

**Republic of Turkey  
Fırat University  
Institute of Educational Sciences  
Computer Education and Instructional Technologies**



**BELIEFS OF TEACHERS AND STUDENTS ON USING  
TECHNOLOGY IN EDUCATION**

**Master Thesis  
Jazaa Radha Abdulkareem Shateri**

**Supervisor  
Prof. Dr. Bünyamin ATICI**

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Republic of Turkey  
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Beliefs of teachers' and students' on using technology in education

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with voting unity/ member of votes

Examining committee members:

1. Prof. Dr. Bünyamin ATICI (Supervisor)
2. Assoc. Prof. Dr. Yalın Kılıç TÜREL
3. Asst. Prof. Dr. Devkan KALECİ (Inönü University)

Signature



The acceptance of this thesis has been approved by the decision of the Board of Directors of  
the Institute of Educational Sciences of Fırat University ...../...../2018 date and..... number  
its decision.

Prof. Dr. Ayşegül GÖKHAN  
Director of Institute of Educational Sciences

## DECLARATION

I hereby that all data contained in this study has been acquired and displayed as per scholarly principles and moral lead. It is additionally expressed, as required in these tenets and direct, that I have referred to and alluded to all materials and materials the outcomes which are not original to this work.



Jazaa Radha ABDULKAREEM

Elazığ-2018

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**Jazaa Radha ABDULKAREEM**

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## **ABSTRACT**

### **Master Thesis**

#### **Beliefs of Teachers and Students on Using Technology in Education**

**Jazaa Radha ABDULKAREEM**

**Firat University**

**Institute of Educational Sciences**

**Computer Education and Instructional Technologies**

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With increasing technology use worldwide, there is the need to develop and improve the beneficial side to technology. As so many types of people perform technology-related tasks such as instructors in universities or other education settings, experts must pay close attention to the use of new digital technology for teaching and learning purposes. The main aim of this study is to gain awareness of the beliefs and perceptions of high school teachers and high school students (11th grade) about the use of technology for teaching and learning purposes. This study focused on the beliefs of teachers and students on the use of technology in education. The study sample consisted of 406 high school students and 208 high school teachers. The student sample was made up of 192 male students and 214 female students, with all of them being in the 11<sup>th</sup> grade. The students were selected from 3 high schools in a small town (RIZGARY) in Iraq. The total number of students was 406. The teacher sample was made up of 146 male teachers and 62 female teachers. This study consisted of five chapters; Chapter 1 is the introduction, Chapter 2 is the literature review and Chapter 3 is the methodology that was applied in the two surveys; the students' survey and the teachers' survey. The surveys consisted of 52 items. Chapter 4 is the results and discussion, and Chapter 5 is the conclusion. Depending on the results, I have concluded that both teachers and students have excellent perception when it comes to using technology for teaching and learning purposes. The male teachers were more active than the female teachers with their use of technology for teaching. In the students, there was no difference between the male and female students concerning learning through different types of technological device.

**Keywords:** Technology, Education, Belief.

## ÖZET

### Yüksek Lisans Tezi

### Öğretmen ve Öğrencilerin Eğitimde Teknoloji Kullanımına İlişkin İnançları

**Jazaa Radha ABDULKAREEM**

**Fırat Üniversitesi**  
**Eğitim Bilimleri Enstitüsü**  
**Bilgisayar Eğitimi ve Öğretim Teknolojileri**  
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Dünya çapında teknolojinin gittikçe artan kullanımı özellikle teknolojinin yararlı bir biçimde kullanılmasını da gerekli kılmaktadır. Başta üniversiteler olmak üzere eğitim-öğretim ortamlarında teknoloji ile ilişkili görevlerde çalışanların öğretme-öğrenme amacı ile yeni dijital teknolojileri işe koşmasına özel bir önem vermesi gerekmektedir. Bu çalışmanın temel amacı, lise öğretmenleri ve lise öğrencilerinin (11. sınıf) öğrenme-öğretim amaçları için teknoloji kullanımlarına ilişkin temel inanç ve algılarının belirlenmesidir. Öğretmen ve öğrencilerin eğitimde teknoloji kullanımına yönelik inançlarının belirlenmesine odaklanan bu çalışmanın örneklem grubunu 406 lise öğrencisi ve 208 lise öğretmeni oluşturmaktadır. Çalışmanın örneklem grubunu Irak'taki Rızgari bölgesinde bulunan 3 lisede 11. Sınıf düzeyinde öğrenim gören 192 erkek ve 214 kız öğrenci olmak üzere toplam 406 öğrenci oluşturmuştur. Çalışmaya yine aynı bölgeden 146 erkek ve 62 kadın öğretmen dahil edilmiştir. Çalışma giriş, literatür, yöntem, bulgular, sonuç ve tartışma olarak beş bölümden oluşmaktadır. Çalışmanın sonucuna göre öğretmen ve öğrencilerin, öğrenme-öğretim amaçlı teknolojiyi kullanma noktasında olumlu algılarla sahip oldukları gözlenmiştir. Bu noktada erkek öğretmenlerin kadın öğretmenlerden öğretim amaçlı teknoloji kullanımını noktasında daha aktif bir tutum içerisinde oldukları belirlenmiştir. Öğrenme amaçlı farklı teknolojik araçların kullanımı noktasında cinsiyet açısından bir farklılık bulunmamıştır.

**Anahtar Sözcükler:** Teknoloji, Eğitim, İnanç.

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# CHAPTER ONE

## I. INTRODUCTION

### 1.1. Introduction

In Iraq, the education timeline based on the Ministry of Education lasts 12 years; primary education is 6 years, middle school is 3 years and preparatory school is 3 years. However, in preparatory school, the students have to select one of the following general subjects; science, literature, mechanics, agriculture and trading ([www.irfad.org](http://www.irfad.org), 2014). In the north of Iraq, there are institutions for both computer science and IT. There are also Islamic institutes, sporting institutes, media institutes and English language institutes. Study in these institutes takes five years. Once the students have passed grade 9, they can select one of the aforementioned institutes. Students who finish studying at one of these institutes get a diploma certificate on their specific subject.

In 2001-2003 in the north of Iraq, education developed. The Ministry of Education applied a project that consisted of three parts. The first was to create new buildings for schools and to renovate old buildings. The second was to develop a curriculum and the third was to create open academic compulsory courses for teachers. The second part of developing the curriculum was to apply new technological devices in schools such as projectors, computer desktops, internet lab, science labs etc (<https://en.unesco.org/>).

In spite of the past attempts at incorporating technology into education in the north of Iraq, endeavours remain uninterrupted. This investigation believes that it is advantageous and important to discuss the advantages and difficulties of utilising technology in the north of Iraq so as to make it less demanding for the educators, students, specialists and educational experts. This is to allow them to have a superior perspective of the present circumstances (Mahdy & Murad, 2017). It is an attempt to reveal an insight into the utilisation of technology in the north of Iraq, and how it is compelling for both learning and instructing. My study was conducted in Rizgary, which is a small town in the north of Iraq in the Kalar district, which is the basis of Garmyan. Garmyan is a large

area consisting of the small towns between Kirkuk and Sulaymaniyah, near to the Iranian border.

### **1.2. Background of the Problem**

Technology can be used to influence the instructors' beliefs on computers or other technological tools (Hudgins, 2008). Beliefs about technology for learning and instructional purposes is personally associated with the way that technology is utilised and can encourage or hinder its reconciliation in the context of classroom instruction (Ertmer & Hruskocy, 1999).

Technological advancement has changed our conduct, beliefs, and our way of dealing with work, social correspondence and amusement. Educators that incorporate technology into secondary schools are known to positively affect the utilisation of technologies in their classrooms in different ways. From the educational viewpoint, secondary teachers centre around utilising technologies showing understudies, concentrating on learning-based systems (Sidqi & Kakabra, 2013).

In Iraq, the education segment has experienced a noteworthy change that has enhanced the education gauges in the area. As a major aspect of another educational module, the component part has been coordinated with science. Since the change, no logical examination has been conducted to evaluate the adequacy and effectiveness of utilising technology in grade schools in Iraq, in addition to looking at the instructors' state of mind toward the utilisation of technology in their educational approach. This examination has been proposed to inspect the general foundation of basic educators and also their experience, aptitude and mentality toward technology use in the context of basic education (Hiwa, 2015).

In 2009, the Ministry of Education developed a curriculum that was in addition to computer science exposed to grades 7, 8, 10 and 11 (Hiwa, 2015). This study aims to examine the beliefs of teachers and students in northern Iraq concerning the impact of technology on education and learning.

Technology use for learning and teaching purposes can be performed with no curriculum objective or connection. It is very important to obtain the instructor's beliefs

on the technological effect on instruction-giving and to ascertain how the instructors are using technological tools in their classrooms (McIntyre, 2011).

Picking up an understanding of how and to what degree those beliefs are reflected in the instructions will help observers in supporting the instructors who under-utilise technology. Moreover, an understanding of the instructors' beliefs about technology and its part in direction can fill in a guide used for preparing both pre-benefit and in-benefit educators, who should have the capacity to draw on important guidelines and get their understudies ready for twenty-first century instruction assignments (Balajthy, Reuber & Robinson, 2001).

Utilising technology in education is the compelling use of technological devices in instructing and learning. It concerns a variety of instruments, for example, the media, machines and systems administration equipment, while thinking about hypothetical viewpoints for their viable application (Richey, R.C., 2008). The teachers' epistemological beliefs are shown to be immediately related to the way that technology is used in the classroom (Teo et al., 2008).

