4/ I can improve my interaction with my English language teacher via digital technologies. | 0.803 | 4.28 | 85.6% | Very high |
| 5/ Using digital technologies creates a more meaningful /effective English learning. | 0.924 | 4.02 | 80.4% | Very high |
| 6/ I can learn English in much greater depth through digital technologies rather than traditional method. | 0.833 | 4.22 | 84.4% | Very high |

| | | | | |
|---|---|---|---|---|
| 7/ Using digital technologies increase my EFL motivation. | 0.710 | 4.33 | 86.6% | Very high |
| 8 /Using digital technologies make English learning more enjoyable. | 0.969 | 4.02 | 80.4% | Very high |
| 9 /Digital technologies help me to participate within English class. | 0.973 | 4.15 | 83.0% | Very high |
| 10/ Using digital technology helps me to be an independent learner. | 0.975 | 4.12 | 82.4% | Very high |
| 11/ Using digital technology helps me to be a responsible learner. | 1.01 | 4.16 | 83.2% | Very high |
| 12/ Using digital technologies will help me to understand English better | 0.940 | 4.20 | 84.0% | Very high |
| 13/ Using digital technologies will help me to get unlimited English resources. | 0.885 | 4.26 | 85.2% | Very high |
| 14/ Good digital literacy can enhance my English learning. | 1.08 | 4.11 | 82.2% | Very high |
| 15 / Using digital technology supports my learning style. | 1.34 | 3.85 | 77.0% | High |
| 16/Digital technologies encourage me to participate in achieving English learning goals. | 1.15 | 3.94 | 78.8% | High |
| Total | 1.01 | 4.10 | 82% | Very high |

From the table (4 -25), we can recognize the following: -

1- All the statements of the first hypothesis are averaged over the middle premise (3).

2- The most important phrase is the phrase "Using digital technologies helps me to acquire English easily", where the average of respondent's answers is (4.34) with a standard deviation (0.874) and relative importance (%86.8).

3- The less term of approval is the phrase "If I have an opportunity to use digital technologies inside my English class; I would use it all the time.", with an average (3.27) and a standard deviation (1.89) and relative importance (65.4%).

4- The average of all phrases (4.10) with a standard deviation (1.01) and relative importance (%82).This shows that the majority of respondents agree with Avery high proportion of all phrases that measure the first hypothesis.

**Secondly: Test of statistically significant**

To test the presence of statistically significant differences between the number of approvers, neutrals, and non – approvers to the results of the above test was used (Chi – Square test) to denote the differences. The following table illustrates phrases that measure the axis of the (first hypothesis)

So the following table shows the participants' responses to the first question. The respondents have shown different estimates for the items of this section. However, the total mean score for this section is 4.1, which means that the respondents estimated the *items* of this section highly.

**Table (4-25) Chi – Square Test for the Significance of the Difference Phrases of the first hypothesis**:

| The Phrase | Chi Squared | Degree of Freedom | T. value | Sig level | Result |
|---|---|---|---|---|---|
| 1/ Using digital technology helps me to be a creative learner | 248.3 | 4 | 9.48 | 0.000 | Acceptance |

| | | | | | |
|---|---|---|---|---|---|
| 2/Using digital technologies help me to acquire English easily. | 253.4 | 4 | 9.48 | 0.000 | Acceptance |
| 3/ Using digital technologies in EFL class help me to promote my communication | 232.9 | 4 | 9.48 | 0.000 | Acceptance |
| 4/ I can improve my interaction with my English language teacher via digital technologies. | 142.5 | 4 | 9.48 | 0.000 | Acceptance |
| 5/ Using digital technologies creates a more meaningful /effective English | 170.8 | 4 | 9.48 | 0.000 | Acceptance |
| 6/ I can learn English in much greater depth through digital technologies rather than traditional method. | 231.02 | 4 | 9.48 | 0.000 | Acceptance |
| 7/ Using digital technologies increase my EFL motivation. | 280.1 | 4 | 9.48 | 0.000 | Acceptance |
| 8 /Using digital technologies make English learning more enjoyable. | 157.6 | 4 | 9.48 | 0.000 | Acceptance |
| 9 /Digital technologies help me to participate within English class. | 171.0 | 4 | 9.48 | 0.000 | Acceptance |
| 10/ Using digital technology help me to be an independent learner. | 232.8 | 4 | 9.48 | 0.000 | Acceptance |
| 11/ Using digital technology helps me to be a responsible learner | 173.7 | 4 | 9.48 | 0.000 | Acceptance |
| 12/ Using digital technologies will help me to understand English better | 172.9 | 4 | 9.48 | 0.000 | Acceptance |
| 13/ Using digital technologies will help me to get unlimited English resources. | 186.4 | 4 | 9.48 | 0.000 | Acceptance |

| | | | | | |
|---|---|---|---|---|---|
| 14/Good digital literacy can enhance my English learning. | 210.2 | 4 | 9.48 | 0.000 | Acceptance |
| 15/ Using digital technology support my learning style. | 168.1 | 4 | 9.48 | 0.000 | Acceptance |
| 16/Digital technologies encourage me to participate in achieving English learning goals. | 112.4 | 4 | 9.48 | 0.000 | Acceptance |
| **Total** | **196.5** | **4** | **9.48** | **0.000** | **Acceptance** |

From the table (4-26), we can recognize the following: -

1. The Chi – Squared value for the phrase no (1) (248.3) is greater than Tabular value (9.48). Thus, it indicates that there are significant differences between the averages of the item (3.27) and central premise of the study (3) and in favor high degree of respondents on the item (Using digital technology helps me to be a creative learner).

2/ The Chi – Squared value for the phrase no (2) (253.4) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (4.34) and central premise of the study (3) and in favor very high degree of approvers on the item (Using digital technologies helps me to acquire English easily).

3/The Chi – Squared value for the item no (3) (232.9) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (4.31) and central premise of the study (3) and in favor very high degree of approvers on the item (Using digital technologies in EFL class helps me to promote my communication easily.).

4/The Chi – Squared value for the item no (4) (142.5) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the

average of the item (4.28) and central premise of the study (3) and in favor very high degree of approvers on the item (I can more improve my interaction with my English language teacher via digital technologies).

5. The Chi – Squared value for the item no (5) (170.8) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the phrase (4.02) and central premise of the study (3) and in favor very high degree of approvers on the item (Using digital technologies creates a more meaningful /effective English learning).

6. The Chi – Squared value for the item no (6) (231.02) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (4.22) and central premise of the study (3) and in favor very high degree of approvers on the item (I can learn English in much greater depth through digital technologies rather than traditional method).

7. The Chi – Squared value for the item no (7) (280.1) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (4.33) and central premise of the study (3) and in favor very high degree of approvers on the item (Using digital technologies increases my EFL motivation).

8. The Chi – Squared value for the item no (8) (157.6) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (4.02) and central premise of the study (3) and in favor very high degree of approvers on the item (Using digital technologies makes English learning more enjoyable).

9. The Chi – Squared value for the item no (9) (171.0) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (4.15) and central premise of the study (3) and

in favor very high degree of respondents on the item (Digital technologies help me to participate within English class).

10. The Chi – Squared value for the item no (10) (232.8) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (4.12) and central premise of the study (3) and in favor very high degree of approvers on the item (Using digital technologies helps me to freely interact inside English class).

11. The Chi – Squared value for the item no (11) (173.7) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (4.16) and central premise of the study (3) and in favor very high degree of approvers on the phrase (Using digital technology helps me to be a responsible learner).

12. The Chi – Squared value for the item no (12) (172.9) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (4.20) and central premise of the study (3) and in favor very high degree of approvers on the item (Using digital technologies will help me to understand English better).

13. The Chi – Squared value for the item no (13) (186.4) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (4.26) and central premise of the study (3) and in favor very high degree of approvers on the phrase (Using digital technologies will help me to get unlimited English resources).

14. The Chi – Squared value for the item no (14) (210.2) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (4.11) and central premise of the study (3) and

in favor very high degree of approvers on the item (Good digital literacy can enhance my English learning).

15. The Chi – Squared value for the item no (15) (168.1) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (3.85) and central premise of the study (3) and in favor high degree of approvers on the item (Using digital technology supports my learning style).

16. The Chi – Squared value for the item no (16) (112.4) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (3.95) and central premise of the study (3) and in favor high degree of approvers on the item (Digital technologies encourage me to participate in achieving English learning goals).

-The Chi – Squared value for total item (196.5) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (4.10) and central premise of the study (3) and in favor very high degree of approvers on the (first hypothesis).

We conclude that the first hypothesis of the study, which stipulates: (There are many active learning opportunities provided by Digital technologies to Sudanese university EFL students) is an acceptable hypothesis of all phrases.

