Universiti Utara Malaysia

EXAMINING THE RELATIONSHIP BETWEEN THE USE OF SOCIAL MEDIA AND ICT PROFICIENCY AMONG SECONDARY SCHOOL TEACHERS IN BAGHDAD KARKH 2ND, IRAQ

NADHIM AZEEZ SAYEL AL-SHAMRRI

MASTER OF SCIENCE (INFORMATION TECHNOLOGY)
SCHOOL OF COMPUTING
UUM COLLEGE OF ARTS AND SCIENCES
UNIVERSITI UTARA MALAYSIA
2016

EXAMINING THE RELATIONSHIP BETWEEN THE USE OF SOCIAL MEDIA AND ICT PROFICIENCY AMONG SECONDARY SCHOOL TEACHERS IN BAGHDAD KARKH 2ND, IRAQ

**A dissertation submitted to Dean of Awang Had Salleh Graduate School
In Partial Fulfillment of the requirement for the degree
Master of Science in Information Technology
Universiti Utara Malaysia**

NADHIM AZEEZ SAYEL AL-SHAMRRI

Permission to Use

In presenting this dissertation in fulfilment of the requirements for a postgraduate degree from Universiti Utara Malaysia, I agree that the Universiti Library may make it freely available for inspection. I further agree that permission for the copying of this thesis in any manner, in whole or in part, for scholarly purpose may be granted by my supervisor(s) or, in their absence, by the Dean of Awang Had Salleh Graduate School of Arts and Sciences. It understood that any copying, publication, or use of this thesis or parts thereof for financial gain shall not be allowed without my written permission. It is also understood that due recognition shall be given to me and to Universiti Utara Malaysia for any scholarly use which may be made of any material from my thesis.

Requests for permission to copy or to make other use of materials in this thesis, in whole or in part, should be addressed to:
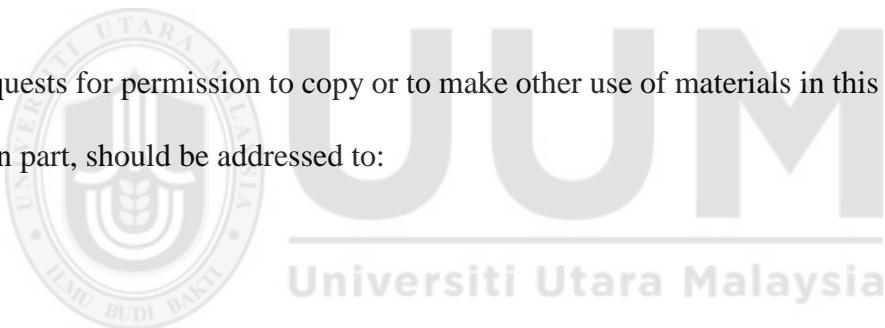
Dean of Awang Had Salleh Graduate School

College of Arts and Sciences

Universiti Utara Malaysia

06010UUM Sintok

Kedah Darul Aman

Malaysia

Abstract

Social media is a growing phenomenon that is becoming more significant in academia and private lives. Looking at the conditions of school teachers in Iraq, being the users of social media, they are lack of ICT proficiency, which will lead to the creation of a new generation of ICT-ignorant students. In the research related to social media, social constructivism has been used frequently as a fundamental theory. Unfortunately, the relationship between the use of social media and ICT proficiency of the users had not been observed. Moreover, the previous research mostly focused on the higher education institutions and students as the object of the study. In recent reality, teachers are still having difficulties in using ICT tools, which means that there is a need to improve their ICT proficiency. To address these problems, this study seeks to examine the relationship between the use of social media and ICT proficiency among secondary school teachers in Iraq. To achieve research objectives, this study utilizes quantitative approach and a survey among Iraqi secondary school teachers. The findings demonstrate that using social media improved ICT proficiency among secondary school teachers in Iraq. The analysis and interpretation of this research can be applied to improve learning policies via the social media. This study concludes that the use of social media can enhance knowledge in working environments through interaction with peers, engagement and collaborative learning. This practice would have an impact in the improvement of the ICT proficiency among secondary school teachers in Iraq.

Keywords: Social Constructivism Theory, Interaction with Peers, Engagement, Collaborative Learning.

Abstrak

Media sosial adalah fenomena terkini yang menjadi amat penting dalam bidang akademik dan kehidupan peribadi. Di dalam kajian yang berkaitan dengan media sosial, konstruktivisme sosial sering digunakan sebagai teori asas. Walau bagaimanapun, hubungkait di antara kegunaan media sosial dan kecekapan ICT pengguna tidak pernah diambil kira. Di samping itu, kajian terdahulu hanya memberi tumpuan terhadap institusi pengajian tinggi dan pelajar sebagai objek kajian. Realitinya, masih terdapat para guru yang mempunyai masalah dalam penggunaan alat-alat ICT. Ini bermakna, perlunya peningkatan kecekapan ICT di kalangan para guru. Melihat kepada keadaan guru sekolah di Iraq, sebagai pengguna media social, mereka tidak mempunyai kecekapan di dalam bidang ICT. Ini akan menjurus kepada generasi pelajar jahil ICT. Dalam usaha untuk menangani masalah ini, kajian dijalankan bagi mengkaji hubungkait di antara kegunaan media sosial dan kecekapan ICT di kalangan para guru sekolah menengah di Iraq. Kajian ini menggunakan pendekatan kuantitatif dan soal selidik demi mencapai objektif penyelidikan. Hasil daripada kajian ini mendapati bahawa penggunaan media social dapat meningkatkan kecekapan ICT para guru sekolah di Iraq. Hasil dari analisa dan tafsiran kajian ini boleh diaplikasikan dalam memperbaiki polisi pembelajaran melalui media sosial. Kajian ini menyimpulkan bahawa, penggunaan media sosial dapat meningkatkan pengetahuan dalam persekitaran pekerjaan melalui interaksi dengan rakan sebaya, penglibatan dan kerjasama pembelajaran. Amalan sebegini akan memberikan kesan terhadap peningkatan kecekapan ICT di kalangan para guru sekolah menengah di Iraq.

Katakunci: Teori Konstruktivisme sosial, interaksi dengan rakan sebaya, kerjasama pembelajaran.

Acknowledgements

In the name of Allah, the Most Gracious and the Most Merciful; all praise is due to Allah, Lord of the world. Blessings and peace be upon His Messenger, Muhammad. Praise is to Allah, the Most Exalted, whose mercy and blessing have enabled me to complete this study.

There are a number of individuals whom I owe my deepest gratitude. Firstly, my sincere appreciation, gratitude and heartfelt thanks go to my supervisor**, DR. WIWIED VIRGIYANTI** for continuous guidance, suggestions, and constructive criticisms in order to make this work a success, I thank her very much.

I would like to extend my appreciation to all the professors whom I met at UUM for their mentorship in my academic career. this dissertation is dedicated to my late parents. I dedicate this thesis to my wife and My children who unremittingly supported me during my years of study. They made this work possible.

To all my brothers and sisters, I say a big thank for their help and contributions, too many moments of insight, inspiration and support throughout my study.

I express my deepest thanks to Ministry of Education in Iraq for helping and supporting me and giving necessary advices and guidance and arranged all facilities to make my study (Master of science Information and Technology) easier.

Last, but not least, special thanks goes to all staff of Information and Communication Technology, College of Arts and Science, University Utara Malaysia and those that contributed indirectly towards the success of my studies.

THANK YOU UUM

NADHIM AZEEZ SAYEL

JUNE 2016

Table of Contents

List of Figures

List of Tables

List of Abbreviations

ICT	Information and Communication Technology
SNS	Social Networking Site
MOE	Ministry of Education, Education
MOHE	Ministry of Higher Education and Scientific Research
SCOT	Social Constructivism Theory
INT_P	Interaction with Peers
CL	Collaborative Learning
ENG	Engagement
ICT_P	ICT Proficiency
ZPD	Zone Proximal Development
ASMO	The Arabian Standards Organization
PROEDI	Social Network as an Initiative to Support and Encourage Portuguese-Speaking Teachers to Independently Pursue Their Training in ICT.
PLANE	Social Network Pathways for Learning, Anywhere, Anytime.
TSAF	Teachers Self-Assessment Form
IPSAT	ICT practical skill Achievement Test
OSN	Online social networking

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Information and Communications Technology (ICT) is a network that offers a steadily expanding range of new services (Saad & Hanna, 2011). It is a computer-based tool, used by the workforce of an organization to process information and communications needs. It encompasses the computer hardware and software, the network and several other devices, e.g. audio, video, photography, camera, etc., that convert information and so on into a common digital form (Yusuf, 2005). Njoku (2006) identified the three categories of ICT as processed information (computer systems), disseminated information (telecommunications systems), and represented information (multimedia systems).
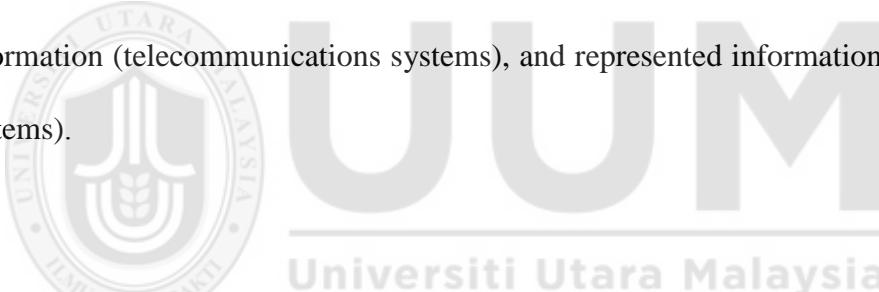
Nowadays, ICT is not only considered as a tool that can be added to existing teaching methods, but is also seen as an important instrument to support new methods in the teaching-learning process (Yusuf, 2005). ICT is being integrated into the teaching-learning process in various educational institutions throughout the world. The successful integration of ICT into the teaching-learning process is highly dependent on the skills of teachers. The use of ICT in the classroom is very important for providing opportunities for students to learn and operate in the information age (Singh & Chan, 2014). The impact of modern ICT has significantly changed the speed of production, as well as the use and distribution of knowledge. At one time, the principal teaching resources available to a professor were the books in the college library,

blackboards and an occasional map on the wall of the classroom (Allahawiah & Tarawneh, 2015).