### **1.3. Problem Statement**

Technology is one of the areas with a great impact on learning and teaching. People use technology daily to learn, both in daily life and in schools. In every school, there are some technological devices, even if the requirements mean that they are not yet suitable for use in the learning and teaching process. Based on the education curriculum in Iraq, there is the computer science subject for 11<sup>th</sup> grade students. This subject requires a computer, data and the Internet to study. In the schools in Rizgary city in the north of Iraq, teachers keep to the lecture method and use a projector in order to make the teaching process more effective. The projector is one of the methods that can meet the students' needs and advance their level. We have to demonstrate that every one of the instructors has confronted a few issues during their time spent educating in the classroom. A portion of these issues may be due to a few of the educators' low execution when it comes to utilising both a PC and a projector and also to do with the students' adjustment to the education modules (Sidqi & Kakabra, 2013).

To review the current system of education in the north of Iraq: the study stages range from kindergarten to university. Kindergarten starts with 4-5 year old children (not compulsory), primary school starts with 6-11 year old children and is compulsory, middle school starts with 12-15 year old children, high schools ranges from 15-18 year old teenagers and then college starts at 18 (Party, 2017).

#### **1.4. Purpose of the Study**

The main aim of this study is to define the beliefs of the teachers and students concerning the uses of technology in the teaching-learning process.

#### **1.5. Significance of the Study**

Most recent studies have set out to discover how much technology is used, to select the best methods for using technological equipment in the classroom, to explain the development of educational technology and to discover the main barriers to the integration of technology in education centres. The findings of this study will be useful, as the students are drawn in with technology continually outside of the classroom. Children jump at the chance to be intuitive, and learning through technology has now turned into their way of life, right when teachers are seeking to consolidate technology into branches of information. Educators form the role of guide, content ace and tutor. Technology supports the production of education and adjusts to continually remain more insistent and fun. Students are, moreover, prepared to collaborate with their own partners through technological applications, PCs and tablets. Different types of technology bring in various assets that are not in the guidebook. They do not just keep the students connected with energising new highlights and applications. Additionally, they have different approaches to showing the students the educational material. Each child adapts in an unexpected way, and technology assists with this. The students of this age are viewed as technological students. They learn best by being more intelligent, and technology is the thing allows them to be so. Kids frequently battle to keep focused and intrigued, and with assets to encourage the instructor, they are more likely to remain centred and learn quicker (Sidqi & Kakabra, 2013).

## **1.6. Research Question**

1. What are the perceptions of the high school teachers and students toward technology for teaching-learning purposes?
2. What are the beliefs of high school teachers about the influence of using technology in education?
3. What are the beliefs of the teachers, concerning whether group projects are a good way for students to learn?
4. What is the teachers' opinion about using the text book?
5. What types of technological devices are available in schools?
6. What are the beliefs of the students about the relationship between the coursework subjects and Internet-based technology?
7. Do the students perceive that Internet technology has been provided as a source to allow them access to the correct answer concerning the questions related to the student's coursework?

## **1.7. Limitation**

This study is limited by the fact that it is like a needs analysis for the current situation in the north of Iraq (Rizgary Town) regarding using technology for teaching and learning.

## CHAPTER TWO

### II. LITERATURE REVIEW

#### 2.1. Technology

Technology has become very essential in our day to day activities in which education is not left out. Technology is now seen as an essential commodity (Efilti and Coklar, 2016). As a result of the adoption of technology in schools, the expectations regarding the performance of teachers has increased. The educational sector is not left out of the technological evolution that have swept our continent since the industrial revolution of the 17th century. (De Bruyckere, Kirschner and Hulshof, 2016).

The adoption of technology in the education sector has not been without criticism as many thought technological tools will change the face of education beyond recognition. However, researchers discovered that classroom practice has been stable over the years. It cannot be overemphasized that appropriate use of technological innovations has the potential to change education. However, most often the changes are rather general but not specific. Clark (1988) observed that it was pedagogy and not the medium (technological tools and resources) that made a difference in learning stating that instructional media are “mere vehicles that deliver instruction but do not influence student achievement any more than the truck that deliver our groceries causes changes in our nutrition”.

The importance of technology cannot be overemphasized in our daily life in general and the education sector in particular. This is because technology makes life easier for us and saves our time and energy. Similarly, for education, it aids communication among teachers across the world to meet the shortcoming of their work, refine it and provide their students with the best. Moreover, Technology gives students unlimited access to plethora of quality information which makes learning rate to increase than before.

## **2.2. Technology defined**

Technology is derived from two Greek words “techne” which means art, skill and cunning of hand and “logia”. It is first comprehensively defined by Jacob Bigelow in 1829 as “principles, processes and nomenclatures of the more conspicuous arts, particularly those which involves application of science and which may be considered useful, by promoting the benefit of the society, together with the emolument of those who pursue them”.

Technology is also defined in Collins World Encyclopedia as “the use of tools, power and materials for the production”. Almost every human processes depends on complex technological systems, which have been developed over a 3-million-year period. Significant milestones include the advent of steam engine in 1712, the introduction of electricity and the internal combustion engine in the mid-1870s and recent development in electronics and the nuclear and space industries. The advanced technology on which modern industrialized society depends is contrasted with the low technology that characterizes some developing economics (Collins World Encyclopedia, 2005).

Technology is also defined as science or knowledge put into practical use to solve problem and invent useful tools. Technology has evolved throughout the history, from the Stone Age to the Bronze Age to the Iron Age to this period of Computers and Internets with complexities and sophistication increasing from one period to the other.

## **2.3. Teachers' belief**

Most educational reforms perceived teachers' belief as the central focus that needs to be addressed (Worfolk-Hoy, Darris and Pape, 2006, Chai, 2010). This reason for this is not far-fetched, facilitation of students' co-construction of knowledge through technology are to be done by teachers (Abdulraheem, 2004; Erstner, 2005; Teo, 2009; Erkunt, 2010). Many studies report that teachers' beliefs could affect teachers' practice and teachers' learning (Chai, 2010). Teachers' beliefs have been categorized by authors into Teachers' epistemic beliefs and pedagogical beliefs.

Epistemology is a branch of philosophy which analyze the nature, sources, boundaries and conceptual component of knowledge and even whether the existence of

knowledge is possible (Bac 2007; Er, 2013). Perry, who was the first to conduct research relating to epistemological beliefs mentioned it as “what information means and how it is acquired (Golven 2009; Brownlee, Purdie and Boulton-Levis, 2001; Er, 2013). Kaya (2003) defines epistemology as a “theory of knowledge that is related to the knowledge of entity and how this knowledge is acquired”. Individual’s epistemological beliefs have been directly linked to their comprehension, Meta comprehension, persistence and interpretation of information (Schommer, 1998).

Theories abound explaining epistemological beliefs. According to Shraw and Olafson (2002). They described three types of epistemological world views; Realist, Contextualist and Relativist. A realist assumes knowledge is gained by expertise and learning is a passive act. Contextualist sees themselves as facilitators, who belief that acquiring knowledge is about collaborating to construct shared effort while the relativist sees learner as capable of independently and uniquely creating their own knowledge.

(Schommer, 1990) viewed the belief system as comprising five independent dimensions: the structure of knowledge, the certainty of knowledge, the source of knowledge, the control of knowledge and the speed of knowledge acquisitions. Moreover, Magolda (1992) developed an epistemological reflection model comprising of four types of knowing: Absolute; Transitional; Independent and Contextual. Fixed or certainty of knowledge characterizes absolute knowledge which is obtained by student from teacher. Transitional knowledge is partially certain and partially uncertain. Understanding by the student is not more important than just acquiring knowledge. Uncertainty of knowledge characterizes independent knowledge. Knowledge is uncertain here because students also have their thoughts and are encourage to share their viewpoints. For contextual knowledge, knowledge is determined on the basis of evidence in context. The teacher must consider different perspectives when facilitating a discussion and contextual information.

Pedagogical belief is the preferred style off teaching by teachers. They are generally categorized into the knowledge transmission view and knowledge construction view (Wong et. Al 2009). Inclination towards preparation and conducting lessons in a context oriented and teacher centered manner is a feature of knowledge transmission. The teachers are the sole provider of knowledge passing didactic instruction to students who are passive recipient of knowledge. In contrast, knowledge construction view opines

active participation of students to make sense of their learning experience while teachers design meaningful learning experiences and scaffold students' sense making. Teachers who hold the constructionist view tend to emphasize more student-centered activities that facilitate students' knowledge construction through active self- reflection, peer interaction and meaning-making process (Wong et.al, 2009; Chan and Elliot, 2004).

#### **2.4. Definitions of Teachers' Belief**

A belief is a proposition which may be consciously or unconsciously held, is evaluative in that it is accepted as true by the individual and is therefore imbued with emotive commitment and serves as guide to thought and behavior. Belief play an important role in many aspect of teaching as well as in life. They are involved in helping individuals make sense of the world influencing how information is perceived and whether it is accepted (Borg, 2001).

The first attempt to define teachers' belief was made by Pajares (1992). He acknowledges that the main weakness of educational beliefs is that they are context free and broad. Despite this, Pajares mentions four categories of teachers' beliefs, namely; teacher's efficacy (affecting student performance); epistemological belief (regarding knowledge); teachers' or students' performance (regarding the different motivational sphere) and self-efficacy (confidence when performing a task).