**Table (4-26): Opportunities provided by using digital technologies to Sudanese EFL university students**

| Statement | 5 | 4 | 3 | 2 | 1 | Mean | STD | Relative % | Chi Square |
|---|---|---|---|---|---|---|---|---|---|
| 1- Using digital | 117 | 19 | 3 | 3 | 3 | 3.2 | 1.8 | 65.4 | 248.3 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| technology helps me to be a creative learner | 49.8 | 8.1 | 1.3 | 1.3 | 93.6 | | | | |
| 2-Using digital technologies helps me to acquire English easily | 121 | 90 | 12 | 7 | 5 | 4.3 | 0.8 | 86.8 | 253.4 |
| | 51.5 | 38.3 | 5.1 | 3 | 2.1 | | | | |
| 3-Using digital technologies in EFL class helps me to promote my communication easily | 127 | 73 | 20 | 11 | 14 | 4.3 | 0.9 | 86.2 | 232.9 |
| | 54 | 31.1 | 8.5 | 4.7 | 1.7 | | | | |
| 4-I can improve my interaction with my English language teacher via digital technologies | 104 | 105 | 13 | 13 | 0 | 4.2 | 0.8 | 85.6 | 142.5 |
| | 44.3 | 44.7 | 5.5 | 5.5 | 0 | | | | |
| 5-Using digital technologies creates a more meaningful /effective English learning | 78 | 109 | 25 | 22 | 1 | 4.0 | 0.9 | 80.4 | 170.8 |
| | 33.2 | 46.4 | 10.6 | 9.4 | 0.4 | | | | |
| 6-I can learn English in much greater depth through digital technologies rather than traditional method | 96 | 111 | 13 | 14 | 1 | 4.2 | 0.8 | 84.4 | 231 |
| | 40.9 | 47.2 | 5.5 | 6 | 0.4 | | | | |
| 7-Using digital technologies increases my EFL motivation | 102 | 117 | 9 | 6 | 1 | 4.3 | 0.7 | 86.6 | 280.1 |
| | 43.4 | 49.5 | 3.8 | 2.6 | 0.4 | | | | |
| 8-Using digital | 82 | 103 | 29 | 16 | 5 | 4.0 | 0.9 | 80.4 | 157.6 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| technologies makes English learning more enjoyable | 34.9 | 43.8 | 3.8 | 2.6 | 0.4 | | | | |
| 9-Digital technologies help me to participate within English class | 103 | 87 | 26 | 13 | 5 | 4.2 | 0.9 | 83.0 | 171 |
| | 43.8 | 37 | 11.5 | 5.5 | 2.1 | | | | |
| 10- Using digital technology helps me to be an independent learner | 117 | 89 | 16 | 11 | 2 | 4.1 | 0.9 | 82.4 | 232.8 |
| | 49.8 | 37.9 | 6.8 | 4.7 | 0.9 | | | | |
| 11- Using digital technology helps me to be a responsible learner | 96 | 96 | 24 | 13 | 6 | 4.2 | 1.0 | 83.2 | 173.7 |
| | 47.2 | 34.5 | 11.5 | 5.5 | 1.3 | | | | |
| 12-Using digital technologies will help me to understand English better | 110 | 78 | 28 | 13 | 6 | 4.2 | 0.9 | 84.0 | 172.9 |
| | 46.8 | 33.2 | 11.9 | 5.5 | 2.6 | | | | |
| 13-Using digital technologies will help me to get unlimited English resources | 111 | 81 | 27 | 13 | 3 | 4.3 | 0.8 | 85.2 | 186.4 |
| | 47.2 | 34.5 | 11.5 | 5.5 | 1.3 | | | | |
| 14-Good digital literacy can enhance my English learning | 112 | 88 | 24 | 7 | 4 | 4.1 | 1.0 | 82.2 | 210.2 |
| | 47.7 | 37.4 | 10.2 | 3 | 1.7 | | | | |
| 15- Using digital | 107 | 82 | 22 | 13 | 11 | 3.85 | 1.3 | 77.0 | 168.1 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| technology supports my learning style | 45.5 | 34.9 | 9.4 | 5.5 | 9.7 | | | | |
| 16-Digital technologies encourage me to participate in achieving English learning goals | 104 | 63 | 21 | 24 | 23 | 3.9 | 1.1 | 78.8 | 112.4 |
| | 44.3 | 26.8 | 8.9 | 10.2 | 9.8 | | | | |
| **Total mean and STD** | | | | | | **4.1** | **1.0** | **82.0** | **196.5** |

*** 5-Absolutely agree 4-Agree 3-No opinion 2- Disagree 1-Absolutely disagree**

According to the results shown in the table above, the students' responses to the item **1- Using digital technology helps me to be a creative learner.** The responses to this statement are high as the mean score for this item is 3.2 with the standard deviation of 1.8. This means that the students agree to a great extent on this item. The Chi – Squared value for the item (248.3) is greater than Tabular value (9.48). Thus, it indicates that there are significant differences between the averages of the item (3.27) and central premise of the study.

**2-Using digital technologies help me to acquire English easily.** The responses to this statement are high as the mean score for this item is 4.3 with the standard deviation of 0.8. This means that the students agree to a great extent on this item. The Chi – Squared value for the phrase (253.4) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the phrase (4.34) and central premise of the study.

**3-Using digital technologies in EFL class help me to promote my communication easily**. The responses to this statement are high as the mean score for this item is 4.3 with the standard deviation of 0.9. This means that the students agree to a great extent on this item. The Chi – Squared value for the phrase no (3) (232.9) is greater than the Tabular value (9.48). Thus, it indicates

that there are significant differences between the average of the phrase (4.31) and central premise of the study.

**4-I can improve my interaction with my English language teacher via digital technologies.** The responses to this statement are high as the mean score for this item is 4.2 with the standard deviation of 0.8. This means that the students agree to a great extent on this item. The Chi – Squared value for the phrase no (4) (142.5) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the phrase (4.28) and central premise of the study.

**5-Using digital technologies creates a more meaningful /effective English learning**. The responses to this statement are high as the mean score for this item is 4.0 with the standard deviation of 0.9. This means that the students agree to a great extent on this item. The Chi – Squared value for the phrase no (5) (170.8) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the phrase (4.02) and central premise of the study

6-**I can learn English in much greater depth through digital technologies rather than traditional method**. The responses to this statement are high as the mean score for this item is 4.2 with the standard deviation of 0.9. This means that the students agree to a great extent on this item. The Chi – Squared value for the phrase no (6) (231.02) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the phrase (4.22) and central premise of the study (3) and in favor very high degree of approvers on the phrase (**I can learn English in much greater depth through digital technologies rather than traditional method**).

**7-Using digital technologies increase my EFL motivation**. The responses to this statement are high as the mean score for this item is 4.1 with the standard deviation of 0.9. This means that the students agree to a great extent on this

item. The Chi – Squared value for the phrase no (7) (280.1) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the phrase (4.33) and central premise of the study.

**8-Using digital technologies make English learning more enjoyable**. The responses to this statement are high as the mean score for this item is 4.2 with the standard deviation of 1.0. This means that the students agree to a great extent on this item. The Chi – Squared value for the phrase no (8) (157.6) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the phrase (4.02) and central premise of the study

**9-Digital technologies help me to participate within English class.** The responses to this statement are high as the mean score for this item is 4.2 with the standard deviation of 0.9. This means that the students agree to a great extent on this item. The Chi – Squared value for the phrase no (9) (171.0) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the phrase (4.15) and central premise of the study

**10- Using digital technology helps me to be an independent learner**. The responses to this statement are high as the mean score for this item is 4.3 with the standard deviation of 0.8. This means that the students agree to a great extent on this item. The Chi – Squared value for the phrase no (10) (232.8) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the phrase (4.12) and central premise of the study

**11- Using digital technology helps me to be a responsible learner**. The responses to this statement are high as the mean score for this item is 4.1 with the standard deviation of 1.0. This means that the students agree to a great extent on this item. The Chi – Squared value for the phrase no (11) (173.7) is

greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the phrase (4.16) and central premise of the study

**12-Using digital technologies will help me to understand English better**. The responses to this statement are high as the mean score for this item is 3.85 with the standard deviation of 1.3. This means that the students agree to a great extent on this item. The Chi – Squared value for the phrase no (12) (172.9) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the phrase (4.20) and central premise of the study (3) and in favor very high degree of approvers on the phrase (**Using digital technologies will help me to understand English better**).

**13-Using digital technologies will help me to get unlimited English resources**. The responses to this statement are high as the mean score for this item is 3.9 with the standard deviation of 1.1. This means that the students agree to a great extent on this item. The Chi – Squared value for the phrase no (13) (186.4) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the phrase (4.26) and central premise of the study (3) and in favor very high degree of approvers on the phrase (**Using digital technologies will help me to get unlimited English resources**).

**14-Good digital literacy can enhance my English learning**. The responses to this statement are high as the mean score for this item is 4.1 with the standard deviation of 1.0. This means that the students agree to a great extent on this item. The Chi – Squared value for the phrase no (14) (210.2) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the phrase (4.11) and central premise of the study (3) and in favor very high degree of approvers on the phrase (**Good digital**

**literacy can enhance my English learning**).

**15- Using digital technology supports my learning style.** The responses to this statement are high as the mean score for this item is 3.5 with the standard deviation of 1.3. This means that the students agree to a great extent on this item. The Chi – Squared value for the phrase no (15) (168.1) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the phrase (3.85) and central premise of the study (3) and in favor high degree of approvers on the phrase (Using digital technology supports my learning style).

**16-Digital technologies encourage me to participate in achieving English learning goals.** The responses to this statement are high as the mean score for this item is 3.9 with the standard deviation of 1.1. This means that the students agree to a great extent on this item. The Chi – Squared value for the phrase no (16) (112.4) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the phrase (3.95) and central premise of the study (3) and in favor high degree of approvers on the phrase (**Digital technologies encourage me to participate in achieving English learning goals**).

**The Chi–Squared value for total phrases** (196.5) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the phrase (4.10) and central premise of the study (3) and in favor very high degree of approvers on the (first hypothesis).