If students are expected to learn how to use technology to address the problems and to acquire the skills of the 21st century, it is logical that teachers must be or become proficient and effective in ICT to maximize learning outcomes. The focus for teachers, and those who train them, is on educator proficiency and effective practice (Lemke, 2002). Empirical evidence has shown that teachers tend to teach as they were taught (Struyven, Dochy & Janssens, 2008).

Individuals need to utilize properly these opportunities presented by the explosive growth of ICT. On the other hand, the use of ICT enhances the quality of education by helping teachers to do their job more effectively (Iloanusi & Osuagwu, 2009). For instance, claimed that, if teachers were to revolutionize their classrooms with ICT, ordinary students would make massive gains, and wherever illiteracy is a problem, it would be dissolved, and students would have immense new vistas opened to them (Geisert & Futrell, 2001). Akudolu and Olicbie (2007) stated that in the present ICT era, the lack of access to ICT, among other things, push a nation off the information superhighway. This makes it impossible for the nation to change to become a knowledgeable society, stagnates that nation's international competiveness, and reduces the citizens' quality of life.

The ICT proficiency of teachers includes their ability to use the wide variety of technology-related tools and apply them to their classroom teaching practices. In the

2

previous study, "Technology Competencies for All Educators", a rating scale was used to gather data on the ICT proficiency of teachers, with regard to the usage of computer-related tools in the classroom. Consist of Essential proficiency for Computer Operations; Word Processing (MSWord); Spreadsheet (MS Excel) and Graphing; Presentation (MS PowerPoint); Databases (MS Access); Search Engines (Google, Yahoo,) and Communications (e.g. Email), and Looking up Information on CD-ROMs (Rastogi & Malhotra, 2013; Ropp, 1999; Training & Australia, 2005; Bozdoğan & Özen, 2014; UNESCO, 2002).

The incorporation of ICT into the Secondary education system has the potential to positively influence social situation of a country as, the distribution and accessibility of resources and information will be enhanced. As well as students will be appropriately skilled when they join the ranks of the workforce and the ability of students to comprehend and absorb information will be improved. Furthermore, students and teachers can create a learning situation that is conducive to their preparation for future endeavors (Kozma, 2005).

Over the past five years, social media has become one of the most prominent genres of social software, popularised by Myspace and Facebook. Each tool has been used by hundreds of millions of users. They provide spaces for online conversations and sharing of content. They operate typically by maintaining and sharing profiles, in which individual users can represent themselves to their stakeholders through the details of such as personal information, interests, photographs, and social media tools. Through the profiles, users of social media could decide on whether to make friends

3

or not. When users are familiar with the concept, they could personalize their page setting (Selwyn, 2009).

The purpose of this study is to examine whether the use of social media in education could be used as a source to improve ICT proficiency and meet the criteria for ICT proficiency, teachers' interaction practices, and teachers' perceived ability to collaborate and communicate with colleagues using social media tools. Specifically, this study attempts to examine to which extent teachers that the social media community in education provides opportunities for active learning, where the information presented in an educational community is coherent and can be integrated into their daily lives.

1.2 Problem Statement

The integration of Information and Communications Technology (ICT) into education is one of the main approaches towards fostering the twenty-first century skills in teaching and learning processes (Daud & Khalid, 2014). However, teachers still face difficulties in using specific applications, including Microsoft Office (like Microsoft Word, Microsoft Excel, Microsoft PowerPoint, Microsoft Access). Prasad, Lalitha and Srikar (2015) and Singh and Chan (2014) found that this demonstrates that there is a gap for further development in ICT proficiency amongst teachers. Bridging this gap will be vital in supporting the implementation of interactive ICT multimedia tools and network-based learning.

The previous studies (Mugahed Al rahmi et al., 2014; Al-rahmi & Othman, 2013) used social media in improving the academic performance of graduate and postgraduate students. This study focusing on secondary school's teachers and not many research had been done in this level. The aspects theoretical in this study lies in the use of social media relate with ICT proficiency among teachers, providing empirical data and expansion on the previous studies.

Alalgawi, Rosnafisah and Norshcakirah (2014) found that most teachers are not proficient in ICT skills applications in Iraq. As UNESCO (2014a) further discovered that it has led to the creation of a new generation of ICT-ignorant students. There is a number of factors that contribute to the weakness of ICT proficiency among teachers. These include the policies of the Iraqi government in the mid-1980s, which focused on military affairs due to their conflicts with neighbouring countries(UNESCO, 2014b). After three decades of war, economic hardships and UN-imposed sanctions, teachers have been cut-off from the outside world for a long time, as shown in their limited access to global journals, textbooks, and online resources, the education sector infrastructure of Iraq collapsed (UNESCO, 2014b). In addition, more importantly, the teachers in Iraq unable to access training in through the Ministry of Education and presented with difficulties of movement between areas due to security conditions.

Bissessar (2014) discovered that teachers prefer social media because it helps in developing teachers professionally through the provision of information on the curriculum, teaching methods, and instructional technology. For instant, it is good practice to reflect on Facebook. There are various functions on Facebook that support learning, either synchronous or asynchronous, individually or in groups, in text or

5

other media elements and many others. Based on such reason, approximately 80% of teachers spend their time online every day on social media activities (Lei , 2009).

According to Maria (2012), it has been proven that the reasons for the spread of social media among many people because it is simple to use in daily life, the tools are extremely easy to use, it has a low cost, and it can be implemented, in some cases, within a matter of days. Participation in informal social media can be a powerful catalyst to enable teachers to improve their proficiency (Maher, Sanber, Cameron, Keys, & Vallance, 2013). One of the main reasons for the participation of teachers in informal social media is that it fulfils their immediate needs or desires. Furthermore, one of the identified benefits of social media is its ability to reach teachers, regardless of where they live and work (Maher et al., 2013). Hence, teachers have access to information and resources when needed, and the physical barriers to enable access have been removed, allowing learning to occur anytime, anywhere and 'just-in-time'. Other than that, social media platforms made it possible for teachers to interact with each other, share ideas and to express their creativity (Maher et al., 2013).

The basic principle of social constructivism is that the social environment is the helper of knowledge building and that learning should not be separated from the environment. In social constructivism, the main hypothesis elaborates that knowledge and learning is a combination with several perceptions (Smith & Ragan, 1999). Social constructivism therefore places stress on the process of social interaction and collaboration among learners. On the other hand, the idea of "Zone Proximal Development (ZPD)" is essential for understanding proper instructional conditions. Vygotsky (1979) describes the ZPD as a detachment among the real growth,

mentioned in the independent problem-solving context, in association with the talented peers.

The previous studies addressed the power of social media in academic performance development among university students and postgraduate students (Mugahed Al rahmi et al., 2014; Al-rahmi & Othman, 2013). Therefore, this study see by to examine the relationship between of social media and ICT proficiency the practice among secondary school teachers. While this has not been studied in previous studies, this study ventures into it, by considering teachers in secondary schools as the focus of study.

1.3 Research Questions

Based on the problem addressed in the previous questions, the following questions have been formulated:

1. How does interaction with peers among teachers in social media relate with teachers' ICT proficiency through collaborative learning?

2. How does engagement among teachers in social media relate with teachers' ICT proficiency through collaborative learning?

3. How does collaborative learning among teachers in social media relate with teachers' ICT proficiency?

1.4 Research Objectives

To answer the research questions and to provide the solution to the described problem, this study aims at achieving the following objectives:

1. To investigate the relationship between interaction with peers among teachers in social media with teachers' ICT proficiency through collaborative learning.

2. To investigate the relationship between engagement among teachers in social media with teachers' ICT proficiency through collaborative learning.

3. To investigate the relationship between collaborative learning among teachers in social media with teachers' ICT proficiency.

1.5 Significance of the Study

The significance of this study can be elaborated in two parts:

1. The first part is the theoretical aspects. The previous studies (Mugahed Al rahmi et al., 2014; Al-rahmi & Othman, 2013) used social media in improving the academic performance of graduate and postgraduate students. This study is focusing on secondary school's teachers as not many research had been done in this level. The aspects theoretical in this study lies in the use of social media relate with ICT proficiency among teachers, providing empirical data and expansion on the previous studies.

2. The second part is the practical aspects. This study focuses on the steps to elevate the utilization of ICT proficiency by Iraqi teachers in the education system in secondary schools. In the view of the development, the result of this study will uncover and guide decision makers and the personnel in the Ministry of Education towards an effective implementation of ICT proficiency in the country's educational system.

This study provide evidence about the relationship between of social media and ICT proficiency among secondary school's teachers on their interactions and engagement in secondary school to use online learning tools. This study attempts

to provide research and information that will promote more instructional use of social media and shed a more positive view on how these social media can be an asset to education.

1.6 Scope of Study

This study focuses on secondary schools in Baghdad-Karkh 2nd, focusing on the teachers as the subjects of study. The scope of the study consists of all secondary school teachers in Baghdad-Karkh 2nd which constitute a total of 1620 teachers (Ministry of Education & Statistics, 2014). The sample size for this study is 180 according to Table 3.1 (see chapter 3). It is intended to examine the relationship between the use of social media and ICT proficiency among teachers in the to an area. There are two reasons to choose teachers of secondary schools; firstly, the students of secondary schools need appropriate amount of knowledge because after the secondary schools, they will continue thair further study to higher education level (UNESCO, 2014). Secondly, the ICT tools are used to create more engaging learning experiences among the secondary school students, because with such tools that enable students to acquire new literacies and think differently, students seemed more interested in learning (Saad & Hanna, 2011). Therefore, as the education provider, teachers need to be ICT proficient to produce ICT literate students.