According to Porter and Freeman, teachers' beliefs encompass beliefs about related education concepts such as the role of schools in the society, beliefs about students and the role of teachers in the education process. Richardson (as cited in (Tondem et.al, 2008) states that teachers' beliefs are the "psychological understanding, premises or propositions felt to be true. Denessen (as cited op cit) proposed that such type of beliefs could be specifically limited to the domain of education. Howick (as cited op cit) notes that educational beliefs underline teachers' planning, teachers' decision and behavior in the classroom.

## **2.5. Teachers Belief and Instructional Practice**

The role of teachers' personal beliefs and theories have on their instructional practice has been a central focus of educational research in the past (Rice 2015). Kynigos and Argyris (2004) have purported the complex relationship between teachers' beliefs and instructional practices, and that the researcher must question common assumptions made about it. Literature supports teacher beliefs being consistent and having a direct relationship with instructional practices, as well as, literature that presents the complexities of beliefs and teaching practices that have little to no relationship (Bingimlas & Hanrahan, 2010). However, some researchers have described inconsistencies between teachers' beliefs and instructional practices (Ertmer, Gopalakrishnan, & Ross, 2001; Fang, 1996; Kane et al., 2002). For example, Fang (1996) described a number of studies in which researchers found little relationship between teachers' beliefs and their instructional reading practices, and suggested that contextual factors interfered with teachers' ability to consistently apply their beliefs in practice. Ertmer et al. (2001) reported that teachers' beliefs about classroom technology use did not always match their classroom practices. Ertmer et al. (2001) concluded, that despite the fact that most of the teachers described themselves as having constructivist philosophies, they implemented technology in ways that might best be described as representing a mixed approach, at times engaging their students in authentic, project-based work, but at other times asking them to complete tutorials, practice skills, and learn isolated facts. Teachers' explanations for these inconsistencies were found to include references to contextual constraints; such as curricular requirements or social pressure exerted by parents, peers, or administrators (Ertmer et al., 2001).

## **2.6. Teachers Belief and the Use of Technology**

Studies abound that have examined teachers' belief about using technology. These studies which were conducted in different contexts and on different levels of education spanned from school to universities (Galvis 2012). The earliest study is that conducted by Windschitl and Sahl (2002) which examines teachers' beliefs about technology, their own students and good teaching. The study focus on how beliefs affect both the use of

technology and teaching practices. Premised on the assumption that teaching is a social activity that is influenced by contexts and institutional cultures (Little, Minnicj, as cited in Windscitl and Sahl, 2002). They found out that the participants' belief about their students, their beliefs about what good teachings constitute and the role of technology in their students, lives set the boundaries of feasibility and appropriateness in the classroom. Moreover, finding suggest that the implementation of technology in schools is rather a complex issue that has to be solved from the teachers' repertoire of beliefs. Therefore, such a repertoire of beliefs should be earnestly considered.

Steel (2006) in his work examined beliefs from two angles; beliefs about teaching and belief about web technologies. They found out that teachers, beliefs are clearly reflected in the web-based technology project the teachers designed for their classes and how they implemented. Lam (2000) examining teachers' beliefs, proposed a dichotomy between excessive desires to use technology aby institutions referred to as 'technophilic' and a presupposed rejection on the teachers' behalf to use technology referred to as 'technophobia'. Lam concludes that misconception about teachers not using technology is due to their personal beliefs and concepts and not using technology is due to their personal beliefs and conceptions and not to technophobia because of their beliefs that technology's usefulness is limited.

Yang and Huang (2008) reported that teachers holding more positive beliefs about technology were more likely to put effort into integrating it and that lack of information and training among teachers were factors that significantly deterred the integration of computer technologies.

## CHAPTER THREE

### III. METHODOLOGY AND RESEARCH DESIGN

Chapter 3 consists of the methodology and procedures of the research which includes the participants, the sample of the research, the reasons for the researcher to have chosen that particular research sample, the data collection tool, the validity and reliability of the scale, and the statistical procedures used to analyse the data.

#### 3.1. Methodology

The topic of this thesis is the beliefs of teachers and students concerning the use of technology in education. The main goal of the study was to research the possible usage of technology for the purpose of learning and teaching. This was done by applying two surveys; the first for the teachers and the second for the students. The exploration depended on the descriptive model; it is one of the models utilised in psychology and humanistic systems, referred to by Malham as one of the techniques common for investigating. This is due to its logical and complete sorting out of the results in order to depict a particular issue, assess the gathering information, and to find genuine data about the particular issue. Additionally, the model also allows for the data to be ordered and broken down, getting it ready for precise investigation, and clarifying any after-effects of looking into the issue. This is done in a structure possessing legitimacy, objectivity and non-discrimination through the accompanying establishment and related aspects (Malham, 2005; p.370).

- Collecting data, and the information and facts that describe the phenomenon or problem to form a comprehensive and accurate description.
- Taking into account the appropriateness of the tools used in the collection of data and the information's validity and objectivity in such a way as to ensure access to the results.

- Data classification, interpretation and analysis in accordance with the research aims.
- Test and determine if the sample is in accordance with the aims of the research.

### **3.2. Procedure of Research**

#### **3.2.1. Participants**

The research population consisted of all students registered in the eleventh grade in Rizgary town, north of Iraq in 2017-2018. The total number was 2,236 for both male and female students. All of the teachers were registered to the Directorate of Education of Garmyan province, north of Iraq in 2017-2018. They numbered 667, both men and women (<https://moe-krg.com/>). When conducting any kind of research, one of the most important steps is the sample selection. Subsequently, the investigator should select an appropriate gauge to recognise the qualities of the participants who are clearly suited for the study, such as years of experience, gender, race or qualification, while also providing a rationale for the standard if it is not clear.

#### **3.2.2. Sample of research**

The sample of the current study contained two groups. The groups were high school teachers and students in the 11<sup>th</sup> grade. In the Iraqi curriculum, there is a computer science subject studied at this level. The population of the study consisted of two parts: the first part consisted of the students of three high schools in Rizgary town. The total number of students was 408; 214 female students and 192 male students. The second part was high school teachers, which included 206 teachers; 146 male teachers and 62 female teachers. The sample of the teachers was selected according to their years of experience and familiarity with technological devices. Both genders were required for balance, and the qualification of the teachers should be, at minimum, a Bachelor's degree in their specialty subject. The students' sample selection was based on criteria such as gender. The samples of this study were random samples which covered the students in 11th grade

at high schools who represent 19% of the whole society of the study and high school teachers who represent 31% of the whole society of high school teachers in the schools in Rizgary Town. The sample selection was conducted according to the database of the Planning Department of The Centre of Garmyan Education Directorate (see Table 1).

The total number of the teachers was 208, with 146 male and 62 female teachers. The total number of the students was 406, with 192 male and 214 female students of different ages between 17, 18, and 19. The selection of the students was done randomly according to the whole population of the students depending on the statistical records of the Ministry of Education and the Education Directorate of Garmyan; see Table 2.

**Table 1.** Number of student's Sample Distribution according to Gender

No.	Name of the school	Male 11 <sup>th</sup>	female 11 <sup>th</sup>	Total number
1	Bamo high school	67	73	140
2	Brayaty high school	64	70	134
3	Kawa high school	61	71	132
Total		192	214	406

**Table 2.** Teachers' Sample Classified according to Gender

	Male	Female	Total
Number of Teachers	146	62	208

### **3.2.3. Reasons for Selecting the Sample of Research by Researcher**

Technology for instruction purposes is a new topic for high school teachers and high school students alike in Iraq. In the Iraqi curriculum, there is a computer science and Internet subject in the eleventh grade. The Ministry of Education provides a technical course for teachers who instruct the eleventh grade. For the most part, the high school teachers and high school students can access technology at their schools and they are familiar with it.

### **3.2.4. Data Collection Tool**

In this research, the researcher used the quantitative model for collecting data on the participants. The researcher offered the student scale and teacher scale to the participants, which included students in the eleventh grade in three high schools and the high school teachers in Rizgary town (App. 1, App. 2).

### **3.2.5. Construction of the Students' Questionnaire**

The present examination used the learners' survey as one of the methods for obtaining social affair information since questionnaires are viewed as the most generally utilised strategy for gathering data from program members to use to assess the educational and expansion programs.

The primary point of using the student questionnaire was to assess their epistemology beliefs and observations concerning utilising technological gadgets for learning purposes. The questionnaire utilised a confined or shut-frame composition which called for ticking to provide the answers. The survey incorporated 26 items, with a five-item evaluated scale (Strongly Agree, Agree, Disagree, Strongly Disagree, I don't know) which were scored as 1 = Strongly Agree, 2 = Agree, 3 = Disagree, 4 = Strongly Disagree and 5 = I don't know. The students' survey was intended to check the following:

1. Access to technological devices.
2. Students scale about the use of technology.

3. The main idea about using Internet technology for learning purposes.
4. Finding resources for coursework using Internet technology.