The researcher concluded that the first hypothesis of the study, which stipulates: (There are many active learning opportunities provided by Digital technologies to EFL student) is an acceptable hypothesis of all phrases.

**Hypothesis (2):**

**Digital technologies provide more challenges to Sudanese EFL students to be more independent learners.**

1/ I am very confident in my abilities to use digital technologies

**Table (4 -27) The Frequency Distribution for The item (1)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 98 | 41.7 |
| Agree | 77 | 32.8 |
| No opinion | 27 | 11.5 |
| Disagree | 17 | 7.2 |
| Strongly disagree | 16 | 6.8 |
| **Total** | **235** | **100** |

In response to a question regarding the confidence of the abilities to use digital technologies, a considerable number of them, which represents by 74.5 % of the respondents feel trust on their abilities when they use digital technologies, while, 14% are lack confidence when they use these digitals. Only 11.5 % have no idea.

A range of psychological variables are known to be related to the use of technology. One of these variables is the confidence towards using digital technologies. So, Sudanese university students are believed about using digital technologies as a tool for enhancing their English performance.

2/ I consider myself a skilled digital technology user

**Table (4 -28) The Frequency Distribution for The item (2)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 108 | 46 |
| Agree | 88 | 37.4 |
| No opinion | 17 | 7.2 |
| Disagree | 16 | 6.8 |
| Strongly disagree | 6 | 2.6 |
| **Total** | **235** | **100** |

From the table above the majority of the sample agrees that they consider themselves a skilled digital technology users and this represents by83.4 % of the respondents, while 9.4 % of the percentages show their disagreement on this notion and consider themselves unskilled digital users. On the other hand, only 7.2 % have from the students show no clear idea.

Tapscot (2009), describes nowadays students as the "Net Generation" learners, because they grow up with the technology which affected their personalities. Furthermore, many studies showed that using digital technologies in the English language learning environment is regarded as a motivational tool for the language learner because it helps them to learn the language communication and daily life of English language learners.

Due the more practice of digital technologies by university students lead them to be skilled digitalized learner and let them to pursue their abilities in using digitals. This confirms that the university students have the interest to use digital technologies. Moreover, it seems that university students believe in the idea that to be skilled digital user will be supportive in getting more opportunities in all aspects of their life.

3/ It easy to learn how to use online applications

**Table (4 -29) The Frequency Distribution for The item (3)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 113 | 48.1 |
| Agree | 61 | 26 |
| No opinion | 35 | 14.9 |
| Disagree | 18 | 7.7 |
| Strongly disagree | 8 | 3.4 |
| **Total** | **235** | **100** |

From the table above, the majority of the sample agrees that: It easy to learn how to use online applications and this represents by 74.1 % of the total informants, while 11.1 % of the students show their disagreement in this idea. On the other hand, 14.9%do not show specific answers.

The responses provide evidence that the university students in general are skilled digital users and it is easy for them to use online applications. Another indication provided by the above responses that the university students are exposed more to digital technologies.

4/ I rely heavily on instructions to help me use digital technology

**Table (4 -30)The Frequency Distribution For The item(4)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 93 | 39.6 |
| Agree | 65 | 27.7 |
| No opinion | 28 | 11.9 |
| Disagree | 30 | 12.8 |
| Strongly disagree | 19 | 8.1 |
| **Total** | **235** | **100** |

From the table above the majority of the sample agree that they rely heavily on instructions to help them to use digital technology and this represents by 67.3 % of the informants, while 20.9 % do not depend on instructions to use digital technologies. About 11.9 % have no clear view.

The response of students to the above item reveals that the university students have aptitude to use digital technology So university students are more likely to follow any way to acquire and understand using of digital technologies.

**5/ I am sure of my abilities to use digital technology.**

**Table (4-31) The Frequency Distribution for The item(5)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 79 | 33.6 |
| Agree | 94 | 40 |
| No opinion | 26 | 11.1 |
| Disagree | 19 | 8.1 |
| Strongly disagree | 17 | 7.2 |
| **Total** | **235** | **100** |

From the table above, the majority of the sample agrees that they are felt sure of their abilities to use digital technology and this supported by 73.6 % of total number of the students, whereas about 73.6% of the students don't agree on the same idea that they are felt sure of their abilities to use digital technology. Only 11.1% have no specific answers.

Again the university students represent their agreement that they are sure of their abilities to use digital technologies. Moreover, without command of a good experience and awareness of using digital technologies, the students can not truly feel comfortable and confident in their effort to master using digital technologies.

**6/ Using digital technologies help me to study English without my assistance of my teacher**

**Table (4 -32) The Frequency Distribution for The item (6)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 85 | 36.2 |
| Agree | 107 | 45.5 |
| No opinion | 22 | 9.4 |
| Disagree | 15 | 6.4 |
| Strongly disagree | 6 | 2.6 |
| **Total** | **235** | **100** |

From the above table, the majority of the sample agrees that using digital technologies help those students to study English without assistance of their teachers and this represent by 81.7 % of the students, while 9 % of the informants show their disagreement in this idea. Only9.4% do not show specific answers.

Due to changing the role teachers by digital technology most number of the students shows their agreement and this shows and reflects the comfort and the ease of getting information instantly. Furthermore, this may indicate that using digital technologies may afford students self- learning autonomy, and they are being more responsible about their learning without any help from their teachers. This item reinforces and supports the researchers' assumption that there is a great possibility that digital technologies would sustain Sudanese university EFL students' self- directed learning and learning autonomy.

**7/ The instructors' use of digital technologies in EFL classes has increased my interest in the subject matter**

**Table (4-33)**

**The Frequency Distribution for The item (7)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 78 | 33.2 |
| Agree | 110 | 46.8 |
| No opinion | 28 | 11.9 |
| Disagree | 13 | 5.5 |
| Strongly disagree | 6 | 2.6 |
| **Total** | **235** | **100** |

Most of the students claim that using digital technologies in their EFL class has increased their interest in the subject and this supported by 80% of the students, while, 8.1% of the students don't believe in the notion. On the other hand, 11.9% show no opinion.

Concerning the above item, a striking numbers of the informants believe that using digital technologies in EFL class has increased their interest in the English subject. These may due to the amounts of the opportunities that provided by using these technologies that make the students to like and feel comfortable about English Language.

**8/ I am more motivated and engaged in learning English due to the using of digital technologies.**

**Table (4-34) The Frequency Distribution for The item (8)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 137 | 58.3 |
| Agree | 64 | 27.2 |
| No opinion | 14 | 6 |
| Disagree | 12 | 5.1 |
| Strongly disagree | 8 | 3.4 |
| **Total** | **235** | **100** |

According to the table above, almost all of the students veiled the fact that they are more motivated and engaged in learning English due to the using of digital technologies and this supported by 85.5 %, whereas 8.5 % of student show negative response to this item. Only 6% have no clear idea.

These showed a considerable sign that university students are motivated instrumentally to use digital technologies as a medium to understand English language.

**Table (4-35) Students' response to the second question**:

In what ways do digital technologies develop Sudanese EFL university students' English self –efficacy?

| NO | | 5 | 4 | 3 | 2 | 1 | Mean | STD | Relative % | Chi Squared |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | F | 98 | 77 | 27 | 17 | 16 | 3.9 | 1.19 | 79 | 112.4 |
| | % | 41.7 | 32.8 | 11.5 | 7.2 | 6.8 | | | | |
| 2 | F | 108 | 88 | 17 | 16 | 6 | 4.1 | 1.1 | 83.4 | 122.5 |
| | % | 46 | 374 | 7.2 | 6.8 | 2.6 | | | | |
| 3 | F | 113 | 61 | 35 | 18 | 8 | 4.1 | 1.1 | 81.4 | 190.2 |
| | % | 48.1 | 26 | 14.9 | 7.7 | 3.4 | | | | |
| 4 | F | 93 | 65 | 28 | 30 | 19 | 3.7 | 1.3 | 75.6 | 150.1 |
| | % | 39.6 | 27.7 . | 11.9 | 12.8 | 8.1 | | | | |
| 5 | F | 79 | 94 | 26 | 19 | 17 | 3.8 | 1.1 | 76.8 | 82.4 |
| | % | 33.6 | 40 | 11.1 | 8.1 | 7.2 | | | | |
| 6 | F | 85 | 107 | 22 | 15 | 6 | 4.1 | 0.9 | 81.2 | 114 |
| | % | 36.2 | 45.5 | 9.4 | 6.4 | 2.6 | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 7 | F | 78 | 110 | 28 | 13 | 6 | 4.0 | 0.9 | 80.4 | 178.1 |
| | % | 33.2 | 46.8 | 11.9 | 5.5 | 2.6 | | | | |
| 8 | F | 137 | 64 | 14 | 12 | 8 | 4.3 | 1.0 | 86.2 | 172.9 |
| | % | 58.3 | 27.2 | 6 | 5.1 | 3.4 | | | | |
| **Total mean and STD** | | | | | | | 4.0 | 1.1 | 80.4 | 153.6 |

* 5-Absolutely agree 4-Agree 3-No opinion 2- Disagree

1-Absolutely disagree

**Table (4-36)**

**shows the abbreviation of students 'statements.**

| No | Statement |
|---|---|
| 1 | I am very confident in my abilities to use digital technologies |
| 2 | I consider myself a skilled digital technology user |
| 3 | It easy to learn how to use online applications |
| 4 | I rely heavily on instructions to help me use digital technology |
| 5 | I am sure of my abilities to use digital technology |
| 6 | Using digital technologies help me to study English without my assistance of my teacher |
| 7 | The instructors' use of digital technologies in EFL classes has increased my interest in the subject matter |
| 8 | I am more motivated and engaged in learning English due to the using of digital technologies |

Below is a description of the responses to each item in the section:

**1-I am very confident in my abilities to use digital technologies.** The responses to this statement are high as the mean score for this item is 3.9 with the standard deviation of 1.2. This means that the students agree to a great

extent on this item. The Chi – Squared value for the item no (1) (112.4) is greater than Tabular value (9.48). Thus, it indicates that there are significant differences between the averages of the item (3.95) and central premise of the study (3) and in favor high degree of approvers on the phrase (I amvery confident in my abilities to use digital technologies).