For the purpose of this study, Baghdad - Karkh 2nd was selected to be the focus of the study because of the following reasons:

i.   The local authority in Baghdad - Karkh 2nd has good incentives in applying ICT application in their vicinity. This positive approach ensures that the desired data could be collected smoothly.

ii.   It has a better communication bridge between the teachers, school administration, parents, students and the Directorate of Education. Therefore, the data collected will prompt a great interest to the policy makers and the education administrative (Fadhil & Osman, 2014).

1.7 Summary

This chapter gives an insight of the work by describing the motivation factors that lead to the selection of the area studied. It also explains the objectives of conducting the research, as well as its significance to the real world situation. These elements are important as it ignites the implementation of the research. This research focuses on the role of social media in improve ICT proficiency among secondary school teachers in Baghdad - Karkh 2nd Iraq. The rationality for linking the effect of social media on interaction with peers, engagement and collaborative learning among teachers with the ICT proficiency was based on the literature and the premises of social constructivism theory. The next chapter deals with the literature review which elaborates on related works that have been established in the same field.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The framework for this literature review includes defining ICT and ICT proficiency. This chapter provides information on the mastering of ICT among teachers in other countries, as well as the use of ICT in Education. This chapter also gives information about the most important skills of ICT between teachers that are used in the classroom. In addition, teachers' attitudes of the use of ICT and provides us with background for use of ICT in developing countries and the Arab world and Iraq in particular are also discussed.

One definition of social media is that it refers to "technologies that emphasize the social aspects of the Internet as a channel for communication, collaboration, and creative expression and is often interchangeable with the terms Web 2.0 and social software. Social media platforms include Google+, Google Documents, Facebook, Twitter, LinkedIn, Yammer, aspects of Microsoft SharePoint, YouTube, blogs such as WordPress, and wikis such as Wikipedia. In addition, this chapter offers the views of teachers on the use of social media for professional development of teachers and includes a number of previous studies using social media to develop the proficiency of ICT. Social constructivism theory is used as the theoretical rationale for this study.

2.2 ICT Proficiency

Information is facts or details about something, while communications are methods by which it is delivered (as prints or on radio or television). Technology is the practical application of science or the art applying scientific knowledge to practical problems.

According to national policy for Information Technology, ICT is any equipment or interconnected system of equipment that is used in the automatic acquisition, storage, manipulation, management, control, display, switching and transmission of information. These include computer applications, internet and newsprints, radio, television and telephones (Uwameiye, 2015).

ICT proficiency involves the capacity to employ digital technology, communication instruments and/or networks to fulfil a requirement in the context of information. Other than the acquirement, management, integration, evaluation and generation of knowledge, skills in this area are also essential for the sharing of this knowledge (Dede, 2010). Tracy (2008) highlighted that ICT proficiency is the displayed capacity to carry out a specific ICT related function. A teacher, though knowledgeable on computer and productivity software (know-how) usage, may not be similarly knowledgeable on ways to enhance the capacities of students for teamwork and critical thinking (capability). The performance of a teacher can be elevated with a raised level of ICT proficiency. Knox (2007) defines ICT proficiency as the capability of a person to carry out an ICT assignment in an acceptable way. He also stressed that some form of amalgamation involving knowledge, skills and attitude is essential for ICT competency.

While the skills required for the utilization of specific digital mechanisms, software and infrastructure cannot be downplayed. Their effectiveness will be curbed if not accompanied by the ability to recognize and attend to a range of information requirements and setbacks (Barbara O'Connor, Paul Anderson, McGaw, & Murray,

2002). Figure2.1 shows components of ICT Proficiency and illustrates the foundational set of skills and knowledge that underlie ICT literacy: cognitive and technical proficiency.
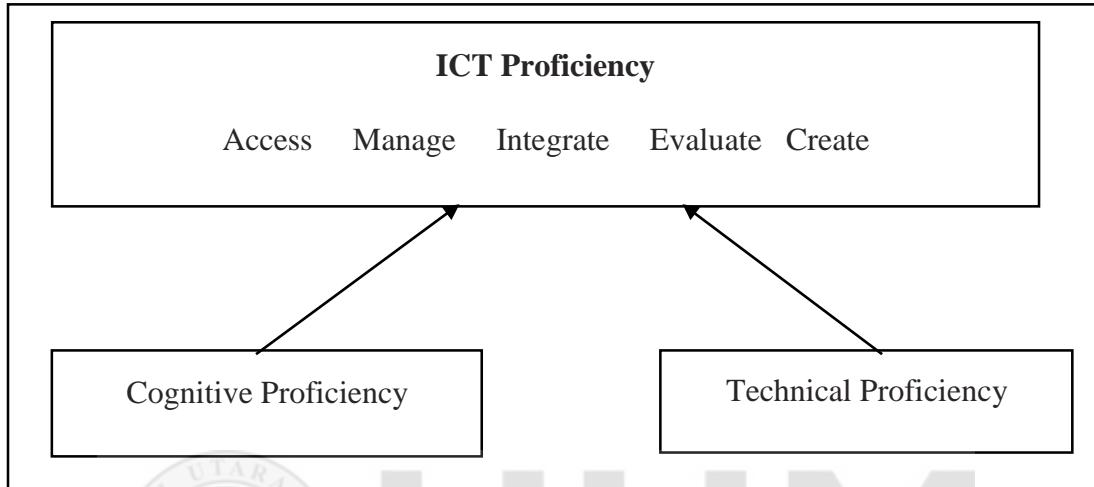
Figure 2.1: ICT proficiency components (Barbara O'Connor et al, 2002**)**

2.2.1 Teacher Technology Proficiency and Confidence

Several studies examined the teachers' proficiency using technology in the classroom and the factors leading to their feelings of confidence. Christensen and Knezek (2008) contended that the predictors of teachers' ICT use were based on the teacher's attitude (*will*), competencies (proficiency) and access to technology. Competency and access are important during the first stages of technology adoption. They also found that teachers who use ICT creatively had a highly positive attitude towards ICT.

In a quantitative study undertaken by Braak, Tondeur, and Valcke (2004) with 468 primary teachers, several factors were found to contribute to computer use by teachers in the classroom. The strongest predictors of classroom use were technological innovativeness (*willingness*) and gender. Males integrated with computers more than

13

females in this study. Supportive use by teachers was determined by computer experience and general computer attitudes. The study was limited by its inability to be generalized to other educational levels. Selwood and Pilkington (2005) discussed the increase in access teachers have to computers and laptops and how effective use leads to saving teachers time through streamlining paperwork and sharing of resources. In this study the teachers agreed that using ICT helped improve their skills, reduced their workload, and made them more productive. They felt positive that they could use ICT to support teaching and learning but felt less confident using it to analyze school and student performance data. According to Bebell, Russell, and O'Dwyer (2004) in an empirical study done with 3000 K-12 teachers, teachers who grew up with technology are comfortable using technology and will use it in schools. How teachers feel about using technology in the classroom can be determined by the training they have had, the time spent other than school use, and their openness to change. Technology use increases if the teacher has grown up using it and is comfortable. This forms the basis of their use in school.

In summary, the studies reviewed some of the factors of teacher proficiency and confidence when using computers in their classrooms. Teachers are more confident when they have experience using computers and can be more innovative as they integrate technology use in their lesson planning and assessment.

2.3 ICT in Education

The emergence of computers significantly altered the education process and educational policies. Technological advancements in the computer development domain included the capacity to accumulate and recover information. The fundamental

role of ICT instruments is the management of information in the context of technologies that stretch from radio and television to computers and communication know-how. A "networked world" is created as a result of the intertwining of these technologies. Developments in this sphere led to the generation of terms such as "computer hardware and software, the networks, and a host of devices that convert information (text, images, sounds, motion) into common digital formats" (Moursund, David, Bielefeldt&, & Talbot, 1999)(p.10).

The popularity of ICT can be attributed to the networking facilities it makes available to both individuals and establishments. The growing influence of ICT at all levels of society is indicated by its current inroads into educational schemes. Hepp, Hinostroza, cLaval, and Rehbein (2004) opined that the incorporation of ICT into the educational scheme will elevate its efficiency and enhance the ability of students to contend with developments in the information domain. In the same vein, Kozma (2005) states that the incorporation of ICT into the educational system has the potential to positively influence the economic and social situation of a country as (a) the distribution and accessibility of resources and information will be enhanced, (b) students will be appropriately skilled when they join the ranks of the workforce, (c) the ability of students to comprehend and absorb information will be improved and (d) students and teachers can create a learning situation that is conducive to their preparation for future endeavours.

2.3.1 ICT proficiency among Teachers

In a study conducted by Tinio (2005) on Survey of ICT utilization in Philippines Public High School, a total of 120 teachers were studied. The data collected were

analyzed using percentage. It was noted that teachers of public schools who made up about 92% of the respondents, lack the competency on how to utilize ICT in teaching and learning activities. They indicated in their response that they need more information on the use of ICT in supporting the curriculum, when ask of ICT proficiency possessed,96% of the respondents stated that they need more training to develop ICT proficiency to be able to share and handle ICT activity with their students.