### **3.2.6. Construction of the Teachers' Questionnaire:**

The goal of conducting the teachers' questionnaire was to gather the epistemological beliefs of teachers about the uses of technological devices for instruction purposes, and how to choose better methods for the classroom to become more active. Wilkinson and Birmingham (2003: p.10) expressed that a proficient survey is one that engages the transmission of important and exact information or data from the respondent to the investigator. This is an unpredictable procedure which incorporates presenting the request in an unquestionable and unambiguous way so then the respondent may decode them, express his or her response and transmit it feasibly to the researcher. Once transmitted, the reactions must be recorded and coded with the objective that they correctly mirror the respondents' point of view. The educators' survey was partitioned into four sections. The teachers' questionnaire included the following:

- 1- Access to technological devices.
- 2- Teachers' scale about the uses of technology.
- 3- The main idea behind using Internet technology for gaining information for instructional development.
- 4- Finding resources on the course work subject using Internet technology.

The total number of items gathered in the four domains was 26. Each item had a five -rated scale (Strongly Agree, Agree, Disagree, Strongly Disagree, I don't know) (See App 1).

### **3.2.7. Validity of Teachers' Questionnaire**

The validity was drawn from past research that has correspondingly accomplished establishing the connection between the instructors' beliefs about technology and their educational utilisation of technology (Hudgins, 2008). Note that the questionnaire was intended to assemble data about the instructional utilisation of technology, not

constrained to education guidelines. While the study is possible to apply in education, they are likewise relevant to other branches of knowledge direction. This scale was designed by Hudgins, and I got permission from him to use it (App. 5). Hudgins' scale was designed specifically for her study. It was used to target the factors that influence the teachers' beliefs about their instructional use of technology and the relationship between that technology use and their beliefs (McIntyre, 2011).

### **3.2.8. Validity of students' Questionnaire**

This scale consisted of 26 items and consisted of two parts. The first was on the beliefs of the students about using technology in education. The second was about what types of technology are available in schools and what is lacking in the integration with technology in the classroom. This has been used in earlier studies by Bratin (2005). This scale was designed by Schommer, and I got permission from him to use and modify it, Schommer wrote items to use to assess two hypothesised dimensions concerning Internet-based knowledge (what one believes knowledge is like on the Internet) and two hypothesised dimensions concerning Internet-based knowing (how one comes to know on the Internet) (Bratin, 2005).

### **3.2.9. Pilot of Students' Questionnaire**

The researcher applied the students' questionnaire to 50 students as a pilot study. In the light of the results of the pilot study, some of the items in the students' questionnaire were modified in order to be more valid and acceptable. The items in the students' questionnaire were understandable and the participants needed 15 minutes to answer the questions.

### **3.2.10. Pilot of Teachers' Questionnaire**

Five high school teachers were chosen by the researcher to be involved in a pilot study. The point of the pilot study was to concentrate on altering the educators' survey to

be more substantial. Consequently, the teachers' survey was made up of 26 items and the time that was spent answering the questions in the teachers' survey was 15 minutes.

### **3.2.11. Data analysis**

As indicated by Leedy and Ormrod (2005), data analysis incorporates the portrayal of the data gathered by arranging and deciphering it. The technique that was utilised in the data analysis in the present examination was a PC program statistical package used in the educational sciences. Percentage, mean, t-test and standard deviation were applied in order to analyse the data.



## **CHAPTER FOUR**

### **IV. FINDINGS AND RESULTS**

This chapter will present the results of the study.

#### **4.1. Finding the Results**

In the chapter, we will look at the insights from our survey. To get these insights, we first needed to apply statistical methods to our sample. These methods include the mean, standard deviation and T-test. We will split our insights and results into two parts. The first part will discuss the results of the teachers and their survey, and the second part will be about the students and their survey. We had a sample of 406 students and 208 teachers. This is a good sample size because the more sample data that we can analyse, the better our results and insights.

**Table 3.** Mean, Standard Deviation and T-test of Questions (1-13) for Teacher Survey

N	Question	Gender	N	Mean	SD	T
1	Group projects are good way for students to learn.	Male	146	2.16	1.534	3.147*
		Female	62	1.48	1.067	
2	I have a lot of subject knowledge to share with my students.	Male	146	1.74	1.077	3.657*
		Female	62	1.21	.577	
3	My job is to teach the content using facts and textbooks.	Male	146	2.89	.612	2.712*
		Female	62	2.56	1.111	
4	I feel it is important for students to develop skills in using computers to analyze and present ideas.	Male	146	1.40	1.067	-2.281-
		Female	62	1.81	1.365	
5	I feel computer technology and ICT have the potential to impact instruction.	Male	146	1.12	.545	-.157-
		Female	62	1.13	.495	
6	I have students use computers to create multimedia reports\projects.	Male	146	1.27	.605	-3.181-
		Female	62	1.61	.894	
7	I feel comfortable with my ability to learn new technologies.	Male	146	1.18	.643	-10.672-
		Female	62	2.52	1.141	
8	I have student use computers to practice skills.	Male	146	1.58	.938	-3.188-
		Female	62	2.06	1.129	
9	Technology is useful for maximizing student learn.	Male	146	1.06	.393	-4.827-
		Female	62	1.50	.919	
10	Technology changes too rapidly to properly implement in classroom.	Male	146	2.23	1.049	-7.645-
		Female	62	3.56	1.374	
11	I am satisfied with my use of new technologies in the classroom.	Male	146	1.27	.542	-10.047-
		Female	62	2.47	1.183	
12	I welcome more opportunities to implement technology in class.	Male	146	1.05	.257	-10.963-
		Female	62	2.10	1.082	
13	Technology has affected my beliefs about teaching.	Male	146	1.03	.202	-4.527-
		Female	62	1.39	.912	

\*: There is a difference is significant at the (0.05) level (T).

- (1.96) standard normal deviate", "normal score" or "Z score" for the 97.5 percentile point, or .975 point.

#### **4.2. Result of questions (1-13) of teacher survey:**

In Table 3 above, we can see the results of question 1 in the teachers' survey; 'Group projects are a good way for students to learn'. The test value was 3.147, which is bigger than 1.96. This result shows that there is a difference between the teachers regarding gender on 'Group projects are a good way for students to learn'.

In Table 3 above, we can see result of question 2 in the teachers' survey; 'I have a lot of subject knowledge to share with my students'. The test value was 3.657, which is bigger than 1.96. This result shows that there is a difference between the teachers regarding gender, concerning that the teachers have a lot of subject knowledge to share with their students.

In Table 3 above, we can see the result of question 3 of the teachers' survey; 'My job is to teach the content using facts and textbooks'. The test value was 2.712, which is bigger than 1.96. This result shows that there is a difference between the teachers regarding gender concerning that their job is to teach the curriculum content using facts and textbooks.

For questions (4-13), there were no differences between the teachers, because the test value for these questions was less than 1.96.

#### **4.3. Result of Questions (14-20) of Teacher Survey:**

**Table 4.** Independent Samples t-Test for Do you use technology for teaching?

Gender	N	$\bar{X}$	SD	T	Significance Level
Male	146	1.0000	.00000		
Female	62	1.0645	.24768	-3.158-	.002

In Table 4 above, we can see the result of question 14 of the teachers' survey; 'Do you use technology for teaching?' The test value was -3.158, which is less than 1.96. This result shows that there is no difference between the teachers regarding gender on 'Do you use technology for teaching?'

For the other questions (15-20) in Table 5 below, there are no differences between the male and female teachers' responses.

**Table 5.** Mean, Standard Deviation and T-test of Questions (14-20) For Teacher Survey

No	Question	Gender	N	Mean	SD	T
14	Do you use technology for teaching?	Male	146	1.0000	.00000	-3.158-
		Female	62	1.0645	.24768	
15	Have you ever taken any training courses for using technological devices for teaching?	Male	146	1.2329	.42412	.886
		Female	62	1.1774	.38514	
16	Do you have access to a computer or any technological devices at home or your school?	Male	146	1.0000	.00000	-6.133-
		Female	62	1.2581	.51008	
17	Do you feel confident to use a computer or technological devices in class?	Male	146	1.0342	.21701	-9.156-
		Female	62	1.5806	.64142	
18	Does government or ministry of education support and provide technology for teaching in your school?	Male	146	1.0479	.24445	-7.697-
		Female	62	1.5968	.77797	
19	Do you think social media networks like Facebook, Instagram, snap chat, etc. Help to teaching?	Male	146	1.0890	.33054	-7.789-
		Female	62	1.6129	.63646	
20	Do you think using technology for teaching will help your students learning your lesson?	Male	146	1.0685	.30303	-6.987-
		Female	62	1.5161	.62047	

#### **4.4. Result of questions (21-25) of teacher survey:**

The result of question 21 in Table 6 shows that 100% of teachers accept that technological devices (cellphones, computers, laptops, tablets, iPads, projectors, printers, scanners, photocopiers etc) are available in the schools for teaching. The results for question 22 show that 64% of male teachers and 28% of female teachers believe that the main difficulties faced when using technology in schools is a lacking training courses for teachers, and 70% of male teachers and 30% of female teachers believe that the difficulties faced when using technology in schools is no Internet.