**2-I consider myself a skilled digital technology user.** The responses to this statement are high as the mean score for this item is 4.17 with the standard deviation of 1.0. This means that the students agree to a great extent on this item. The Chi–Squared value for the item no (2) (122.5) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (4.17) and central premise of the study (3) and in favor very high degree of approvers on the item (**I consider myself a skilled digital technology user**).

**3-It easy to learn how to use online applications.** The responses to this statement are high as the mean score for this item is 4.1 with the standard deviation of 1.1. This means that the students agree to a great extent on this item. The Chi–Squared value for the item no (3) (190.2) is greater than the Tabular value(9.48).Thus, it indicates that there are significant differences between the average of the item (4.07)and central premise of the study(3)and in favor very high degree of approvers on the phrase ( **It easy to learn how to use online application**).

**4-I rely heavily on instructions to help me use digital technology. The** responses to this statement are high as the mean score for this item is 3.78 with the standard deviation of 1.3. This means that the students agree to a great extent on this item.

The Chi–Squared value for the item no (4) (150.1) is greater than the Tabular value (12.84). Thus, it indicates that there are significant differences between the average of the item (3.78) and central premise of the study (3) and in favor

high degree of approvers on the item (**I rely heavily on instructions to help me use digital technology**).

5-**I am sure of my abilities to use digital technology.** The responses to this statement are high as the mean score for this item is 3.8 with the standard deviation of 1.2. This means that the students agree to a great extent on this item. The Chi–Squared value for the item no(5)(82.4)is greater than the Tabular value(9.48).Thus, it indicates that there are significant differences between the average of the item(3.84)and central premise of the study(3)and in favor high degree of approvers on the item(**I am sure of my abilities to use digital technology**).

**6-Using digital technologies help me to study English without my assistance of my teacher**. The responses to this statement are high as the mean score for this item is 4.06 with the standard deviation of 0.9. This means that the students agree to a great extent on this item. The Chi – Squared value for the item no(6) (114.0) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (4.06) and central premise of the study (3) and in favor very high degree of approvers on the phrase (Using digital technologies help me to study English without my assistance of my teacher).

**7-The instructors' use of digital technologies in EFL classes has increased my interest in the subject matter**. The responses to this statement are high as the mean score for this item is 4.02 with the standard deviation of 0.95. This means that the students agree to a great extent on this item. The Chi – Squared value for the item no(7) (178.1) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (4.02) and central premise of the study (3) and in favor very high degree of approvers on the item (The instructors' use of digital technologies in EFL classes has increased my interest in the subjectmatter).

**8-I am more motivated and engaged in learning English due to the using of digital technologies.** The responses to this statement are high as the mean score for this item is 4.3 with the standard deviation of 1.1. This means that the students agree to a great extent on this item. The Chi – Squared value for the phrase no(8) (172.9) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (3.90) and central premise of the study (3) and in favor very high degree of approvers on the phrase (I am not more motivated and engaged in learning English due to the using of digital technologies).

**The Chi – Squared value for total phrases** (153.6) is greater than the Tabular value (9.48). Thus, it indicates that there are significant differences between the average of the item (4.02) and central premise of the study (3) and in favor very high degree of approvers on the (second hypothesis).

The researcher concluded that the second hypothesis of the study, which stipulates: (There is a great possibility that digital technologies would sustain EFL students' self- directed learning and learning autonomy) is an acceptable hypothesis of all phrases.

## 4.6 Analysis of the teachers' questionnaire

**Hypothesis (3):**

**Sudanese university EFL instructors have positive attitudes towards using digital technologies to enrich their instruction and course delivery method.**

**1/ I use digital technologies to improve presentation of my EFL teaching**.

**Table(4- 37)The Frequency Distribution For The item(1)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 16 | 69.6 |
| Agree | 7 | 30.4 |
| No opinion | 0 | 0 |
| Disagree | 0 | 0 |
| Strongly disagree | 0 | 0 |
| **Total** | **23** | **100** |

From the table above the majority of the sample agree that using digital technologies improve their presentation of their EFL teaching and this represented by 100%.

This shows that the university teachers have positive attitudes and beliefs towards using digital technologies. In addition, they considered digital technologies as a good medium for improving their presentation of English. This stands as a good indication that Sudanese university teacher know the importance of using digital technology and how these digital be an important aid to facilitate their teaching process.

**2/Using digital technologies make English teaching more enjoyable for student.**

**Table ( 4- 38)**

**The Frequency Distribution For The item**(2)

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 17 | 73.9 |
| Agree | 6 | 26.1 |
| No opinion | 0 | 0 |
| Disagree | 0 | 0 |
| strongly disagree | 0 | 0 |
| **Total** | **23** | **100** |

From the table above, the majority of the sample agrees that; using digital technologies makes their English teaching more enjoyable for student and this is representing by 100% of the percentage of the teachers.

Concerning the above item, all of the respondents agreed that using digital technologies makes English teaching more enjoyable for students and this stands as a good view towards using digital technology in their instruction. Moreover, it seems that teachers are engaging in represent their English instruction through digital technologies because of the ample opportunities that can get through using these tools.

**3/ Using computers inside English classroom makes lessons more interesting**.

**Table (4-39) The Frequency Distribution For The item(3)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 14 | 60.9 |
| Agree | 9 | 39.1 |
| No opinion | 0 | 0 |
| Disagree | 0 | 0 |
| Strongly disagree | 0 | 0 |
| **Total** | **23** | **100** |

From the table above, the all of the sample agree that using computers inside English classroom makes their lessons more interesting and this represent by 100% of the informants. This a total agreement clarifies a clear picture that Sudanese university teachers have a positive impression towards using technologies and they are observing that English class will be more interesting through using these digitals.

**4/ I prefer teaching English via digital technologies**

**Table (4-40) The Frequency Distribution For The item(4)**

| The Answer | Number | Percentage % |
|---|---|---|
| strongly agree | 11 | 47.8 |
| Agree | 12 | 52.2 |
| No opinion | 0 | 0 |
| Disagree | 0 | 0 |
| Strongly disagree | 0 | 0 |
| **Total** | **23** | **100** |

From the table(4-40) the majority of the sample agree that they are prefer teaching English via digital technologies and this represented by 100% while the percentage of non – conformists to that (0)%, and those who did not show specific answers have accounted (0)% .

The impression Sudanese university teachers had of using digital technology to deliver instruction plays an important role in their preference. It is clear from the above figures that all of the respondents prefer teaching English via digital technologies and this total agreement addressing the effect of using digital technology on instruction and how it changes teacher's pedagogical beliefs. This total agreement may due to the large amount of benefits that the English teachers gain from teaching through digital technologies.

**5/ My English course specifications based only on reading books**

**Table (4-41)The Frequency Distribution For The item(5)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 13 | 56.5 |
| Agree | 10 | 43.5 |
| No opinion | 0 | 0 |
| Disagree | 0 | 0 |
| Strongly disagree | 0 | 0 |
| **Total** | **23** | **100** |

According to above table, the majority of the sample agrees that their English course specifications based only on reading books and this confirms by 100%.

It is sadly true, that university English specification course based only on reading book, and this may play an important role in the decline of students English language standards. The researcher was an educator, she worked outside Sudan in many universities and she observed that using digital technologies in teaching English attract the students' attention unlike here in Sudan (traditional). So in order to make English language teaching process more motivating experience, instructors and planners need to put a great deal of thought into developing the English course specification depending on using digital technology.

**6/ I feel confident when I use digital technologies to teach English**

**Table(4-42)The Frequency Distribution for The item (6)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 11 | 47.8 |
| Agree | 12 | 52.2 |
| No opinion | 0 | 0 |
| Disagree | 0 | 0 |
| Strongly disagree | 0 | 0 |
| **Total** | **23** | **100** |

The statistical figures given in the table above reveal that all of the respondents agree that they are feeling confident when they use digital technologies to teach English and this represents by 100%.

Today teachers are already using technology in their daily life activities, and this let them to be confident in using these digitals if it is available in their English class.

It is important to note that teachers' acceptance and confidence of using digital technology in English class stands as vital predictors to accept this

technology. So, it is clear that Sudanese university teachers feel confident and trust when they use these technologies.

**7/ I have opportunity to use digital technologies within my English classroom.**

**Table (4-43) The Frequency Distribution For The item(7)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 10 | 43.5 |
| Agree | 13 | 56.5 |
| No opinion | 0 | 0 |
| Disagree | 0 | 0 |
| Strongly disagree | 0 | 0 |
| **Total** | **23** | **100** |

From the table, the entire sample agrees that they have opportunity to use digital technologies within their English classroom. This reflects how the teachers have opportunities to use digital technology within their English instruction. As it was stated before, most of the teachers' sample taken from Karari University uses digital technology in teaching their English class.