In another survey research conducted by the National Education Association of Malaysia, for 200 ICT teachers, the data were collected and analyzed. Matthíasdóttir, Dal, and Lefever (2003) noted that most of the teachers who have some familiarity with computers and are able to use a variety of computer software. 94% of the respondents that took part in the survey can surf the Internet. However, they do not know how to transfer computer proficiency into classroom instruction. Recommendation made among others are the need for government to organize frequent workshop and retraining programs. Success in enduring that teachers acquire the skills and knowledge they need to use technology effectively opens door to all kinds of new educational opportunities for both teachers and students. It is the key to participation in the global knowledge-based economy (Carlson & Gadio, 2002). The challenge that globalization has spread to teachers and lies in two basic plans, the educational agent and the learner throughout life, creative and innovative. On the other hand, teachers who take responsibility to operationalize the intentions of current education policies are preparing young people for a successful life in society today (Carlson & Gadio, 2002).

Teachers' proficiency in ICT included their ability to use the wide variety of technology-related tools and their application to classroom teaching, in particular, and to the totality of teaching-learning process in general. In the present study, "Technology Competencies for All Educators" rating scale was used to gather data on proficiency of teachers in ICT Proficiency on Proficiency categories computer related tools usage in classroom. It consisted: Essential for computer operation; Word Processing (MSWord); Spreadsheet (MS Excel) and Graphing; Presentation (MS PowerPoint); Databases (MS Access); Search engines (google, yahoo) Communication (e.g. Email), Looking up information on CD-ROMs (Rastogi & Malhotra, 2013; Ropp, 1999;Training & Australia, 2005; Bozdoğan & Özen, 2014; UNESCO, 2002).

In connection with the reflection that took place about the knowledge of teachers, it is considered appropriate to define what Mishra and Koeher (2006), TPACK model, designated for technological knowledge of teachers, exposing a set of skills that allow essentially guide the development professional teachers in the area of technology, but at the same time realize their deficits and their training needs. Carlson and Gadio (2002) identified as major obstacles to learning the use of technology by teachers, the lack of a conceptual framework, a lack of time, lack of access to computers and the lack of support to do so. Theoretically professional development program model essential for teachers to use technology effectively to improve the learning of their students undergo proper planning, continuing basis, grounding in theoretical models, linked to curriculum goals, incorporate activities formative assessment and support services. Costa et al. (2008) also highlight these obstacles in the development of the project on ICT proficiency conducted under the particularly with regard to the need to

17

design a framework for the skills of teachers in parallel with the development of an adjusted training system.

International efforts have been made for a better understanding of proficiency of ICT for the twenty-first century. Because these efforts ultimately are reflected in policies and educational systems of the countries involved, there are several initiatives that seek to contribute to the definition of ICT Proficiency of teachers in the context of the knowledge society. The two initiatives include two projects which are briefly addressed in the following, and the first one is the UNESCO project - ICT Proficiency Standards for Teachers - ICT-CST; and the second one is the design of ISTE - Preparing Tomorrow's Teachers to Use Technology - National Educational Technology Standards and Performance Indicators for Teachers - NETS.T (NETS-T, 2008).

This document considers the educational framework for the knowledge society students must: (i) be competent in the use of ICT; (ii) be able to search, analyze and evaluate the information they have access; (iii) be able to solve problems and make decisions; (iv) use of critical and efficient productivity tools; (v) to exercise an active citizenship, making informed and responsible contributions. This document also considers that it is the responsibility of teachers to create learning environments and situations that facilitate the use of technology by students to learn and communicate. Given the expressed needs, according to UNESCO (2008), teachers have to be able to create your students learning situations supported ICT. Be prepared to use the technology and know-how ICT can facilitate the process of teaching and learning of their students constitute as basic and essential skills of teachers in the knowledge

society. Thus, according to these standards set by UNESCO (2008), teachers should be able to develop skills in three dimensions: i) literacy in technology; ii) deepening of knowledge; and iii) knowledge creation.

The level of literacy dimension in technology, teachers should be able to use ICT resources to improve their productivity in support of its own acquisition of pedagogical and disciplinary knowledge. The size deepening of knowledge, teachers should be able to use ICT to access and share resources to support their activities and their own professional development, access to tutors and learning communities to support their activities and their own professional development and also use ICT to search, manage, integrate and evaluate the information that can be used to support their professional development. Finally, the dimension creation of knowledge, teachers should be able to continually evaluate and reflect on professional practice for involvement in innovation and continuous improvement, and use ICT resources to participate in professional communities, share and discuss best teaching practices (UNESCO, 2008).

In this context, the most recent definition of the standard of ICT proficiency for teachers is given by NETS.T (2008). NETS.T (2008) identifies a number of necessary conditions for the effective use of ICT in learning processes, namely: i) a shared vision of all stakeholders in the educational process; ii) the commitment of leaders in a process of change; iii) a planned intervention in the integration of ICT in school; iv) a consistent and adequate funding to support technological infrastructures, the development of digital resources and development of staff; v) equitable access to ICTs, which represent robustness and reliability for the whole school community and quality of resources; vi) training of educators for the exercise of their official duties by the use

of ICT; vii) ongoing professional learning, with time devoted to practice and share ideas; viii) ongoing technical support and reliable, both in terms of maintenance of supporting the use of digital resources on learning; ix) structure of curricula; x) centered learning student, depending on their needs and skills, assessment and ongoing enhancement of learning and the use of ICT as learning tools; xi) engaged communities to support and finance the use of ICT and digital resources for learning; xii) support policies, financing plans, creating structures and incentives to support the use of ICT in the education sector and the learning processes; and xiii) external environment support, translated by policies and regional and national initiatives to support educational institutions and training programs for teachers by the effective integration of ICT to meet the standards and curriculum goals and the development of ICT proficiency (NETS-T, 2008).

The level of ICT proficiency of teachers indicate a high lack of skills for the professional use of ICT. This contributes to factors of poor preparation for teachers, implicitly point to the need to solve problems existing at the level of teacher training (Costa et al., 2008). According to Paiva (2002) teachers themselves recognize the need for adequate training with regard to the use of ICT and generally assume a lack of knowledge about the benefits of using ICT in an educational context.

As highlights Carlson and Gadio (2002), several international studies show teacher training in the use and application of ICT as a key factor in improving the performance of students, both in terms of acquisition of knowledge in the development of skills associated with the use of technology. In this light, the professional development of

teachers is essential to the profitability of the financial effort made in terms of equipping the schools.

Ananiadou and Claro (2009) separated ICT proficiency and competencies into three categories:

- ICT functional proficiency that come with the dexterity required for the utilization of a variety of ICT applications.

- ICT proficiency designed for learning (these embrace skills related to the merging of cognitive competencies or higher-order thinking skills with functional abilities for the utilization and administration of ICT applications.

- 21st century skills that are an accumulation of competencies deemed essential in the information domain, but where the utilization of ICT is not an obligatory stipulation.

E-based instructional activities derive from non-linear and interactive traits of digital education and teaching by way of the Web and Internet. The conviction that an adaptive learning setting enhances the educational process calls for its incorporation into Web-based instruction (Abdelaziz, 2013). Horton (2008) claimed that through the approaches listed below, Web-based educational methods offer inventive ways to qualify and quantify learning by:

- Increasing the avenues to knowledge.

- Simplifying the personal knowledge registration process.

- Enhancing the clarity of knowledge so that it is easily understood.

- Ensuring that the knowledge presented is precise, easy to locate, and that its utilization as well as its re-utilization does not involve a lengthy process.

21

- Utilizing knowledge (this entails responding to messages observed in the content column).

Databases Software, E-mail Chatting technologies using text, audio, and/or video text and multimedia displays. These activities give teachers an opportunity to interact with others from a distance. The focus of these activities is on collaborative they may also strengthen teachers' information skills for examples include Information exchanges, Database creation, Electronic publishing. PowerPoint, video, diagrams, and graphics Use videoconferencing, Use simulations Use problem-based learning., Encourage participation in collaborative , group activities and skill-based learning (Mayes, & Freitas, 2012).Web browsers, CD-ROM, Excel or other data processing software Presentation software, audio/video, Image/video editing and display software online books , Web sites. Engagement support discussion forum, blogs, wikis, chart rooms, Discussion forums, and e-mail. Chat, Word Processors, imaging tools, Presentation software, and Presentation software, multimedia (Harris, Mishra, & Koehler, 2008).

Table 2.1

Elaborates Categories of ICT Proficiency

Author	Categories ICT Proficiency
UNESCO(2002)	Basic Concepts of ICT (to identify and understand the functions of the main components and of various peripherals of a typical information and/or communication system. to understand the main functions of the systems software environment in relation to the main generic applications software.); Using the Computer and Managing Files; Word Processing, working with a Spreadsheet; Working with a Database; Composing Documents and Presentations; Information and Communication; Social and Ethical Issues (to understand the social; economic and ethical issues associated with the use of ICT. to explain the current situation and trends in computing against the background of past developments.); Jobs and/with ICT (to be aware of the nature of change of jobs in one's own discipline and in the teacher profession itself, to be aware of the way ICT plays a role in these different jobs).

Ham (2006)	Basic Computer Operation (running programmers; trouble shooting, etc.); File Management (manipulation of documents, folders, etc.); Word Processing (manipulation of text – programs such as Word); Spreadsheet (create charts/graphs, use for record keeping purposes – programs such as Excel.); Database (use pre-made databases such as library catalogue database or create own databases); Graphics (manipulation of pictures and images – programs such as KidPix, Photoshop, etc.); Internet (searching and/or website design); Telecommunications (email, chat, etc.); Presentation/Multimedia (incorporating sound, movies, etc.).
Wahab (2006)	Word Processor - Microsoft Word; Word Pad, Word Perfect; Spreadsheets - Microsoft Excel; Lotus 123; Graphics and presentations - Microsoft PowerPoint; Freelance; Searching information / Internet Explorer; Netscape – Google; Yahoo, Graphic and design – Photoshop; Paint Shop Pro; Multimedia peripherals – digital camera; video; projector; Databases - Microsoft Access; DBASE; Computer Aided Instruction – AutoCAD; Online discussions in newsgroups - www.cikgu.net.my; E-mail - Yahoo mail; MSN Hotmail; Statistical analysis – SAS, SPSS; Downloading files from remote sources; Uploading files from remote sources.