**Table 6.** Results of question (21 and 22) of teachers' survey

Options	Gender	Question 21		Options	Question 22	
		What technological device is available in your school for teaching?			Which of the difficulties you find in using technology in schools?	
Cellphone/ Computer / Laptop/ Tab / Tablet / I pad	Male	146	70%	Getting old (Old generation do not use technology)	0	0%
	Female	62	30%		4	2%
Television / Radio/ Mp3 player, cassette / Audio player	Male	0	0%	Lacking technological devices or having no access to technology	0	0%
	Female	0	0%		0	0%
Data show / projector/ Printer / Scanner / Photocopier	Male	146	70%	Lacking training courses for teachers	133	64%
	Female	62	30%		58	28%
Other	Male	89	43%	Lacking internet	142	70%
	Female	37	18%		62	30%

In the table below, the results for question 23 show that 38% of male teachers and 13% of female teachers indicate that their learners use technology by doing class activities such as solving problems, 39% of male teachers and 12% of female teachers answered that their students use the internet to search for information, 55% of male teachers and 26% of female teachers answered that their students use technology for team or group work, such as when working on a project, 22% of male teachers and 15% of female teachers answered that their learners use technology for practicing learning skills from any course and 56% of male teachers and 23% of female teachers showed that their students used technology to take exams and do their homework.

**Table 7.** Results of question (23 and 24) of teachers' survey

Options	Gender	Question 23		Options	Question 24	
		In which of the following ways do your learners use technology in your class?			Online teaching is necessary because .....	
Doing class activities such as, solving problem	Male	79	38%	It saves time, effort, money	141	68%
	Female	27	13%		56	27%
Using the internet to search information	Male	82	39%	It makes easy to be in touch with students	144	69%
	Female	25	12%		45	22%
Team or group work, working on projects	Male	115	55%	It increases the chance of having another job or extra work	114	55%
	Female	55	26%		16	8%
Practicing skills of learning any course	Male	46	22%	It can be outside of school no barriers of time and place	140	67%
	Female	32	15%		34	16%
Taking an exam, doing homework	Male	117	56%	It encourages students to get more information	77	37%
	Female	48	23%		28	13%

The results for question 24 show that 68% of male teachers and 27% of female teachers answered that the online teaching is necessary because it saves time, effort, money. Other answers showed that 69% of male teachers and 22% of female teachers answered that online teaching is necessary because it makes it easy for them to be in touch with their students, 55% of male teachers and 8% of female teachers answered that online teaching is necessary because it increases the chance of having another job or extra work, 67% of male teachers and 16% of female teachers answered that online teaching is necessary because it can be conducted outside of school with no barriers of time and place, and 37% of male teachers and 13% of female teachers answered that online teaching is necessary because it encourages the students to get more information.

In Table 8, the results for question 25 show that 69% of male teachers and 28% of female teachers believe that the bad side of using technology is that it distracts student with other things, like games. Additionally, 68% of male teachers and 29% of female teachers believe that the bad side of using technology is that it wastes the student's time, 13% of male teachers and 26% of female teachers believe that the bad side of using technology is that it reduces their ability to teach, 5% of male teachers and 24% of female teachers believe that the bad side of using technology is that it encourages students toward failure, and 9% of male teachers and 25% of female teachers believe that the bad side of using technology is that it encourages cheating and copying.

**Table 8.** Results of question (25) of teachers' survey

Options	Gender	Question 25	
		What are the bad sides of using technology?	
Distracts student to other things like games	Male	143	69%
	Female	59	28%
Wastes student's time	Male	141	68%
	Female	61	29%
Reduces me ability to teach	Male	26	13%
	Female	55	26%
Encourages students toward failure	Male	11	5%
	Female	49	24%
Encourages cheating and copying	Male	19	9%
	Female	51	25%

#### 4.5. Result of questions (1-13) of student survey:

**Table 9.** Mean, Standard Deviation and T-Test of Questions (1-13) for Student Survey

N	Question	Gender	N	Mean	SD	T
1	The truth about almost every issue raised in my classes is located on the Internet technology.	Male	146	2.13	1.427	1.073
		Female	62	1.98	1.271	
2	The correct answer to questions related to my coursework exists on the Internet technology.	Male	146	1.91	1.305	-.314-
		Female	62	1.95	1.366	
3	On the Internet technology many different sources provide the correct answer to questions related to my course work.	Male	146	1.58	.951	1.252
		Female	62	1.47	.755	
4	The Internet technology is characterized by simple, concrete knowledge about issues related to my classes.	Male	146	1.51	.960	.218
		Female	62	1.49	.871	
5	Most of what is true in my field of study is available on the Internet technology.	Male	146	2.90	1.588	1.333
		Female	62	2.69	1.497	
6	The strength of the Internet technology is the vast amount of detailed information that is located there about what I am studying.	Male	146	1.25	.551	-.305-
		Female	62	1.27	.530	
7	The Internet technology can provide me with most of the knowledge I need to succeed in my courses.	Male	146	2.01	1.449	1.548
		Female	62	1.80	1.170	
8	The most important aspect of the Internet technology is that it contains so many specific facts about what I am studying in my classes.	Male	146	2.16	1.211	-.590-
		Female	62	2.24	1.392	
9	When I encounter difficult problems in my coursework, I feel I am on safe ground if I find expert statements about them on the Internet technology.	Male	146	2.15	1.312	-.762-
		Female	62	2.24	1.120	
10	On the Internet technology it is the richness of detail about what I am studying that is most prominent.	Male	146	2.79	1.161	1.097
		Female	62	2.66	1.186	
11	The Internet technology contains accurate knowledge about the topics I study.	Male	146	1.57	.847	.447
		Female	62	1.53	.953	
12	I am most confident that I have understood something for my classes when I have used the Internet technology as a source.	Male	146	2.77	1.055	3.468*
		Female	62	2.39	1.132	
13	On the Internet technology there are more facts than theory and speculations within the fields I am studying.	Male	146	2.29	1.314	2.947*
		Female	62	1.95	.992	

- (1.96) standard normal deviate", "normal score" or "Z score" for the 97.5 percentile point, or .975 point.

In Table 9 above regarding the results of questions (1-11), there were no differences between the teachers because the test value for these questions was less than 1.96.

In Table 9 above, we can see results of question 12 of the students' survey; 'I am most confident that I have understood something in my classes when I have used the Internet as a source'. The test value was 3.481, which is bigger than 1.96. This result shows that there is a difference between the teachers regarding gender about 'I am most confident' and 'I have understood something in my classes when I have used the Internet as a source'.

In Table 9 above, we can see the results of question 13 of the students' survey; 'On the Internet, there are more facts than theory and speculations within the fields that I am studying'. The test value was 2.947, which is bigger than 1.96. This result shows that there is a difference between the teachers regarding gender about 'I am most confident' and 'On the Internet, there are more facts than theory and speculations within the fields that I am studying'.

#### **4.6. Result of questions (14-20) of student survey:**

**Table 10.** Mean, Standard Deviation and T-test of Questions (14-20) for Student Survey

No	Question	Gender	N	Mean	SD	T
14	Do you use technology for learning?	Male	146	1.1927	.53108	1.833
		Female	62	1.1075	.40262	
15	Do you think you need help or training courses for using computer or any technological devices?	Male	146	1.0052	.07217	-2.549-
		Female	62	1.0514	.24162	
16	Do you think technology is necessary to be used with your text books at school?	Male	146	1.0885	.39297	2.768*
		Female	62	1.0093	.13672	
17	Do you like your teachers to use technology for teaching?	Male	146	1.1146	.41867	.536
		Female	62	1.0935	.37611	
18	Does government or school administration encourage using technology?	Male	146	2.0677	.44674	4.391*
		Female	62	1.8738	.44190	
19	Do you think social media networks like Facebook, Instagram, snap chat, etc. Help to learning?	Male	146	1.5990	.68690	3.706*
		Female	62	1.3645	.58771	
20	Are you interested in online learning?	Male	146	1.5260	.73744	7.295*
		Female	62	1.1028	.39799	

In Table 10 above, we can see the results of question 16 of the students' survey; 'Do you think technology is necessary to be used alongside text books in school?' The

test value was 2.768, which is bigger than 1.96. This result shows that there is a difference between the teachers regarding gender concerning 'I am most confident' and 'Do you think technology is necessary to be used alongside text books in school?'

In Table 10 above, we can see the results of question 18 of the students' survey; 'Does the government or school administration encourage using technology?' The test value was 4.391, which is bigger than 1.96. This result shows that there is a difference between the teachers regarding gender concerning 'I am most confident' and 'Does the government or school administration encourage using technology?'

In Table 10 above, we can see the results of question 19 of the students' survey; 'Do you think that social media networks like Facebook, Instagram, Snapchat etc help learning?' The test value was 3.706, which is bigger than 1.96. This result shows that there is a difference between the teachers regarding gender about 'I am most confident' regarding 'Do you think that social media networks like Facebook, Instagram, Snapchat help learning?'

**Table 11.** Independent Samples t-Test for are you Interested in Online Learning?

Gender	N	$\bar{X}$	SD	T	Significance Level
Male	146	1.5260	.73744	7.295	.000
Female	62	1.1028	.39799		

In Table 11 above, we can see the results of question 20 from the student survey ('are you interested in online learning?'). The test value is 7.295, which is bigger than 1.96. This result shows that there is a difference between the teachers regarding gender and the question of 'Are you interested in online learning?'

#### 4.7. Result of Questions (21-25) of Student Survey:

In Table 12 are the results of question 21; ‘How do you scale your usage of technology for learning?’ 40% of male students and 45% of female students believe that their scale is very good, 3% of male students and 3% of female students believe that their scales is low and 1% of male students and 2% of female students believe that their scales is medium.

Results of question 22; 9% of male students and 8% of female students believe that their teachers have a highest level of using technology, with 19% of male students and 19% of female students believing that their teachers have primary level of using technology. Meanwhile, 6% of male students and 6% of female students believe that their teachers have a medium level of using technology.