**8/ It is easy to work collaboratively with EFL students through digital technology**

**Table (4-44)The Frequency Distribution For The item(8)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 8 | 34.8 |
| Agree | 15 | 65.2 |
| No opinion | 0 | 0 |
| Disagree | 0 | 0 |
| Strongly disagree | 0 | 0 |
| **Total** | **23** | **100** |

From the table above, the entire sample agrees that it is easy for them to work collaboratively with EFL students through digital technology.

This result indicates that using digital technology in English class creates atmosphere for the interaction between teachers and their students and this will affect more the language itself.

**9/I communicate with my EFL students electronically (email, chat line…. etc.)**

**Table (4-45)The Frequency Distribution For The item(9)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 16 | 69.6 |
| Agree | 17 | 30.4 |
| No opinion | 0 | 0 |
| Disagree | 0 | 0 |
| Strongly disagree | 0 | 0 |
| **Total** | **23** | **100** |

The table above shows that all of the respondents agree that the majority of the sample agree on the item "I communicate with my EFL students electronically" email, chat line…. etc.

It is clear that the university teachers are deeply engaged in using different electronic forms of communication with their students in order to enrich their teaching process. Moreover, the students can gain benefits from communicating online in order to develop their English skills.

**10/Using digital technologies enriches my EFL teaching process**

**Table (4-46)The Frequency Distribution For The item (10)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 11 | 47.9 |
| Agree | 9 | 39.1 |
| No opinion | 3 | 13 |
| Disagree | 0 | 0 |
| Strongly disagree | 0 | 0 |
| **Total** | **23** | **100** |

From the table above the majority of the sample agree that using digital technologies enriches their EFL teaching process 100% agreement. The entire sample from university teachers agrees that using digital technologies help them to acquire a lot of activities to enrich their teaching process. Furthermore, as we noted from the above mentioned figures t using digital technologies allow the teachers to be more creative within their teaching process, help them to find some relevant materials, design their lessons, and more importantly call their students' motivation and interest.

**11/ I use digital technologies as a management tool for preparing my English lessons.**

**Table ( 4-47)The Frequency Distribution For The item(11)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 7 | 30.4 |
| Agree | 16 | 69.6 |
| No opinion | 0 | 0 |
| Disagree | 0 | 0 |
| Strongly disagree | 0 | 0 |
| **Total** | **23** | **100** |

Concerning the above table, all of teachers agree on the item that they use digital technologies as a management tools for preparing their English lessons and this represent by 100%. All of the respondents from teachers agree that they depend mostly on digital technologies to prepare their lesson because today the internet stands as a rich resource from where the teacher can obtain and design their English lessons. Today, most of the teachers depend on the digital technologies to find any information anytime anywhere easily by clicking some keys on the computer.

**12/ I am not try to engage students in exploring English real-world issues using digital technology**

**Table (4-48)The Frequency Distribution For The item (12)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 5 | 21.7 |
| Agree | 2 | 8.7 |
| No opinion | 3 | 13 |
| Disagree | 12 | 52.2 |
| Strongly disagree | 1 | 4.3 |
| **Total** | **23** | **100** |

According to the table above, the majority of the sample disagree that they are not try to engage students in exploring English real-world issues using digital technology and this represent by 56.5% of the teachers, while 30.4 reflects their agreement towards the idea. 13% did not show any specific answers.

The research tries to use the negative statement is used here in order to examine the teachers' response to the importance of using digital technologies in exploring English real- world issue. Therefore, it seems that university teachers are working hard to engage their students to bring the foreign culture in English class in sorts of video for example, this will play a role in facilitating students' understanding of the English people culture better.

**13/ I am feeling comfortable with using digital technologies.**

**Table(4-49)The Frequency Distribution For The item(13)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 8 | 34.8 |
| Agree | 13 | 56.5 |
| No opinion | 2 | 8.7 |
| Disagree | 0 | 0 |
| Strongly disagree | 0 | 0 |
| **Total** | **23** | **100** |

From the above table the majority of the sample agrees that they are feeling comfortable with using digital technologies and that represent by

91.3 % from the respondents, while 8.7 % of the percentages have no certainty.

In general, there is strong agreement by the university teachers that they are feeling comfortable with using digital technologies. Numerous studies and articles have been published on how technology shaped classrooms educators, so it is time for teachers to receive the proper training to become more familiar and comfortable with using digital technologies.

**14/ Using digital technologies is essential to EFL teaching**

**Table (4-50)The Frequency Distribution For The item(14)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 4 | 17.4 |
| Agree | 10 | 43.5 |
| No opinion | 6 | 26.1 |
| Disagree | 3 | 13 |
| Strongly disagree | 0 | 0 |
| **Total** | **23** | **100** |

From the above table the majority of the sample agrees that using digital technologies is essential to their EFL teaching and this represents by 60.9%, while 13% of the informants show their disagreement on this notion. 26.1% of the percentage did not show any specific answers.

Due to the importance of using digital technologies in the English classrooms most of the teachers agree that using technologies is essential to EFL. Moreover, using digital technologies provide the best qualifications for the quality of EFL classroom.

**15/ Classes that use digital technologies allow me to take greater control of my class activities (planning, apportioning time, noting success etc.)**

**Table (4-51)The Frequency Distribution For The item(15)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 8 | 34.8 |
| Agree | 15 | 65.2 |
| No opinion | 0 | 0 |
| Disagree | 0 | 0 |
| Strongly disagree | 0 | 0 |
| **Total** | **23** | **100** |

From the above table, the entire sample agrees that classes that use digital technologies allow them to take greater control of their class activities (planning, offering time, allow success etc.).

It is clear from the above table that using digital technologies inside classroom help teachers to control and to keep in touch with their students. To control on the class this stands as a challenge that faced teachers today, and using digital technologies within the class helps to engage students with their class and make this class as a good environment for learning that help more to achieve the teaching goal.

**16/ Using digital technologies will help me to facilitate English teaching and grasp students' attention.**

**Table ( 4-52)The Frequency Distribution For The item(16)**

| The Answer | Number | Percentage % |
|---|---|---|
| Strongly agree | 14 | 60.9 |
| Agree | 9 | 39.1 |
| No opinion | 0 | 0 |
| Disagree | 0 | 0 |
| Strongly disagree | 0 | 0 |
| **Total** | **23** | **100** |

According to the above table, all of the sample agrees that using digital technologies will help them to facilitate English teaching and grasp students'

attention and this showed by 100%. This strong agreement illustrates that the teachers have positive attitudes towards using digital technologies in their English classrooms because using these technologies help to facilitate their teaching and grasp their students' attention. It is clear that digital technologies influence on teachers' perceptions, and encourage them to develop and update their materials, syllabus design, and teaching approaches. That means digital technologies make changeover for all factors that related to teaching paradigm.

**Table (4-53): The Descriptive statistics for the Phrases of the third hypothesis**

| Statements | Standard | Average | Relative | Disagree of Approval |
|---|---|---|---|---|
| 1.I use digital technologies to improve presentation of my EFL teaching. | 0.470 | 4.69 | %93.8 | Very high |
| 2. Using digital technologies makes English teaching more enjoyable for student. | 0.448 | 4.74 | %94.8 | Very high |
| 3. Using computers inside English classroom makes lessons more interesting. | 0.449 | 4.60 | %92.0 | Very high |
| 4. I prefer teaching English via digital technologies. | 0.510 | 4.47 | %89.4 | Very high |
| 5- My English course specifications based only on reading books. | 0.506 | 4.56 | %91.2 | Very high |
| 6. I feel confident when I use digital technologies to teach English. | 0.510 | 4.48 | 89.6 | Very high |
| 7. I have opportunity to use digital technologies within my English classroom. | 0.507 | 4.43 | %88.6 | Very high |
| 8. It is easy to work collaboratively with EFL students through digital technology. | 0.486 | 4.34 | %86.8 | Very high |
| 9. I communicate with my EFL students electronically (email, chat line….etc.) | 0.470 | 4.69 | 93.8 | Very high |
| 10. Using digital technologies enriches my EFL teaching process. | 0.714 | 4.34 | %86.8 | Very high |

| | | | | |
|---|---|---|---|---|
| 11. I use digital technologies as a management tool for preparing my English lessons. | 0.470 | 4.30 | %86.0 | Very high |
| 12. I am not trying to engage students in exploring English real-world issues using digital | 1.31 | 2.91 | %58.2 | medium |
| 13. I am feeling comfortable with using digital technologies. | 0.619 | 4.26 | %85.2 | Very high |
| 14- Using digital technologies is essential to EFL teaching. | 0.934 | 3.65 | %73.0 | high |
| 15- Classes that use digital Technologies allow me to take greater control of my class activities (planning, apportioning time, noting success etc.) | 0.486 | 4.35 | %87.0 | Very high |
| 16-Using digital technologies will help me to facilitate English teaching and grasp students' attention. | 0.499 | 4.60 | %92.0 | Very high |
| **Total** | 0.586 | 4.34 | 86.8% | Very high |