Gulbahar and Guven (2008)	Word Processors (MSWord etc.), Spreadsheets (MS Excel etc.), Presentation Software (MS PowerPoint etc.), Databases (MS Access etc.). Computer Aided Instruction Software Web Page Development Tools (FrontPage, Dreamweaver etc.); Web Browsers (Netscape, Explorer etc.); Search Engines (google, yahoo etc.); Electronic Mail (e-mail); Discussion Lists and Newsgroups, Chat and/or Forum, Electronic Encyclopedia and/or Atlas; Instructional Films (video, CD, VCD, etc.)
Bozdoğan and Özen (2014)	Educational programs Word processing programs (e.g. Word); Spreadsheets (E.g. Excel); Presentation program (e.g. PowerPoint); Music programs (e.g. Winamp); Video player program (e.g. Windows Media Player); Web browser (e.g. Internet Explorer); E-mail program (e.g. Outlook); Chat program (e.g. MSN); E-mail groups (e.g. Yahoo Groups); Web-based forum; Blog (Weblog); SMS.

2.3.2 Teachers' Attitudes towards the Use of ICT

A rewarding employment of computer technology in the educational realm is dependent on several issues. Among them is the attitude of a teacher in relation to the utilization of technology in the educational environment (Albirini, 2006). When it comes to the utilization of innovative technologies in this domain, the attitude of a teacher is deemed a significant factor (Albirini, 2006) as it determines the extent of his/her computer endorsement and usage. A teacher's viewpoint on the employment of technological instruments influences his/her readiness to be exploited in a classroom setting (Kluever, Lam, Hoffman, Green, & Swearingen, 1994).

25

In response to the issue regarding attitude, several investigations were conducted to evaluate the stance of teachers on the relevancy of computers in the teaching process. Harrison and Rainer (1992) based their investigation on information gleaned from a 1990 survey involving 776 knowledge and information personnel from an established southern United States of America university. Their investigation revealed that those harbouring an unenthusiastic view towards computers that possessed a low level of computer usage Proficiency were less inclined to embrace a new technology. The opposite, however, was found to be true for those with a positive outlook on computer usage. Albirini (2004) utilized quantitative and qualitative procedures to gather data for an examination on the viewpoint of EFL educators attached to high schools in Syria. The outcomes from his study suggest that Syrian high school teachers involved in this investigation had a high regard for the employment of new technology in the educational process.

Colleges and universities that acknowledge the significance of this technology will initiate the necessary adjustments to accommodate it, while those with an opposing view will find themselves left behind in the ever-changing educational process (Banister & Vannatta, 2006). In view of the above, this investigation will scrutinize the performance of Iraqi teachers to determine the link between the ICT they employ and their function as educators.

2.3.3 ICT and Teachers

The incorporation of technology into the educational system can significantly contribute to the personal development of students. Roblyer and Edwards (2010) contended that the incorporation of ICT into the teaching process will enhance the

comprehension of students in the areas of concepts, subject matters, expertise and approaches. They identified four grounds for teachers to incorporate new technology into their teaching procedures. Motivation heads the queue. Educators can attain and maintain the interest of students by employing a variety of techniques for the presentation of information. Also, student motivation can be enhanced by teachers who are: (a) allowed the leeway to introduce works resultant from their personal efforts, and (b) given the latitude to manage applications through the utilization of ICT. The second reason for the incorporation of ICT has to do with its wide ranging teaching capacity that includes the provision for (a) linking real-life applications and competencies, (b) envisaging conceptual and unconventional topics, (c) connecting users to an assortment of knowledge banks, (d) opening doors to inimitable learning options and (d) offering a setting for collaborative learning procedures. Thirdly, the utilization of new technology can elevate the productivity levels of both teachers and students through its capacity for monitoring learner development, offering quick and varied information acquirement techniques, and ensuring cost-effectiveness by reducing production time and expenditure on materials. And lastly, new technology can raise the Proficiency levels of students in the areas of technological know-how, information acquirement and concept visualization in preparation for new challenges awaiting them in the information domain.

2.3.4 The Use of ICT for Educational Purposes

Plomp et al. (1996) claimed that in the educational sphere, ICT can come in the form of a study object, a vocational feature, and a vehicle for teaching and learning. The ten grounds identified for the utilization of technology in a classroom environment concern some aspects and they are (a) technology paves the way for personalized

27

teaching which provides students with the leeway to learn and progress in an unintimidating setting at a pace that is agreeable to them, (b) it is essential for students to be adept in information retrieving, assessing and imparting, (c) it can raise student's reasoning and recording capabilities (d) it promotes the development of critical thinking as well as the capacity for students to systematize, examine, expand and assess their work, (e) it can encourage creativity, (f) it can provide the means for students to garner information beyond the confines of a school environment, (g) it can offer students' innovative and exhilarating learning experiences, (h) it will help students acclimatize themselves to computer usage and prepare themselves for future endeavours, (i) it provide avenues towards notable achievements and (j) it can contribute towards the elevation of school's productivity and efficiency levels. The above-mentioned points should serve as encouragement for teachers to adopt up-to-date technological teaching procedures in order to excel in their chosen profession.

According to Murphy (1995), the utilization of technology in a classroom can lead to social growth, improved problem solving skills, learning through interaction among colleagues, a self-reliant attitude in terms of work, and a penchant for investigations. Previous studies have revealed that the promotion of thinking and learning competencies can be accelerated with the incorporation of technology into conventional classrooms. The employment of technology has also developed into an essential part of the language learning process (Tsou, Wang, & Tzeng, 2003). Pelgrum (2001) identified social and economic benefits that come with the utilization of computer technology in schools. These include the reduction of educational expenditures, the propping up of the computer trade, the effective preparation of students for employment and subsistence in highly technological environment, and the

raising of the attractiveness of the school in the eyes of prospective clients. Community programmes have included moves to increase the utilization of technology in schools through the setting up of computer laboratories and the implanting of digital technologies into classrooms (Kozma & McGhee, 2003).

The results from relevant studies suggest that the socio-economic standing of a student has a direct influence on Proficiency in the area of technology. Also, a teacher's ability to incorporate technology into the classroom is dependent on technological Proficiency level (Banister & Vannatta, 2006). The United States Department of Education holds technology in high-esteem as (a) the all-encompassing influence of technology on life in general necessitates student Proficiency in its usage and (b) influential voices in the department are convinced that an appropriate application of technology will serve to enhance the learning skills of students. Technological Proficiency was deemed significant as far back as 1996 when the United States Department of Education stated that it is as elementary as conventional abilities such as reading, writing and arithmetic (United States Department of Education, 1996).

In more ways than one, many present-day teachers find themselves caught in a frustrating situation (Caroll & Resta, 2010). Although they are aware of the need to keep informed on technological advancements in order to enhance their students' knowledge in this area, they are hampered by school environments in which the practices and programmes are considered obsolete by present-day standards.

Networking among teachers for the enhancement of their educational skills is made possible through technological instruments that allow information sharing regardless

of a teacher's location or the time. A survey carried out in the US revealed that teachers considered joint activities such as networking after school hours to be a more fruitful form of professional development than conventional training methods (Lewis et al., 1999).

2.4 Social media in Educational Settings

Studies have shown that social network is slowly being admitted into the learning process through a shift away from traditional learning that allows students to build knowledge through the use of partnerships and active engagement (Ciampa, 2012). The integration of social network tools in classrooms provides more opportunities for engagement and collaboration (Shaltry et al., 2013). Shaltry et al.(2013) found three key goals for employing technology in the classroom: (a) contextual knowledge, (b) increase teachers' technological fluency, and (c) have teachers learn by design.

A social learning environment is formed by building communication that ensures trust, established guidelines, purposeful professional development (Mouza, 2011). The use of laptops, one-to-one devices, interactive whiteboards, games, and internet promotes academic learning and is making collaboration with peers a daily part of teaching (Miranda & Russell, 2012). Social network in education may be used to broadly define a variety of networked tools or technologies that emphasize the social aspects of the Internet as a channel for communication, collaboration, and creative expression, and is often interchangeable with the terms Web 2.0 and social software (Lee & Loughlin, 2011) . Web 2.0 refers to applications that make the most of the intrinsic advantages of that platform: delivering software as a continually-updated

service that gets better the more people use it, consuming and remixing data from multiple sources (O'Reilly, 2005).

The shift from a conventional to an online setting in the context of professional development opportunities is currently discernible (Sawchuk, 2008; Arnold & Paulus, 2010). The utilization of renowned social networking sites to establish links between teachers and generate an environment that facilitates the easy sharing of feedback, ideas, knowledge and opinions has seen the light of day in some districts and states. Such an environment can offer teacher connectivity between beginners and old hands, and between colleagues of a similar category (in terms of grade or area of specialization) on an inter-school, inter-state or even international stage (Sawchuk, 2008; Huang, Hwang, & Chang, 2010).

Social learning communities have the potential to play a significant role in the teacher professional development process (Zalon, 2008). This is attributed to its capacity to offer teachers a collaboration instrument that can be adjusted to suit their requirements and the requirements of the learning community notwithstanding distance or time (Zalon, 2008; Baker-Doyle & Yoon, 2011). Furthermore, social learning communities can make possible the opening of communication sites, the provision of swift responses, and the availability of a wide range of learning approaches (Zalon, 2008). There are some who are of the opinion that networks promoting social learning for teachers ought to be in the form of an unsynchronized communication among a varied assemblage of teachers (Laferrière, Lamon, & Chan, 2006), while there are others who take the stand that the employment of technology for the enhancement of social learning is most effective when (a) the attainment of knowledge is a requirement, (b)

31

learners are influenced by a sense of responsibility, (c) the willingness to learn is apparent, (d) the learning is focused on an assignment, (e) learners are genuinely motivated and (f) all involved share the freedom to impart their distinctive knowledge and skills (Zalon, 2008; Huang et al., 2010; Baker-Doyle & Yoon, 2011).