**Table 12.** Results of question (21 and 22) of students’ survey

Options	Gender	Question 21		Question 22	
		How do you scale your usage of technology for learning?		To what extent your teacher is good at using technology?	
<b>1</b>	Male	12	3%	1	0%
	Female	14	3%	3	1%
<b>2</b>	Male	7	2%	77	19%
	Female	6	1%	78	19%
<b>3</b>	Male	4	1%	54	13%
	Female	7	2%	76	19%
<b>4</b>	Male	163	40%	24	6%
	Female	184	45%	26	6%
<b>5</b>	Male	6	1%	36	9%
	Female	3	1%	31	8%

In Table 13, the results of question 23 (‘What technological device is available in your school for teaching?’), 100% of students believe that in their schools, cellphones, computers, laptops, tablets, iPads, projectors, printers, scanners and photocopiers are available for teaching purposes.

**Table 13.** Results of question (23 and 24) of student survey

Options	Gender	Question 23		Options	Question 24	
		What technological device is available in your school for teaching?			Which of the followings makes you to like using technology?	
Cellphone/ Computer / Laptop/ Tab / Tablet / I pad	Male	192	47%	I will be attracted more at the lesson	151	37%
	Female	214	53%		208	51%
Television / Radio/ Mp3 player, cassette / Audio player	Male	0	0%	It saves me time and effort	164	40%
	Female	0	0%		203	50%
Data show / projector/ Printer / Scanner / Photocopier	Male	192	47%	I feel independent and confident	79	19%
	Female	214	53%		137	34%
Other	Male	115	28%	It helps me understand and improve my comprehension	116	29%
	Female	174	43%		168	41%

Results of question 24; 37% of male students and 51% of female students believe that using technology is a main factor for them to be more attracted to the lesson, while 40% of male students and 50% of female students believe that using technology is a factor to saving them time and effort. Also, 19% of male students and 34% of female students believe they feel independent and confident with technology, while 29% of male students and 41% of female students believe that using technology is a factor to helping them understand and improve their comprehension.

Results of question 25; 'What is the bad side of using technology?' 46% of male students and 50% of female students believe that one of bad sides of using technology is that it distracts them, such as being a conduit for games. Additionally, 42% of male students and 45% of female students believe that one of the bad sides of using technology is that it wastes their time, while 3% of male students and 2% of female students believe that the bad side of using technology is for other reasons.

**Table 14.** Results of question (25) of student survey

Options	Gender	Question 25	
		What are the bad sides of using technology?	
Distracts me to other things like games	Male	188	46%
	Female	204	50%
Wastes student's time	Male	172	42%
	Female	184	45%
Reduces me ability to learn	Male	13	3%
	Female	6	1%
Encourages me toward failure	Male	7	2%
	Female	4	1%
Encourages cheating and copying	Male	6	1%
	Female	2	0%
Other	Male	11	3%
	Female	8	2%

## CHAPTER FIVE

### V. CONCLUSIONS, IMPLICATIONS, RECOMMENDATIONS AND SUGGESTIONS FOR FURTHER STUDIES

#### 5.1. Conclusions

This study has reached the following conclusions which are based on the results in Chapter 4. These conclusions are:

1. The perceptions of the high school teachers and students are varied concerning the effectiveness of technological devices used in the classroom.
2. Most of the high school teachers believe that using technology in the classroom has a huge influence on the instruction process for different reasons, such as if teachers use technological devices in the classroom, then they can get most of the students to pay attention because students more active with technological devices.
3. We could conclude that most of the teachers at the school believe that group projects are a good way for students to learn. We can conclude that male teachers believe in group projects more than female teachers.
4. We concluded that the majority of teachers believe that they have good knowledge on the subject, enough to share with their student. The majority are male teachers who they believe that they have the knowledge to share with their students, and the majority of female teachers believe this too. Compared to the male teachers, the male teachers are more confident.
5. We concluded that the majority of the teachers disagree with the use of only text books as the content in teaching. The majority gender-wise who were in disagreement was male teachers.
6. We concluded that it is clear that the majority of teachers believe in the importance of improving their computer skills to use it in the teaching process.

7. I concluded that the school uses many electronic devices and that it has come up with the idea of using the latest technology. It is clear that the majority of the users of these devices are male teachers, so we see that the most common issue is a lack of training for the teachers and the lack of internet connection.
8. We concluded that the majority of the students are seeing that all problems that occur in the classes are rooted in Internet technology, and the female students who are the gender who see that the most.
9. I concluded that from our results, the majority of all students believe that coursework can exist in the context of Internet technology.
10. We concluded that the majority of the students are seeing that Internet technology from many different sources provides the correct answer to questions related to the students' course work.

## **5.2. Recommendations**

The following recommendations have come to light through the present examination with respect to the epistemological beliefs of the teachers and students on the use of technology in education. The recommendations are the following:

- 1- Providing new educational technological devices for teachers and students.
- 2- Preparing high level training courses and workshops for high school teachers over the summer to enhance their strategies for educating and testing their students and the methods that they apply in their classes.
- 3- It is prescribed that each school ought to be provided with an Internet lab. This office is essential, yet tragically, it isn't accessible in many Garmyan city schools.

### **5.3. Suggestions for Further Studies:**

The researcher has defined the following suggestions for other researchers to use to additionally think about in the light of the outcomes of this examination. These suggestions can be condensed into the following points:

- 1-** Look for a researcher to take on a large sample of teachers and students to get a better result.
- 2-** Investigating the effect of social media on high school students.
- 3-** Perceptions of the teachers of new digital technological devices.
- 4-** Developing the skills of both teachers and students related to how to collaborate in education through Internet technology.

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## APPENDIX

### App 1: Teachers' Survey

1. Gender:	Male <input type="radio"/>	Female <input type="radio"/>	من <input type="radio"/>	نیز <input type="radio"/>				
1. ردگرد: ۱. ردگرد: ۱.								
1 = Strongly Agree, 2 = Agree, 3 = Disagree, 4 = Strongly Disagree, 5 = I don't know								
۱: به تهواوی رازیم ، ۲: رازیم ، ۳: نارازیم ، ۴: به تهواوی نارازیم ، ۵: نارازم								
No.	Question	1	2	3	4	5	پرسیار	ز
2	Group projects are good way for students to learn.						پاشترین پیکه‌ی فیروزبون بتو قوتاییان پروری‌ای به گروه فیروزه.	2
3	I have a lot of subject knowledge to share with my students.						توز بایدشی زانستیم هدیده که می‌لایوی یکه‌موده بتو قوتاییان.	3
4	My job is to teach the content using facts and textbooks.						کاری من ویکرده‌موده نادوی‌که به بکاره‌هیانش چدمک و نکنیس قوتاییانه.	4
5	I feel it is important for students to develop skills in using computers to analyze and present ideas.						وا هدست نه کنتم توز گرنه بتو قوتاییان که گاشهدن به کاره‌میں بکاره‌هیانش کوپیبوتر بتو شیکرده‌موده و پیشانانش بیروزکیان.	5
6	I feel computer technology and ICT have the potential to impact instruction.						بیروزی من کوپیبوتر و تکنولوژی‌ای زانیاری و گله‌باند توانشی‌دانانش کاریکله‌ری هدیده نه سار پرورسی پیده‌ورده.	6
7	I have students use computers to create multimedia reports/projects.						من قوتاییم هدیده کوپیبوتر به کار نه هیتن بتو دروستکردش با پیروزی رانکه‌بانش بیان هدر پرورایید.	7
8	I feel comfortable with my ability to learn new technologies.						هدست به خدمانه‌موده نه کنتم نه کنن توانش فیروزبون بتو تکنولوژی‌ای نوی.	8
9	I have student use computers to practice skills.						من قوتاییم هدیده که کوپیبوتر به کار نه هیتن بتو تکنیکرده‌موده لیهانه‌یه کاپش.	9
10	Technology is useful for maximizing student learn.						نه تکنولوژی‌ای دهولزیت بتو بیروزی‌میردن نه سار فیروزبون نه کنندکاران به کاره‌پیشترین.	10
11	Technology changes too rapidly to properly implement in classroom.						بدهی نه و گزوانکاریه غیره‌باندی که نه تکنله‌لوزی‌دا رورو دهدن ، نه اتو ازرت به دروستن به کاره‌پیشترین نه شار پیوندا.	11
12	I am satisfied with my use of new technologies in the classroom.						لپش حالم بدهی که تکنله‌لوزی‌ای نوی نه اتو پیوندا به کار دهدیم.	12
13	I welcome more opportunities to implement technology in class.						پیم پاشه هالی زیانتر هه بینت بتو بکاره‌هیانش تکنله‌لوزی‌ای نه شار پیوندا کاندا.	13
14	Technology has affected my beliefs about teaching.						بیکرده‌موده باورم نه یاری و اندوتندموده که دو زو دهه تکنله‌لوزی‌اواد.	14