**Table (4-54)**
**The Chi – Square Test for the Significance of the Difference Phrases of the third hypothesis**

| Statement | Value of Chi Squared | Degree of Freedom | Tabular value | Significance level | Result |
|---|---|---|---|---|---|
| 1.I use digital technologies to improve presentation of my EFL | 17.2 | 2 | 5.99 | 0.000 | Acceptance |
| 2. Using digital technologies makes English teaching more enjoyable for student. | 18.5 | 2 | 5.99 | 0.000 | Acceptance |
| 3. Using computers inside English classroom makes lessons more interesting. | 19.5 | 2 | 5.99 | 0.000 | Acceptance |
| 4. I prefer teaching English via digital technologies. | 13.8 | 2 | 5.99 | 0.000 | Acceptance |

| | | | | | |
|---|---|---|---|---|---|
| 5- My English course specifications based only on | 14.8 | 2 | 5.99 | 0.000 | Acceptance |
| 6. I feel confident when I use digital technologies to teach English. | 13.8 | 2 | 5.99 | 0.000 | Acceptance |
| 7. I have opportunity to use digital technologies within my English classroom. | 13.5 | 3 | 5.99 | 0.000 | Acceptance |
| 8. It is easy to work collaboratively with EFL students through digital technology. | 13.2 | 2 | 5.99 | 0.000 | Acceptance |
| 9. I communicate with my EFL students electronically (email, chat line….etc.) | 17.2 | 2 | 5.99 | 0.000 | Acceptance |
| 10. Using digital technologies enriches my EFL teaching process. | 19.5 | 3 | 7.81 | 0.000 | Acceptance |
| 11. I use digital technologies as a management tool for preparing my English lessons. | 13.2 | 2 | 5.99 | 0.000 | Acceptance |
| 12. I am not trying to engage students in exploring English real-world issues using digital technology. | 3.18 | 4 | 9.48 | 0.753 | Reject |
| 13. I am feeling comfortable with using digital technologies. | 19.7 | 3 | 7.81 | 0.000 | Acceptance |
| 14- Using digital technologies is essential to EFL teaching. | 13.3 | 3 | 7.81 | 0.000 | Acceptance |
| 15- Classes that use digital Technologies allow me to take greater control of my class activities (planning, apportioning time, noting success etc.) | 13.2 | 2 | 5.99 | 0.000 | Acceptance |

| | | | | | |
|---|---|---|---|---|---|
| 16-Using digital technologies will help me to facilitate English teaching and grasp students' | 15.4 | 2 | 5.99 | 0.000 | Acceptance |
| **Total** | **14.9** | **4** | **9.48** | **0.000** | **Acceptance** |

**Table (4-55) Teachers' responses to the third hypothesis**:

| No | | 5 | 4 | 3 | 2 | 1 | Mean | STD | Relative % | Chi Squared |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | F | 16 | 7 | 0 | 0 | 0 | 4.69 | 0.47 | 93.8 | 17.2 |
| | % | 69.6 | 30.4 | 0 | 0 | 0 | | | | |
| 2 | F | 17 | 6 | 0 | 0 | 0 | 4.73 | 0.44 | 94.6 | 18.5 |
| | % | 73.9 | 26.1 | 0 | 0 | 0 | | | | |
| 3 | F | 14 | 9 | 0 | 0 | 0 | 4.60 | 0.49 | 92 | 19.5 |
| | % | 60.9 | 39.1 | 0 | 0 | 0 | | | | |
| 4 | F | 11 | 12 | 0 | 0 | 0 | 4.47 | 0.51 | 89.4 | 13.8 |
| | % | 47.8 | 52.2 | 0 | 0 | 0 | | | | |
| 5 | F | 13 | 10 | 0 | 0 | 0 | 4.56 | 0.50 | 91.2 | 14.8 |
| | % | 56.5 | 43.5 | 0 | 0 | 0 | | | | |
| 6 | F | 11 | 12 | 0 | 0 | 0 | 4.47 | 0.51 | 89.4 | 13.8 |
| | % | 47.8 | 52.2 | 0 | 0 | 0 | | | | |
| 7 | F | 10 | 13 | 0 | 0 | 0 | 4.43 | 0.50 | 88.6 | 13.5 |
| | % | 43.5 | 56.5 | 0 | 0 | 0 | | | | |
| 8 | F | 8 | 18 | 0 | 0 | 0 | 4.34 | 0.48 | 86.8 | 13.2 |
| | % | 34.8 | 65.2 | 0 | 0 | 0 | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 9 | **F** | 6 | 17 | 0 | 0 | 0 | 4.26 | 0.44 | 85.2 | 17.2 |
| | **%** | 26.1 | 73.9 | 0 | 0 | 0 | | | | |
| 10 | **F** | 11 | 9 | 3 | 0 | 0 | 4.34 | 0.71 | 86.8 | 19.5 |
| | **%** | 47.8 | 39.1 | 13 | 0 | 0 | | | | |
| 11 | **F** | 7 | 16 | 0 | 0 | 0 | 4.30 | 0.47 | 86 | 13.2 |
| | **%** | 30.4 | 69.6 | 0 | 0 | 0 | | | | |
| 12 | **F** | 5 | 2 | 3 | 12 | 1 | 2.91 | 0.31 | 58.2 | 3.18 |
| | **%** | 21.7 | 8.6 | 13 | 52.2 | 4.3 | | | | |
| 13 | **F** | 8 | 13 | 2 | 0 | 0 | 4.26 | 0.61 | 85.2 | 19.7 |
| | **%** | 43.8 | 56.5 | 8.7 | 0 | 0 | | | | |
| 14 | **F** | 4 | 10 | 6 | 3 | 0 | 3.56 | 0.93 | 71.2 | 13.3 |
| | **%** | 17.4 | 43.5 | 26.1 | 13 | 0 | | | | |
| 15 | **F** | 9 | 14 | 0 | 0 | 0 | 4.39 | 0.49 | 87.8 | 13.2 |
| | **%** | 39.1 | 60.9 | 0 | 0 | 0 | | | | |
| 16 | **F** | 14 | 9 | 0 | 0 | 0 | 4.60 | 0.49 | 92 | 15.4 |
| | **%** | 60.9 | 39.1 | 0 | 0 | 0 | | | | |
| **Total mean and STD** | | | | | | | 4.3 | 0.52 | 86 | 14.9 |

* 5-Absolutely agree 4-Agree 3-No opinion 2- Disagree 1-Absolutely disagree

Table (4-55) shows the participants' responses to the third question. The respondents have shown different estimates for the items of this section. However, the total mean score for this section is 4.0, which means that the respondents estimated the items highly.

**Table (4-56) shows the abbreviations of the statements.**

| Signs | Statement |
|---|---|
| 1 | I use digital technologies to improve presentation of my EFL teaching |
| 2 | Using digital technologies makes English teaching more enjoyable for student. |
| 3 | 3/ Using computers inside English classroom makes lessons more interesting. |
| 4 | 4/ I prefer teaching English via digital technologies |
| 5 | 5/ My English course specifications based only on reading books |
| 6 | 6/ I feel confident when I use digital technologies to teach English |
| 7 | 7/ I have opportunity to use digital technologies within my English classroom |
| 8 | 8/ It is easy to work collaboratively with EFL students through digital technology |
| 9 | 9/ I communicate with my EFL students electronically (email, chat line….etc.) |
| 10 | 10/ Using digital technologies enriches my EFL teaching process |
| 11 | 11/ I use digital technologies as a management tool for preparing my English lessons. |
| 12 | 12/ I not trying to engage students in exploring English real-world issues using digital technology |
| 1 | 13/ I am feeling comfortable with using digital technologies. |
| 14 | 14/ Using digital technologies is essential to EFL teaching |
| 15 | 15/ Classes that use digital Technologies allow me to take greater control of my class activities (planning, apportioning time, noting success etc.) |
| 16 | 16/ Using digital technologies will help me to facilitate English teaching and grasp students' attention |

Below is a description of the responses to each item in the section:

**1-I use digital technologies to improve presentation of my EFL teaching** The teachers' responses to this statement are high as the mean score for this item is 4.69 with the standard deviation of 0.47. This means that the teachers agree to a great extent on this item. The Chi – Squared value for the item is (17.2) which is greater than Tabular value (5.99). Thus, it indicates that there are significant differences between the averages of the item (4.69) and central premise of the study (3).

**2-Using digital technologies make English teaching more enjoyable for student.** The responses to this statement are high as the mean score for this item is 4.73 with the standard deviation of 0.44. This means that the teachers agree to a great extent on this item. The Chi – Squared value for the item is (18.5) which is greater than the Tabular value (5.99). Thus, it indicates that there are significant differences between the average of the item (4.73) and central premise of the study (3)

**3-Using computers inside English classroom make lessons more interesting.** The teachers' responses to this statement are high as the mean score for this item is 4.60 with the standard deviation of 0.49. This means that the teachers agree to a great extent on this item. The Chi – Squared value for the item is (19.5) which is greater than the Tabular value (5.99). Thus, it indicates that there are significant differences between the average of the item (4.60) and central premise of the study.

**4-I prefer teaching English via digital technologies.** The teachers' responses to this statement are high as the mean score for this item is 4.47 with the standard deviation of 0.51. This means that the teachers agree to a great extent on this item. The Chi – Squared value for the item is (13.8) which is greater than the Tabular value (5.99). Thus, it indicates that there are significant differences between the average of the item (4.47) and central premise of the

study. This result

**5-My English course specifications based only on reading books.** The teachers' responses to this statement are high as the mean score for this item is 4.56 with the standard deviation of 0.50. This means that the teachers agree to a great extent on this item. The Chi – Squared value for the phrase is (14.8) which is greater than the Tabular value (5.99). Thus, it indicates that there are significant differences between the average of the phrase (4.56) and central premise of the study.