A survey conducted by Shmucki, Hood and Meell (2009) on the usage of social networking and content sharing among K-12 educators revealed that 61% of participants were members of a social networking website. Facebook (85%), MySpace (20%), LinkedIn (14%), Ning (11%), and Classroom 2.0 (5%) were among the most sought after websites. Curiously, while Facebook boasted a superior number of users, this did not correspond to its usage rate. Instead, the users of less popular websites recorded a higher level of usage. While the majority of survey participants disclosed that their usage of social networking sites was mostly for interaction between family members and friends, there were some who latched on to these sites to connect with colleagues or to stay informed on technological developments accessible from Web 2.0.

2.4.1 Teacher Collaboration

The sense of isolation is the main reason for elevated turnover in the educational profession. This feeling of being segregated stems from the teachers' working circumstance (a sole adult among twenty or more students) and the lofty expectations placed on their shoulders. While this situation cannot be totally rectified, the sense of isolation can be substantially reduced through teacher collaboration. Collaboration among teachers provides them with the opportunity to break free from the negative feelings created by the classroom situation, impart ideas, generate solutions to

32

problems, and in the process discover the security that comes with being part of a whole (De Lay, 2009). Modern day collaboration provides teachers with the avenue to link up with associates located anywhere, anytime (De Lay, 2009; Sawchuk, 2008). As teachers rarely receive encouragement and commendations within their working environment for coming up with imaginative educational procedures, teacher collaboration through social networking can step in and fill this void (Greenhow, 2009).

While collaboration among workers of the same school is more often than not restricted to typical issues (for instance, a problematic student familiar to every teacher), the wider scope of deliberations associated to social networking sites embrace programmes, content sharing and classroom administration (Sawchuk, 2008). Social networking sites can also serve as a means for teachers to work out alternative to bad decisions, return to the classroom, and put things right without being shackled with the negative feeling that follows on the heels of failure (Greenhow, 2009).

2.4.2 Professional Communication

While the states assess the capabilities of teachers in various ways, self-evaluation by teachers in the context of their professional knowledge and Proficiency is also essential. The determination of their professional standing can be realized through social exchanges with colleagues, parents and friends (Sutherland, Howard, & Markauskaite, 2010). During endeavours to raise their professional standing, teachers can gain professional backing, assistance and perhaps even motivation from social communities (Duncan-Howell, 2010). The unsynchronized framework of social media

networks has the makings of a route towards knowledge development (Sutherland et al., 2010) via professional interactions.

An investigation crafted to study the blog component of social learning usage for the development of reform-based procedures, revealed that among the fifteen participants (science teachers), most of the posts submitted belonged to the cognitive, affective and social work categories. Social work embraced resource dispersal, counselling, supporting and interacting. Investigators surmised that during their efforts to introduce reforms, concurring professionals could greatly benefit from what social networking technologies has to offer. However, emphasis has to be placed on developing a community that welcomes the involvement of concurring professionals and is knowledgeable about the way to work in harmony with them to attain positive changes (Luehmann & Tinelli, 2008).

2.4.3 Categories of Social Media Tools

Social media preaches, to break from the highly centralized industrial model of education to enable individuals, learners by designs that concentrate on collaboration and user-generated, interaction, communication and creative network. Tools such as blogs, cooperative enterprises and community content, virtual worlds and social networks are used suitably, have the ability, learning a reality by encouraging the learning activity, autonomy and participation in social networks, the real and virtual several independent communities around the physical and geographical boundaries of the student centered and enhance institutional and organizational. While the basic social agrees to a certain degree, and cultures that occur on a variety of social media

34

sites (Boyd & Ellison, 2008); some completely professional, while others completely social. Following, define and use these tools discussed.

Social media is a group of Internet-based, which create on the ideological and technological foundations of Web 2.0 applications, turn the contact in the interactive dialogue by creating and sharing user-generated content (Kaplan & Haenlein, 2010). There is a variety of social networking tools on the market, many popular tools for a moment, and one that has read quickly for the benefit of another application the following user. For this reason, researchers are divided instruments into five solid social media categories, and the adjusted from Kaplan and Haenlein (2010). The five kinds of social media, as illustrated in Figure 2.3, are: 1) collaborative projects, 2) blogs, 3) contentcommunities, 4) virtual worlds, and 5) social networking.
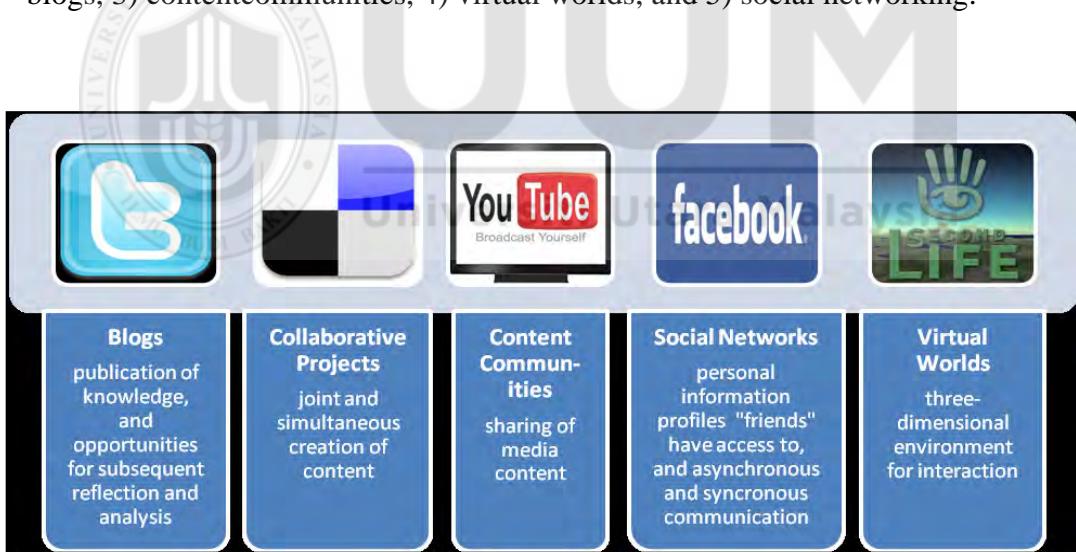
Figure 2.2: Social network Tools: Categorical Focus (Kaplan & Haenlein, 2010)

Blog or web logs, are the earliest form of social network. Around 1960, allows users to send messages to the public with access to the Internet. Such as blog online diary and make a popular place to write about the experience and immediately these feelings and thoughts about the internet published with minimal technical understanding

35

(Huffaker, 2006). Media-based or text is normally carried out by a single person, but it provides the opportunity to interact with others by adding comments. Twitter and Blogger for the time being are two of the most common kinds of blogs.

This allows collaborative shared content and simultaneous projects in order to create more retail. The basic idea behind the cooperation projects are a collaborative effort that many users leads to the best result for each individual user to achieve (Kaplan & Haenlein, 2010). Collaborative projects to facilitate the establishment of the common knowledge and the dissemination of information and collective interaction (Augar, Raitman, & Zhou, 2012). One example is the collaborative projects of social bookmarking and wiki. In the most commonly used in the fields of education social bookmarking presence, Wikipedia and editor of Google Docs as an instrument of public cooperative. Kaplan and Haenlein (2010) warn that cooperation projects, which are usually the key source of information for several consumers to be.

The central objective of the communities is a content exchange media content among users (Kaplan & Haenlein, 2010). There are communities of content for a variety of different kinds of media, including images, text, multimedia presentations, and videos. It also provides an inventive method for people cooperation and communication, and to improve social networks (Ractham & Zhang, 2007). Users can upload and download content from a centralized location, until without being a member of a particular website. Examples are podcasts and a present favourite, YouTube.

Social networking sites are applications that users connect through the establishment of the definition of the data files and invite colleagues and friends to get those formations, and send instant messages and e-mails to one another (Kaplan & Haenlein, 2010). Most sites support the maintenance of existing social networks, but to help others, to connect with strangers on the basis of common interests and political activities or perspectives. Moreover, personal profiles that can consist of any kind of information, such as pictures, audio and videos files, creating an online community for the first time in 1960 (Kaplan & Haenlein, 2010), cause to the introduction of the social networks to online diary, providing the increasing availability of high-speed Internet, noting that the popular concept with sites like Facebook and Myspace, at the present time, two of the most important and largest social networking sites.
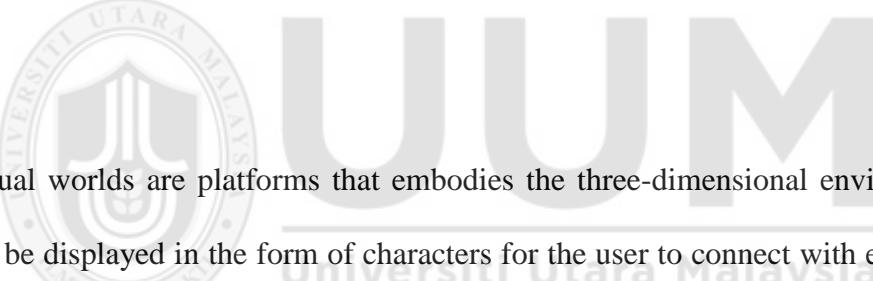
Virtual worlds are platforms that embodies the three-dimensional environment that will be displayed in the form of characters for the user to connect with each other, as if they were in real life (Kaplan & Haenlein, 2010) . Provide the highest level of social participation and the bounties of the media from all social networks; there are two examples of multi-user virtual environments (MUVE). Massively multiplayer online role-playing games (MMORPG) and include games like World of Warcraft. It includes massively multiplayer online real-life games (MMORLG) simulations like Second Life.