1 = Yes, 2 = No, 3 = I don't know						
3 : نهانم ، 2 : نه خیر ، 1 : بله						
No.	Question	1	2	3	پرسیدار	۳
15	Do you use technology for teaching?				نهایا تو تکنولوژیا به کار نمی‌هیتی بز واند و نموده؟	15
16	Have you ever taken any training courses for using technological devices for teaching?				نهایا نیستا هیچ خوش راهنمایت پیشیه نه بارهی به کارهای تکنولوژیا تکنولوژیا بز واند و نموده؟	16
17	Do you have access to a computer or any technological devices at home or your school?				نهایا کامپیوچر یا ان هدر نایبرنکی تکنولوژی نهایا دسترسی به مالموه یا ان نه قوتابخانه؟	17
18	Do you feel confident to use a computer or technological devices in class?				پارهه ده خوبت همیه بز به کارهای تکنولوژیا کامپیوچر یا ان هدر نایبرنکی تکنولوژی نه ناو بیزند؟	18
19	Does government or ministry of education support and provide technology for teaching in your school?				حکومه ده یا ان وزارت پهروزه ده پارهه تیدهون بز دهستهنه تکنولوژیا پیوست بز پهروزه پهروزه ده قوتابخانه که تدا؟	19
20	Do you think social media networks like Facebook, Instagram, snap chat, etc. Help to teaching?				پهروزه تو تقدیه کمدهایه کان وک فایسیوک ، لینکنستاگرام ، سناب چات ، هند ... پارهه تیدهون بز واند و نموده؟	20
21	Do you think using technology for teaching will help your students learning your lesson?				نهایا پیت وایه به کارهای تکنولوژیا بز واند و نموده پارهه قوتابخانه دههات باشتر تیگهون نه واند که؟	21

22. نهایا نایبرنکی تکنولوژیا چین که نه قوتابخانه که تدا همیه بز واند و نموده؟ نهایا همیوو و دلاره کان هه نایبرنکی  
میباين / کامپیوچر / لاب توب / نایبرنکی   
نهایا هفیزون / پایز / نایبرنکی سیندی / نایبرنکی سیندی فیلمیو / دیشن  
داناتھر / پروژیکتھر / چایکھر / سکانه ر / فوتکوپیز   
هی تر .....

23. نهایا نایبرنکی تکنولوژیا چین که نه بکارهای تکنولوژیا نه قوتابخانه  
درجه دکهون 1 نهایا همیوو و دلاره کان هه نایبرنکی  
ماهیستایانی به تهمن تکنولوژیا به کار نمایین .   
پارهه دست نهیووی نایبرنکی تکنولوژی پیوست .   
نهیووی خوبی راهنمایی بز ماهیستایان .   
نهیووی هیلی فیلمه دیت وک پیوست .

24. In which of the following ways do your learners use technology in your class?

#### 24. قدرت اسیه کلائی تو یہ کام نہم دیگانہ تھا مکنونیا

(Select all that apply) Check all that apply

**نه کارله هیتن لکن او یوقلا؟** نه توانی هم یو و دلله کان هه لبڑیزی

- Doing class activities such as, solving problem
- Using the internet to search information
- Team or group work, working on projects
- Practicing skills of learning any course
- Taking an exam, doing homework

- ۱-  **لذت‌نمایانشان** چالاکین بزایله، و دک چارسده‌گردن کیتیمه‌دک.
- ۲-  **پدراهینه‌نامن** لیتنه‌ریتیت بز داریاری.
- ۳-  **کاراکردن** به گروپ، یعنی کاراکردن لامسرو پیروزه.
- ۴-  **چالاک و بدمولانی** له قیربویون هار خوینکدا.
- ۵-  **له تاکیکردنده** بیان جیوه‌جیترکنی له ریکی مانهدو.

25. Online teaching is necessary because .....

## ..... 25. واندوزنود له دنگه لینکه دننود بینوسته ، جونکه

(You can select more than one answer) Check all that apply

## نکات‌وانی هه موو و دل‌امکان هه تبریزی

- It saves time, effort, money
- It makes easy to be in touch with students
- It increases the chance of having another job or extra work
- It can be outside of school no barriers of time and place
- It encourages students to get more information

- ۱۰- کاشان نزدیک به نمکهای پیشنهادی، همچو، پارام و دست نمکهای دست.
- ۱۱- همان پیشنهادی که برداشتن بیز دردگشیسته نمکل قوتایان.
- ۱۲- همان کاری دووهم یا زیارتمن بیز دردگشیسته.
- ۱۳- نمکله که دردگوی قوتایان است، ریگر نیمه له کات و شون.
- ۱۴- همان قوتایان دهدهات که زیارتی ریگر نیمه دست بین.

## 26. What are the bad sides of using technology?

26. لایه‌نده خواجه‌کلان به کارهایشان تهدیت نموده‌اند؟

Check all that apply

نهادهای اسلامی

- Distracts student to other things like games
- Wastes student's time
- Reduces me ability to teach
- Encourages students toward failure
- Encourages cheating and copying

- هزینه قوتواییان نهادی یا لای شنی تر و دیگر یاری های لیکتریفیکی.
- کاشانیتیزی قوتواییان بدغیره داده اند.
- تغذیه ای و اندونوئیم کم نمکانکاره اند.
- هاندزدیز بیز سه زمانه کارکردی قوتواییان.
- هاندزدیز بیز قیفروپوش گزندی و نایده را درگیر نمایند.

## App 2: Students' Survey

1. Gender: Male <input type="radio"/> Female <input type="radio"/>							۱. ردگیری: نیز <input type="radio"/> نه <input type="radio"/>	
1 = Strongly Agree, 2 = Agree, 3 = Disagree, 4 = Strongly Disagree, 5 = I don't know ۱: به تفاوی را زیم ، ۲: بازیم ، ۳: نازیم ، ۴: به تفاوی نازیم ، ۵: نازیم								
No.	Question	1	2	3	4	5	پرسیار	۳
2	The truth about almost every issue raised in my classes is located on the Internet technology.						نه کننوزایی نزدیکی نزدیکی نه و گفتشو باید تائدهمان بز دخالتک، بزو ، که نهادو پیوشا ملت و مریان نه باره و دنگلین.	2
3	The correct answer to questions related to my coursework exists on the Internet technology.						نه کننوزایی و دلاس دروست نه و پرسیار آنمان بز فراهم دنگات ، که پایه وسته به بایه اش غریزندگانه و.	3
4	On the Internet technology many different sources provide the correct answer to questions related to my course work.						نه پنگاهی نه کننوزایی و دهوانین دستگان بگات به چندین سرچهادی جیاواز و پیوسته به زانیش و لامن دروست نه و پرسیار آنده که پیومندیان به بایه اش غریزندگانه و غایه.	4
5	The Internet technology is characterized by simple, concrete knowledge about issues related to my classes.						نه باره پرس و بایه تهکانش نه و چل، نه کننوزایی زانیاری ساده دروست تیباوه.	5
6	Most of what is true in my field of study is available on the Internet technology.						زانیش راست و دروست نه و باره تیبا دخویتم ، دنگریت نه پنگاهی نه کننوزایی و ده دستگیریت.	6
7	The strength of the Internet technology is the vast amount of detailed information that is located there about what I am studying.						نه کننوزایی زانیاری تفاو و بز دنگاریه و نه باره نهودی که چن دخویتم هدیه و بز دسته.	7
8	The Internet technology can provide me with most of the knowledge I need to succeed in my courses.						نه کننوزایی دهواریت پنگیش سریکش بگیریت ، نه سریکه وتم نه باره غریزندگا ، به داینکردن زانیاری پیوست بزم.	8
9	The most important aspect of the Internet technology is that it contains so many specific facts about what I am studying in my classes.						نه کننوزایی گریزشی هاکتکه بز داینکردن زانست و زانیاری نه باره نه و بایه تائده که دیگویتم.	9
10	When I encounter difficult problems in my coursework, I feel I am on safe ground if I find expert statements about them on the Internet technology.						نه کننوزایی به داینکردن راست و زانیاری متمانه بینکارو ، نه باره بایه تهکانش غریزندگه و نه و گفتشو لاستگانه بز چاره و دنگات که بز دنگریو دسته و.	10
11	On the Internet technology it is the richness of detail about what I am studying that is most prominent.						گریکردن عال نه باره نه کننوزایی و نهودی که زانیاری و داشتی به تفاوی و بز دنگاریه و تیباوه در باره نه و بایه تائده که دیگویتم.	11
12	The Internet technology contains accurate knowledge about the topics I study.						نه کننوزایی زانیاری دروست پنده دنگات پیوست بدم بایه تائده که دیگویتم.	12

13	I am most confident that I have understood something for my classes when I have used the Internet technology as a source.					یدکاریتیسان تکنولوژیا و دکو سارچاویدهک بز تیکاریشن لدو بایه تانهای که دیگوونم، باودهه خپیوونس زیاتر پندیهه خشنت.	13
14	On the Internet technology there are more facts than theory and speculations within the fields I am studying.					تکنولوژیا زیانه زانیاری له خو دنگریت شک تیقورو بیروکه، للهبارهه لدو بوارهه قیییدا دهخوینم.	14
1 = Yes, 2 = No, 3 = I don't know						3 : خانم ، 2 : هخیر ، 1 : پهان ،	
No.	Question	1	2	3		پرسیار	۳
15	Do you use technology for learning?					لایا تو تکنولوژیا بیدکارنه هیتیں بز میدیستن قیبریوون؟	15
16	Do you think you need help or training courses for using computer or any technological devices?					لایا تو هدست تکنکی هدیه بز بیدکاریتیسان کمپیووتکهه بیان خواه راهیتکهه شری تکنولوژیا ؟	16
17	Do you think technology is necessary to be used with your text books at school?					لایا به برواه تو تکنولوژیا پیوسته بیدکاریتیرت لایگان کتیب و نوسراونکهان قوتا بخانه ؟	17
18	Do you like your teachers to use technology for teaching?					لایا تو خدز تکنکی ماروسته کات تکنولوژیا بیدکاریتیشن له کاری ماروستاییدا ؟	18
19	Does government or school administration encourage using technology?					لایا حکومت بیان کارگیری قوتا بخانه پالنهون بز بیدکاریتیسان تکنولوژیا ؟	19
20	Do you think social media networks like Facebook, Instagram, snap chat, etc. Help to learning?					لایا تو پیت وایه تزوره کومه لایه لایه کان ، ودک کمپیووک ، لیستگرام ، سنپ چات ، هند ... بیارههکی قیبریوون نه دن ؟	20
21	Are you interested in online learning?					لایا تو گریگریت داره به قیبریوون نوچلاین ؟	21