**6-I feel confident when I use digital technologies to teach English**. The teachers' responses to this statement are high as the mean score for this item is 4.47 with the standard deviation of 0.51. This means that the teachers agree to a great extent on this item. The Chi – Squared value for the phrase is (13.5) which is greater than the Tabular value (5.99). Thus, it indicates that there are significant differences between the average of the phrase (4.47) and central premise of the study.

**7-I have opportunity to use digital technologies within my English classroom.** The teachers' responses to this statement are high as the mean score for this item is 4.43 with the standard deviation of 0.50. This means that the teachers agree to a great extent on this item. The Chi – Squared value for the phrase is (13.5) which is greater than the Tabular value (5.99). Thus, it indicates that there are significant differences between the average of the phrase (4.43) and central premise of the study.

**8-It is easy to work collaboratively with EFL students through digital technology**. The teachers' responses to this statement are high as the mean score for this item is 4.34 with the standard deviation of 0.48. This means that the teachers agree to a great extent on this item. The Chi – Squared value for the phrase is (13.2) which is greater than the Tabular value (5.99) Thus, it indicates

that there are significant differences between the average of the phrase (4.34) and central premise of the study.

**9-I communicate with my EFL students electronically (email, chat line…. etc.)**. The teachers' responses to this statement are high as the mean score for this item is 4.26 with the standard deviation of 0.44. This means that the teachers agree to a great extent on this item. The Chi – Squared value for the phrase is(25.4) which is greater than the Tabular value (5.99). Thus, it indicates that there are significant differences between the average of the phrase (4.69) and central premise of the study.

10-**Using digital technologies enriches my EFL teaching process**. The teachers' responses to this statement are high as the mean score for this item is 4.34 with the standard deviation of 0.71. This means that the teachers agree to a great extent on this item. The Chi – Squared value for the phrase is (19.5) which is greater than the Tabular value (5.99). Thus, it indicates that there are significant differences between the average of the phrase (4.34) and central premise of the study.

**11-I use digital technologies as a management tool for preparing my English lessons**. The teachers' responses to this statement are high as the mean score for this item is 4.30 with the standard deviation of 0.47. This means that the teachers agree to a great extent on this item. The Chi – Squared value for the phrase is (13.2) which is greater than the Tabular value (5.99). Thus, it indicates that there are significant differences between the average of the phrase (4.30) and central premise of the study.

**12-I am not trying to engage students in exploring English real-world issues using digital technology**. The teachers' responses to this statement are high as the mean score for this item is 2.91 with the standard deviation of 0.31. This means that the teachers disagree to a great extent on this item. The Chi – Squared value for the phrase is (3.19) which is less than the Tabular value

(7.81). Thus, it indicates that there are insignificant differences between the average of the phrase (2.91) and central premise of the study

**13-I am feeling comfortable with using digital technologies.** The teachers' responses to this statement are high as the mean score for this item is 4.26 with the standard deviation of 0.61. This means that the teachers disagree to a great extent on this item. The Chi – Squared value for the phrase is (19.7) which is greater than the Tabular value (7.81). Thus, it indicates that there are significant differences between the average of the phrase (4.26) and central premise of the study.

**14-Using digital technologies are essential to EFL teaching.** The teachers' responses to this statement are high as the mean score for this item is 3.56 with the standard deviation of 0.93. This means that the teachers agree to a great extent on this item. The Chi – Squared value for the phrase is (13.3) which is greater than the Tabular value (7.81). Thus, it indicates that there are significant differences between the average of the phrase (3.65) and central premise of the study.

**15-Classes that use digital technologies allow me to take greater control of my class activities (planning, apportioning time, noting success etc.).** The teacher responses to this statement are high as the mean score for this item is 4.39 with the standard deviation of 0.49. This means that the teachers agree to a great extent on this item. The Chi – Squared value for the phrase is (13.2) which is greater than the Tabular value (5.99). Thus, it indicates that there are significant differences between the average of the phrase (4.35) and central premise of the study.

**16-Using digital technologies will help me to facilitate English teaching and grasp students' attention**. The teachers' responses to this statement are high as the mean score for this item is (4.60) with the standard deviation of (0.49). This means that the teachers agree to a great extent on this item.

**The Chi – Squared** value for the phrase (15.4) is greater than the Tabular value (5.99). Thus, it indicates that there are significant differences between the average of the phrase (4.60) and central premise of the study.

The researcher concluded that the second hypothesis of the study, which stipulates: (Sudanese university EFL instructors have positive attitudes towards using digital technologies to enrich their instruction and course delivery method.) is an acceptable hypothesis of all phrases.

# Part Two

## 4-8 Classroom Observation Checklist

### The analysis and the discussion of the observation

Kay Burke (1994) describes an observation checklist as ‘‘a strategy to monitor specific skills, behaviors, or dispositions of individual students or all the students in the class”. So the researcher used a checklist which designed to assist in observing the active learning opportunities and English self- efficacy provided by using digital technologies to Sudanese EFL university students at Karari University.

**EFL Students Observation Checklist**

**The date of observation**: 30/6/2016.

**The number of students who have been observed**: 200

**The observer**: Rehab Abdelsalam Elsanousi

**Class has been observed**: 3rd year- EFL students-. College of Languages.

## Table (4-60)Active learning opportunities checklist

| Opportunities | Fair | Good | V. Good | Excellent | Percentage |
|---|---|---|---|---|---|
| Active learning | | | | √ | **80%** |
| Increased student’s motivation | | | √ | | **90%** |
| Problem solving | | √ | | | **70%** |
| Participation | | | | √ | **90%** |
| Supporting learning styles | | | √ | | **80%** |
| Creativity | | | | √ | **80%** |

The table above shows the active learning opportunities provided by digital technologies to Sudanese EFL students at Karari University. The researcher observed that ample learning opportunities provided by using digital technologies inside the EFL classroom. During observation, the researcher came to realize that using digital technologies has dramatically changed the role of students into active, dynamic and centered. This reality reflects that students tend to be more motivated and interested in the topics discussed. Moreover, students demonstrated a high level of critical thinking as they responded actively to the tasks and activities they were being involved in. It could be stated that digital technologies assist students in experiencing different learning situations and styles.

**Table (4-61) English self- efficacy checklist:**

| Example | fair | Good | V. Good | Excellent | Percentage |
|---|---|---|---|---|---|
| Independent role | | | | √ | 90% |
| Individualization | | | √ | | 80% |
| Increased autonomous learning | | | | √ | 80% |
| Flexibility | | | √ | | 80% |
| Responsibility | | | | √ | 90% |

According to the above table, the researcher observed that using digital technologies EFL class at Karari University help the students to be a more independent learner and the process shifted from the teacher- centered to students –centered learning. Also, it is observed that using digital technologies assist those students to be more flexible and creative in stress and anxiety free environment. Moreover, the observation explores that using digital technologies support those students to be more responsible and have full control over their learning.

## 4-7 Discussion of the results

This study investigated digital technologies: Analysis of English self- efficacy and active learning opportunities (a case in Karari University and Sudan University of Science & Technology). The study revealed many results that obtained via questionnaire and classroom observation checklist that the students' entire sample which was taken from Karari University had benefited from using digital technologies in their EFL classrooms and how they provide them with active learning opportunities and assist their self- efficacy to acquire English. Spolsky (1989), claims that the interplay between language learner and learning opportunities determines the learner's success in achieving the linguistics outcomes. For example, the students that they are deem challenging or boring can become more interesting with virtual lessons through videos. Moreover, it is clear that using digital technologies inside their EFL classroom gave them more confidence to depend on themselves in acquiring English.

Several studies conducted inside and outside Sudan also found similar findings about using digital technologies in EFL classroom e.g. Sadig Y. Ezza, Gamar A.El-Booni, Mahammadain. Y, (2013).

The other section of the results obtained from Sudanese university teachers revealed the positive attitudes towards using digital technologies in their EFL classrooms. Responses to all the sixteen items of the teachers' questionnaire show the overwhelming high percentage of agreement. This clarified that those teachers have aptitude to accept integrating digital technologies in their EFL instruction. This confirmed the result which obtained in the study conducted by Sadig (2013) that Sudanese university teachers have a high digital literacy.

## 4-8 Summary of the chapter

The present chapter has covered the data analysis of the study which investigates the digital technologies in Sudanese university EFL classes to find out their English self- efficacy and active learning opportunities.

Two questionnaires and classroom observation checklist were designed to collect the data from the EFL students and teachers. Moreover, it showed the data tabulation in figures and tables. Then the interpretations were made from the collected data. Finally, the researcher has discussed the results of the study.

# Chapter Five

## Summary, Findings, Conclusion, and Recommendations

### 5.1 Summary of the study

This research was an attempt to investigate digital technologies: An analysis of English self- efficacy and active learning opportunities (Karari University- Sudan University of Science &Technology)

The research showed the impact of using digital technology among the university EFL students and teachers. Moreover, the research exposed digital literacy and how digital technologies affect and play a vital role in their foreign language acquisition.