For this reason it is classified as social networking tools to adapt from Kaplan and Haenlein (2010), into five key groups: 1) collaborative projects, 2) blogs, 3) content communities, 4) virtual worlds, and 5) social networking.

2.4.4 Twitter

Twitter started as a social networking and micro-blogging service in 2006 (Java, Song, Finin, & Tseng, 2007). Twitter's popularity grew after granted a 2007 at the South by Southwest Conference in Austin, Texas (Java et al., 2007). By 2009, Twitter subscribers involve tens of millions of users around the world (O'Reilly & Battelle, 2009). The use of 140 characters, users can quickly small on the followers of the subscribed Twitter microblogging amounts of information (Java et al., 2007). Twitter differs from other types of blogs or because of SNS sites push information about users without allowing them to provide the forum for obtaining information for the recipient (Dunlap & Lowenthal, 2009). According to Bakhshandeh, Samadi, Azimifar, and Schaeffer (2011), any two random Twitter users are connected by 3.4 other subscribers allowing large volumes of information to pass through multiple connected accounts.

2.4.5 Facebook

Facebook is widely used medium of relations among the people and number of users are over 800 million (Carlson, 2011, Facebook, 2012). More than 50% of the public companies having their Facebook pages (Barnes & Lescault, 2012). Most of the practitioner who are giving service to make public relation can use this tool as a message sender to a targeted population.

Mark Zuckerberg as the Chief Executive Officer of Facebook stated that it is not remained very difficult to convey your message to other people you can now remain touch and conversation become very easy through Facebook (Giannini, 2010). Proper use of Facebook is a critical for interaction and success of relations and may it be called

38

a social network tactic. A good example of social media is Dunkin' Donuts' Facebook fan page with a huge number of fans approximately more than 5,511,586 fans (Giannini, 2010).

To show participation and following of Dunkin' Donuts Facebook web page you can comment on the wall and there is another option of polling on this page. A large number of trader and International relations manager acknowledged that now a days Facebook is a cheaper and cost effective medium to convey the message of a company to their customers. While on the other hand no any media is so powerful like Facebook and these traditional way of marketing could not produce such a good effect of marketing. It (Facebook) gives a space to share something respond on different matters and educate in authenticated style (Giannini, 2010).

2.4.6 Defining Social media for Teaching and Learning

Social media, as stated, may refer to "technology used for three or more people" (Bingham & Conner, 2010). Social media commonly refers to software applications like Google+, Facebook, Twitter, LinkedIn, Yammer, aspects of Microsoft SharePoint, YouTube, blogs such as WordPress, and wikis such as Wikipedia. Social network is defined as tools or functions that promote collaboration and sharing including profiles, wikis, blogs, microblogging, social bookmarking, wall postings, photo and video sharing and tagging, and calendaring (Poellhuber, Anderson, & Roy, 2011).

Digital citizens in the classroom with an arsenal of tools that they allow to participate, serious analysis and multiple tasks through the use of technology in everyday life (Holden & Rada, 2011). Social media is being used as a way for teachers and students to share, communicate, and collaborate on projects. Social media allows teachers to increase their technology skills while becoming familiar with social media, which evolves quickly (Bielefeldt, 2012) . An environment where individuals share with and learn from each other through technology gives opportunities for authentic and sustained knowledge (Shaltry et al., 2013).

Studies have shown that social network is slowly being into the learning process through a shift away from traditional learning that allows students to build knowledge through the use of partnerships and active engagement (Ciampa, 2012). The integration of social media tools in classrooms provides more opportunities for engagement and collaboration (Shaltry et al., 2013). Shaltry et al (2013) found three key goals for employing technology in the classroom: (a) contextual knowledge, (b) increase teachers' technological fluency, and (c) have teachers learn by design.

2.4.7 Explore Learning through Social media

Effective learning environments are a high priority for enhancing learning effectiveness (Shih, Chuang, & Hwang, 2010). Designing a social media setting for students to learn in consists of exploration, collaboration, and knowledge of management processes (Ravenscroft, Schmidt, Cook, & Bradley, 2012). The flexibility associated with applying technology in the classroom provides teachers and students with alternatives to the traditional methods for learning (Jerles, 2012).

Collaborating and sharing information with their peers provided detailed learning for students (Vygotsky, 1978). Collaboration is a crucial part of engagement with technology (B. Chen & Bryer, 2012a). Electronic communication is available in many different ways through social networking sites, and these sites are becoming valuable resources in the classroom for students to share and showcase their work (Larson, 2009). Manipulating informal learning with social media provides a community of formal learning (Ravenscroft et al., 2012). Exploring with social network allows for emerging practices to become less contextualized and more explicit through easier communication (Flumerfelt & Green, 2009).

An environment where the teacher and students embed social network in their learning brings design and content together (Gee, 2003). Social media allows students to investigate their learning specifically around their individual needs (Ebenezer, Columbus, Kaya, Zhang, & Ebenezer, 2012). Teachers enable students to evaluate their own learning and their peers' work through a communicative process involving collaborative development of understanding (Ravenscroft et al., 2012). Teachers also assure quality in their students' work in content networks that support dialogue and design-oriented frameworks through discussions and collaboration. The learning is flexible and creates an approach of democratic and embedded choices (Casey& Evans, 2011; Flumerfelt & Green, 2013).

A study by Kurtz (2009) used Twitter as a way for students to communicate and share their experiences through tweeting about authentic and meaningful topics. This study

involved an elementary classroom where students would write to a real audience through tweets (Kurtz, 2009). Having their work be seen by others offers students motivation to increase their skills in the work they produced (Ivala & Gachago, 2012). Facebook, Twitter, and blogs are seen as the most available resources that are being employed in the field of education to display news and classroom learning. Sharing pictures and videos allows students to gain awareness about current events and make their learning authentic to family and friends (Kurtz, 2009; Larson, 2009).

2.5 Perspectives on the Use of Social Media

The way of social media is implemented in the classroom will be determined by many variables. One important variable is the perspectives of teachers and students (Casey & Evans, 2011). Their shared understanding is dependent on the views they have about using social network as a teaching and learning tool in the classroom (Ivala & Gachago, 2012). The perspectives that educators have are also determined through their use of social network in their personal lives (Porterfield & Carnes, 2012). The popularity and familiarity of social network have given educators the freedom to use it in their classrooms to make learning accessible for all types of learners (Flumerfelt & Green, 2009).

2.5.1 Teacher Perspectives on Social Media

How a teacher uses social media in the classroom for teaching and learning is critical for effective implementation (Mouza, 2011). Teachers' perspectives on social network in the classroom are heightened by their experiences, usage, and familiarity with the tools (Mouza, 2011).

A study by Chen and Bryer (2012) examined the use of social network among eight instructors in public administration in the United States. The qualitative study focused on how educators use social network to connect it to formal learning practices. Social learning was a prime factor in determining if social network allowed students to apply their learning in new and meaningful ways (Chen & Bryer, 2012b). The Chen and Bryer (2012) the study of specific social media as technologies to facilitate social interaction, and cooperation and trade on stakeholders. The findings revealed that a mixture of social network tools were being used by the faculty including Facebook, LinkedIn, blogs, audio/video conferencing, screencast tools, and virtual world services, with course management systems being the most popular (Chen & Bryer, 2012b).

A study conducted by Liu, Jones, and Sedera (2010) found that teachers' perspectives are correlated to their willingness to implement new instructional practices, such as technology, based on their knowledge of theory and educational practices. The study examined 162 graduate students who taught near a college and were taking educational research classes at the local university. The quantitative study found that participants who had master's degrees, taught in postsecondary settings, and had many years of teaching experience were more likely to employ their knowledge about instructional practices as an important factor that influenced teachers' effective use (Liu et al., 2010). The positive impact made by the teacher produced a likelihood of implementing technology based on practices that constructed an environment of learning (Vygotsky, 1978).

2.5.2 Teacher Experiences using Social Media

The teachers completed surveys on issues of technology and factors associated with it, including district vision, The school and the neighbourhood, culture, leadership, technical resources, and technology support staff and professional development, policy and technology. The study was explicit in finding the specific factors that have the largest effect on teachers' use of technology and how these factors interact to affect a teacher's instructional focus (Miranda & Russell, 2012). The results of the study showed that the greatest impact and teacher experience with the technology and overlook the importance of technology in education (Miranda & Russell, 2012).

The teachers in the classroom can be used more experience with technology in general (Walter, Allan, Brookhouse, & Johnson, 2010; Ebenezer et al., 2012). The more that technology is used, the more likely it will be valued for educational purposes (Blau, 2011; Miranda & Russell, 2012). Another finding suggested that the more problems teachers experience with technology, the less they will use it (Walter et al., 2010;Blau, 2011).

Professional development and technical support and integration specialists and professional learning communities can help teachers with the design and implementation of technologies (Miranda & Russell, 2012). How teachers and students view the use of social network can vary greatly. Their perspectives for using it in a formal learning environment will be determine by the guidelines and personal use (Chen & Bryer, 2012b). Examining both, views can bring a shared ideology of using social network an instructional setting (Al-zaidiyeen & Mei, 2010). Many

44

perspectives on the application of social network need to be examined to form a global

view of how it will affect the overall system of teaching and learning and to identify

barriers.

2.5.3 Professional Development of Teachers

Educators' ideologies about implementing social network can be overwhelming if

support and training are not provided (Walter et al., 2010; Harris & Hofer, 2011; Harris

& Rea, 2009). To effectively implement technology in classrooms, professional

development aimed at providing explicit opportunities for teachers to learn can be

daunting if no support is offered by the district (Mouza, 2011). Studies have found that

providing a single instance of professional development will not be an effective way

to introduce new skills (Mouza, 2011).