REPUBLIC OF TURKEY  
FIRAT UNIVERSITY  
INSTITUTE OF EDUCATIONAL SCIENCES

Number:

Date:

To Iraq Council of Ministers  
Ministry of Education  
General Directorate of Education in Garmyan  
Directorate of Educational Planning  
Section of Planning

Jazaa Radha Abdulkareem is a MA student at the Institute of Educational Sciences in Firat University, he applied since 2016, spring semester. After finishing two semesters and passing all lectures including their seminar work successfully, he has started his master thesis entitled "**Epistemological beliefs of teachers and students on using technology in education**" But he must submit graduation proposal and according to his master topic, he has to start practical part of his MA thesis in (Kalar) city, in Iraq to do that, there should be an official report regarding ethical perspective signed and stamped by your committee. We want you to submit a paper that says there is not a problem to administer the questionnaires from ethical perspective.

We kindly ask you to give his permission to start his thesis' practical part and submit the proposal. Then he will write his research in Firat University under supervision of Dr. Bünyamin ATICI, and he will graduate and take his graduation certificate from the department of Computer Education and Instructional Technologies of Institute of Educational Sciences at Firat University.



**App 4:**

Kurdistan Region-Iraq  
Council of Ministers  
Ministry of Education  
General Directorate of Education in Garmyan  
Directorate of Educational planning  
Section of Planning

No. 12546 Date: 08.07.2018

**To: Institute of Educational Sciences in Firat University**

**Subject: Letter of Certification**

Based on your letter, in relation to the master thesis of the student (MR. Jazaa Radha Abdulkareem), and after studying the proposal and questionnaire prepared by said student, it has been cleared that it has no any educational, administrative problems. Thus, we have given our approval in accordance with our letter No. (2085) on 08.07.2018 to start his research entitled "**Epistemological beliefs of teachers and students on using technology in education**" in the schools of Directorate of Education in Garmyan.

(Signed)

Dara Ahmed Samin

For General Director of Education

A copy to:

- . Office of general Director/this is for your information, with regards
- . Assistance of General Director of Technical/ this is for your information, with regards
- . Planning/with the dossier (Original)



I, Mr. Dler Abdulkadir Mustafa, a legal translator, license NO: 37/2010, testify that this translation in English is a true and accurate translation of the original document. Thus, I sealed and signed it on 09.07.2018.

## App 5:

Gmail ▾

COMPOSE

(permission) Inbox x

**Inbox**  
Starred  
Important  
Sent Mail  
Drafts  
Categories  
Social (3)  
Promotions (7)  
Updates  
Forums

 **Jazaa Radha** <jazaaradha@gmail.com>  
to bervelykesler ▾

6:25 PM (6 minutes ago)

Hello Dr. Beverly Kesler McIntyre how are you . . .  
My name is: JAZAA RADHA, I am master student in FIRAT University in Turkey\ Faculty Educational Science\ Department Computer Education and Instructional Technologies,  
I need for your permission to use your Survey about " Technology Integration in the Classroom Survey"  
TEACHERS' BELIEFS AND PRACTICES REGARDING THE ROLE OF TECHNOLOGY IN LITERACY INSTRUCTION:  
A MIXED METHODS STUDY

Thank you . . .

 **bervely kesler**  
to me ▾

6:26 PM (4 minutes ago)

Dear Jazaa,  
You have my permission to use this survey.  
Regards,  
Dr. B. Kesler

No recent chats  
Start a new one

## App 6:

Gmail ▾

COMPOSE

(permission) Inbox x

**Inbox**  
Starred  
Important  
Sent Mail  
Drafts  
Categories  
Social (5)  
Promotions (17)  
Updates (4)  
Forums

 **Ivar Bråten** <ivabra@online.no>  
to me ▾

10:08 AM (11 hours ago) star print forward more

Dear Jazaa,  
You have my permission to use this survey.  
Regards,  
Ivar Bråten

From: Jazaa Radha <jazaaradha@gmail.com>  
Sent: 09 June 2018 01:54  
To: Ivar Bråten  
Subject: permission

Hello Dr. Ivar how are you . . .  
My name is: JAZAA RADHA, I am master student in FIRAT University in Turkey\ Faculty Educational Science\ Department Computer Education and Instructional Technologies,  
I need for your permission to use your Survey about Students' beliefs THE RELATIONSHIP BETWEEN INTERNET-SPECIFIC EPISTEMOLOGICAL BELIEFS AND LEARNING WITHIN INTERNET TECHNOLOGIES

Thank you . . .  
JAZAA

No recent chats  
Start a new one

## App. 7. Originally report



## Dijital Makbuz

Bu makbuz ödevinizin Turnitin'e ulaşlığını bildirmektedir. Gönderiminize dair bilgiler şöyledir:

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CHAPTER 1: INTRODUCTION  
BELIEFS OF TEACHERS AND STUDENTS ON USING TECHNOLOGY IN EDUCATION

### 1.1. Introduction:

In long education cycle based on system of education in 12 years, the primary education is 6 years, middle school is 7 years, and secondary school is 5 years, however as prep school students have to select one of general parts: scientific, literary, mechanical, agricultural and artistic, (YAZILIMDIZ, 2014). In the world of Iraq there are teacher part, computer science and IT students, Islamic students, sport students, media students and English language students, while in these students is 6-7 years, students passed these grade 7 they can enter one of these students, students who finish study in one of these students go to diploma certificate on their specific.

At 2001-2004 in the world of Iraq education has developed, the ministry of education applied process, but one of three parts, first create new buildings for schools and rooms, old buildings were demolished, and then create new students' dormitories, and then create new students' dormitories, in the second part developed, students' dormitories and students' dormitories in sport, IT technological devices in schools (IC) (projector, computer, display, internet, etc., science lab, etc.) (YAZILIMDIZ, 2014).

In spite of past attempt of incorporating technologies in education in world of Iraq students are confused. Hence, this investigation studies that an advantage and importance to discuss the advantages and difficulties of utilizing technologies in world of Iraq as an as to make it less demanding for the educators, students' specialists and educational experts to have a superior perspective of the present circumstances of utilizing technologies in Education in north of Iraq (Mata & Alabd, 2017). It attempts to reveal insight into the issues of utilized technologies in world of Iraq, and how it is compelling for learning and improving. An study in (Iraq) is a small scale in the world of Iraq based on the (Kabul) shows that have of (Gathering) (Gathering) a large area, measuring of lower result between (Latent) and (Gathering) and near the human border.

Celal YILMAZ

Mühendislik Öğretmeni

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## BELIEFS OF TEACHERS AND STUDENTS ON USING TECHNOLOGY IN EDUCATION

ORJINALLIK RAPORU

**%23**

BENZERLIK ENDEKSI

**%21**

İNT ERNET  
KAYNAKLARI

**%8**

YAYINLAR

**%9**

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*Celal YILMAZ*  
Bilgişayar İşletmeni

## **CURRICULUM VITAE**

### **PERSONAL INFORMATION**

Name: Jazaa Radha ABDULKAREEM

Place of Residence: Iraq, Garmyan, Kalar, Shahedan Qt.

Gender: Male

Date of birth: 01 / 01 / 1987

Marital status: Single

Nationality: Iraq

Place of birth: Kalar

Email: jazaaradha@gmail.com

### **EDUCATION & CERTIFICATES**

- 2004 – 2005: High School Certificate, Bamo High School.
- 2009 – 2010: B.A in Computer Science Department, Salahaddin University, College of Education Science.

### **PERSONAL SKILLS**

- Good communication skills.
- Organized and punctual.
- Determined to meet targets.
- Good teacher.

### **WORK EXPERIENCE**

- 2010 - 2012, I work as a teacher in MLASWRA basic school.
- 2013-2014, I work as a school manager in MLASWRA basic school.
- 2015-2016, I work as a teacher in KOMAR basic school.
- 2017, successfully finished tow month (IELTS) course at (Language Center) Kalar Private Technical Institute.

## **LANGUAGE SKILLS**

- English: Good
- Arabic: Intermediate
- Persian: Intermediate

## **EXPERIENCE SKILLS**

- Advanced Experience in using Windows XP, Windows 7, Windows 8, Windows 10.
- Advanced Experience in using Microsoft Office, Word, Excel and Power point.
- Intermediate Experience in Microsoft Office Access.
- Advanced Experience in using aSc Timetable, Photoshop.
- Intermediate Experience in C++ program, Internet.

## **INTERESTS**

Teaching, Communication, Professional Development, Travelling, and Sport.