In discussing the research problem, the researcher proposed the following questions:

1- What are the potentials of digital technologies for providing Sudanese EFL university students with active learning opportunities?
2- In what ways do digital technologies develop Sudanese EFL university students' self- efficacy learning and learning autonomy?
3- How do Sudanese university faculties perceive the necessity of using digital technologies for supporting instruction?

In order to find relevant answers to the above questions the researcher has made the following hypotheses:

1- Digital technologies would provide tremendous active learning opportunities to Sudanese EFL university students.
2- Digital technologies provide more challenges to Sudanese EFL university students to be more independent learners.
3- Sudanese EFL university instructors have positive attitudes towards using digital technologies to enrich their instruction and course delivery method.

Two questionnaires and classroom observation checklist were used to investigate third year students at Karari University and teachers from (Karari University and Sudan University of Science &Technology) as population samples to answer the questions of the study.

## 5-2 Findings

According to the students' samples taken from (Karari University), students see that:

1- Using digital technologies in Sudanese universities (Karari University) provide students with ample active learning opportunities
2- Using digital technologies is a useful and effective English language tools that raise the Sudanese university EFL students' motivation.
3- Using digital technologies give students the ability to have more control of their learning and encourage their autonomy to practice English.
4- Using digital technologies promote the students' abilities to interact with others easily.

According to the teachers' samples taken from (Karari University- Sudan University of Science & Technology), it is clear that:

1- They had positive attitudes towards using digital technologies in their English instruction.
2- Using digital technologies provide EFL teachers with more appropriate and authentic materials to enrich their English course.
3- The English course specification depends on textbooks.

## 5.3 Recommendations:

In the light of the findings, the researcher put forward some suggestions and recommendations with the hope that they will contribute to a suitable infrastructure for developing university EFL learning and teaching.

The researcher recommended the following:

1-The Sudanese EFL university class should be equipped with digital technologies, and instructors should have training courses in using digital technologies.

2- The incorporation and implementation of digital tools into the Sudanese university EFL instruction process becomes necessary.

3-The Ministry of Higher Education and Scientific Research must play an important role in the adoption and fostering the concept of digital literacy.

4-All Sudanese educational institutions should have access to educational opportunities that foster digital literacy technologies to help students to success in their colleges and their future careers.

5-The use of digital tools in Sudanese EFL university classrooms should be taken in account since they reduce the EFL learning stress and anxiety.

6-The Ministry of Higher education should contribute in preparing EFL university students and teachers by organizing more workshops and seminars to familiarize using digital technologies in EFL teaching and learning process.

7-Digital literacy should be a part of the course specification of EFL course at university level.

8-EFL teachers and students should be supported in developing their use of digital technologies to ensure it improves the learning and teaching process.

## 5.4 Suggestions for Further Research:

The present study investigates using digital technologies in Sudanese EFL university classes; English self- efficacy and active learning opportunities.

However, such topic is too broad to be discussed in a small thesis, so the researcher suggests:

1- More investigations and research are needed in using digital technologies in Sudanese university EFL classes.
2- Further studies should be conducted using the experimental methods.

3- Further studies should be done with larger samples including other universities.
4- Further studies should be conducted to determine if there are other factors affecting the implementation of digital technology at Sudanese universities beyond those investigated in this research.

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# Appendices

## Appendix (1)

**The student's questionnaire:**

Dear student,

This questionnaire is a part of a study for PhD in English at Sudan university of Science and Technology. The items of the questionnaire constitute the first stage of the research. You are kindly requested to answer all the questions/ statement. Your honest and accurate answer will be of great help to the researcher. I apologize for the length of the questionnaire and find myself obliged to ask you to kind return it as soon as possible. Please note that your answers will be treated confidentially and strictly for research purpose only. I appreciate your help and cooperation.

Thanks in advance

The researcher

بسم الله الرحمن الرحيم

**Sudan University of Science & Technology**

**College of Graduate Studies**

**Students' questionnaire**

**University:** **Age: ……**

**College:** **gender: male/ female**

| Statement | Strongly agree | Agree | No opinion | Strongly disagree | Disagree |
|---|---|---|---|---|---|
| 1/ Using digital technology helps me to be a creative learner all the time. | | | | | |
| 2/Using digital technologies helps me to acquire English easily. | | | | | |
| 3/ Using digital technologies in EFL class help me to promote my communication easily. | | | | | |
| 4/ I can improve my interaction with my English language teacher via digital technologies. | | | | | |
| 5/ Using digital technologies creates a more meaningful /effective English learning. | | | | | |
| 6/ I can learn English in much greater depth through digital technologies rather than traditional method. | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 7/ Using digital technologies increase my EFL motivation. | | | | | |
| 8/Using digital technologies make English learning more enjoyable. | | | | | |
| 9 /Digital technologies help me to participate within English class. | | | | | |
| 10/ Using digital technology helps me to be an independent learner | | | | | |
| 11/ Using digital technology helps me to be a responsible learner | | | | | |
| 12/ Using digital technologies will help me to understand English better | | | | | |
| 13/ Using digital technologies will help me to get unlimited English resources. | | | | | |
| 14/ Good digital literacy can enhance my English learning. | | | | | |
| 15 / Using digital technology supports my learning style main teaching tool | | | | | |
| 16/Digital technologies encourage me to participate in achieving English learning goals. | | | | | |
| 17/I am very confident in my abilities to use digital technologies. | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 18/I consider myself a skilled digital technology user | | | | | |
| 19/It easy to learn how to use online applications | | | | | |
| 20/I rely heavily on instructions to help me use digital technology | | | | | |
| 21/I am sure of my abilities to use digital technology | | | | | |
| 22/Using digital technologies help me to study English without my assistance of my teacher. | | | | | |
| 23/The instructors' use of digital technologies in EFL classes has increased my interest in the subject matter | | | | | |
| 24/I am more motivated and engaged in learning English due to the using of digital technologies. | | | | | |

# Appendix (2)

## Teachers' questionnaire:

Dear teacher,

This questionnaire is a part of a study for PhD in English at Sudan university of Science and Technology. The items of the questionnaire constitute the first stage of the research. You are kindly requested to answer all the questions/ statement. Your honest and accurate answer will be of great help to the researcher. I apologize for the length of the questionnaire and find myself obliged to ask you to kind return it as soon as possible. Please note that your answers will be treated confidentially and strictly for research purpose only. I appreciate your help and cooperation.

Thanks in advance

The researcher

بسم الله الرحمن الرحيم

**Sudan University of Science & Technology**

**College of Graduate Studies**

**Teachers' questionnaire**

University:…… Years of experience: …..

| Statements | Strongly agree | Agree | No opinion | Strongly Disagree | Disagree |
|---|---|---|---|---|---|
| 1/I use digital technologies to improve presentation of my EFL teaching. | | | | | |
| 2. Using digital technologies makes English teaching more enjoyable for student. | | | | | |
| 3. Using computers inside English classroom makes lessons more interesting. | | | | | |
| 4. I prefer teaching English via digital technologies. | | | | | |
| 5- My English course specifications based only on reading books. | | | | | |
| 6. I feel confident when I use digital technologies to teach English. | | | | | |
| 7. I have opportunity to use digital technologies within my English classroom. | | | | | |
| 8. It is easy to work collaboratively with EFL students through digital technology. | | | | | |
| 9. I communicate with my EFL students electronically (email, chat line….etc.) | | | | | |
| 10. Using digital technologies enriches my EFL teaching process. | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 11. I use digital technologies as a management tool for preparing my English lessons. | | | | | |
| 12. I try to engage students in exploring English real-world issues using digital technology. | | | | | |
| 13. I am not feeling comfortable with using digital technologies. | | | | | |
| 14- Using digital technologies is essential to EFL teaching. | | | | | |
| 15- Classes that use digital Technologies allow me to take greater control of my class activities (planning, apportioning time, noting success etc.) | | | | | |
| 16-Using digital technologies will help me to facilitate English teaching and grasp students' attention. | | | | | |

## Appendix (3)

| Professors' Name | University | Academic Status |
|---|---|---|
| Dr. Muawya DafAllah | Alneelain University | Assistant professor |
| Dr. Kerya Ahmed Mohammed | Open University of Sudan | Associate professor |
| Dr. Manal Al-Gazo | Al-Baha University | Associate professor |
| Dr.Abdelgadir Mohammed | Al –Taif University | Associate professor |
| Dr. Osama Nourain | Jazan University | Assistant professor |

# Appendix (4)

**Karari University**

Researcher's classroom observation on

**Active learning opportunities provided by digital technologies**

Note: the researcher marks the box that indicates her observation during the lecture

## Active learning opportunities observation checklist

| Opportunities | Fair | Good | V. Good | Excellent | Percentage |
|---|---|---|---|---|---|
| Active learning | | | | | |
| Increased student's motivation | | | | | |
| Problem solving | | | | | |
| Participation | | | | | |
| Supporting learning styles | | | | | |
| Creativity | | | | | |

# Appendix (5)

**Karari University**

Researcher's classroom observation on:

"**English self- efficacy provided by digital technologies**"

Note: the researcher marks the box that indicates her observation during the lecture

**English self- efficacy observation checklist:**

| Example | fair | Good | V. Good | Excellent | Percentage |
|---|---|---|---|---|---|
| Independent role | | | | | |
| Individualization | | | | | |
| Increased autonomous learning | | | | | |
| Flexibility | | | | | |
| Responsibility | | | | | |