To implement a new strategy of learning, districts and teachers have to provide support

through a process (Harris & Rea, 2009; Matzen & Edmunds, 2007). The way social

network is used in the classroom varies depending on the experiences of the teacher

and the focus of the classroom (Morsink, Hagerman, Heintz, , Boyer, Harris, Kereluil,

& Hartman, 2010). A study conducted by Buus (2012) in a university setting applied

social network tools with emphasis on a problem-based learning approach. The

integration of technology among the staff provided challenges for incorporating social

network that would allow educators to collaboratively gain ownership of new tools in

their learning. The study was aimed at transforming the learners from consumers of

social network to producers (Buus, 2012). The support offered to teachers is based on

45

how administrators visualize and value technology in the classroom (Avidov-Ungar & Eshet-Alkakay, 2011).

Recognizing that social network is more than a social product and using it as a learning tool can be the first step in opening the doors to its effectiveness (Jerles, 2012). Ertmer and Anne (2010) found that the formation of knowledge and opinions, culture and determine how to integrate technology into the learning environment. Mouza (2011) Description of learning the teacher as the cultivation of habits that reflect the change in practice. Professional development can be the key to help teachers in the application of technology in the classroom and on the basis of their belief systems (Levin & Wadmany, 2006). Wood et al.(2005) found that an obstacle to the technology in the classroom is an appropriate training and professional development for teachers.
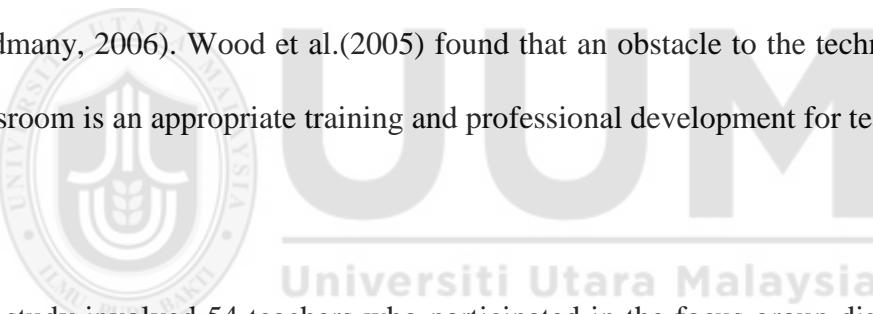
The study involved 54 teachers who participated in the focus group discussions and each questionnaire. The study examines the perception of teachers and objections, and support for the implementation of technology in the classroom, and found threads that, as the actress underrepresented art break in the classroom (Wood et al., 2005). Results supported the idea that the perception of the individual and awareness play a role in the application of technology in the classroom (Harris & Hofer, 2011). Without technical knowledge, the teacher in the classroom, and provide opportunities for them the necessary skills to teach students to acquire can be achieved through professional development (Slepkov, 2008).

46

The quick pace of technology is leaving many teachers with confusion and ambiguity as they try to keep up with the barrage of new tools that are constantly evolving (Anthony, 2012; Avidov-Ungar & Eshet-Alkakay, 2011; Harris & Rea, 2009). In this technological era, many teachers are limited to items that engage forms of communication and expression (Peluso, 2012). Teachers feel uninvolved with the changing scope of technology in and out of the classroom (Ertmer & Anne, 2010) . Misconceptions about technology usage are often a problem for unwilling educators who do not have the skills to manage technology effectively (Holden & Rada, 2011; Palak & Walls, 2009).

Table 2.2

The definitions of professional development (adapted from(Marcelo, 2009))

"The professional development of teachers goes beyond a merely informative stage; implies adaptation to change in order to modify the teaching and learning activities, change the attitudes of teachers and improve the educational achievement of students. The professional development of teachers is concerned with the individual, professional and organizational needs "(Heideman, 1990, p. 4)
"The professional development of teachers constitutes a wide area to include any activity or process that tries to improve skills, attitudes, understanding and performance in current or future roles" (Fullan, 1990, p. 3)
"It is defined as the entire process that improves the knowledge, skills or attitudes of teachers" (Sparks & Loucks-Horsley, 1990, p. 234-235)
"It involves improving the ability to control over their own working conditions, a progression of professional status and the teaching profession" (Oldroyd & Hall, 1991, p. 3)

"The professional development of teachers includes all natural learning experiences and those who planned and conscious attempt to directly or indirectly benefit individuals, groups or schools and contribute to improving the quality of education in classrooms. It is the process by which teachers, alone or accompanied, review, renew and develop their commitment as agents of change, with the moral purposes of education and acquire and develop knowledge, skills and emotional intelligence, essential to professional thinking, the planning and practice with children, young people and with their colleagues over each stage of their lives as teachers "(Day, 1999, p. 4);
"Jobs that promote educators in creative and reflective skills to allow them to improve their practices" (Bredeson, 2002, p 663.);
"A long-term process that includes regular opportunities and experiences planned systematically to promote growth and development in the profession" (Villegas-Reimers, 2003, p.12)
"The teacher professional development is understood as a process, individual or collective that must contextualize the teacher's workplace - the school - and that contributes to the development of their professional skills through different nature experiences, both formal and informal (...) It is a construction of the professional I, which evolves throughout their careers. Which can be influenced by school, by the reforms and political contexts, and integrating the personal commitment, willingness to learn how to teach, beliefs, values, knowledge of the subjects they teach and how to teach them, past experiences, as well as professional vulnerability itself " (Marcelo, 2009, p.7).

"Professional development is defined as activities that develop an individual's skills, knowledge, expertise and others characteristics as a teacher." (TALIS - OCDE, 2009, p. 49).

"DPP is understood as a body of systematic activities that prepare teachers for the exercise of their profession, including initial training, inductive training sessions, training, continuing professional development in the school context." (Scheerens et al. 2010)

The professional development model called training "is aimed at qualified teachers, certification holders or professional qualification and aims at the development of education and its agents, teachers" Madaleno (2010, p.80)

2.6 Country Background

Iraq is one of the Arab countries in the Middle East and has an area of 169,234 square miles. Iran to the east, Jordan and Syria in the west, Kuwait and Saudi Arabia to the south to the north and Turkey. Baghdad is the capital. Most of the country's revenue comes from the oil industry. Iraqi people consists of different ethnic groups, including Sunni and Shiites Arabs, Kurds, Turkmen and Assyrians, Chaldeans, Armenians, Yazidis and Sabean Arabs. Arabic is the language in most provinces and Kurdish spoken language as an official language in Kurdistan (Abedalla, 2014). The following figure illustrates the map of Iraq.
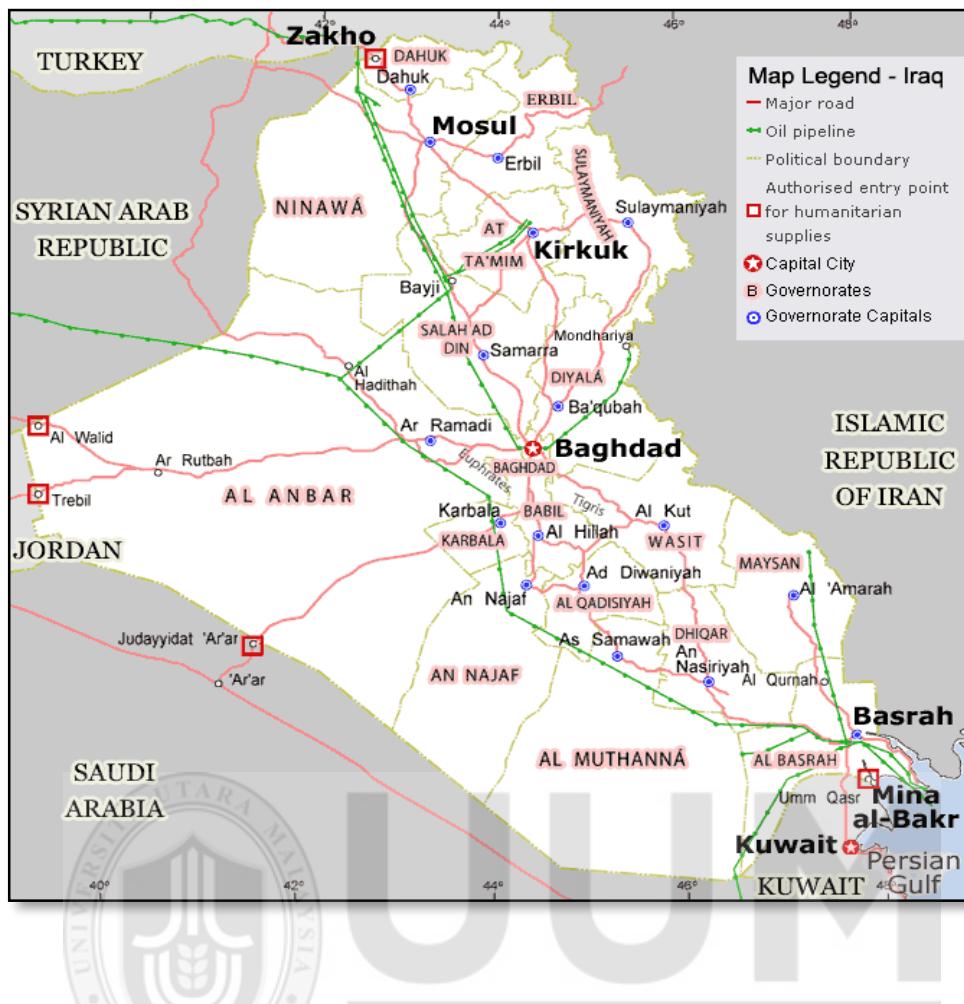
Figure2.3: Map of Iraq (Abedalla, 2014)

2.6.1 ICT Climate in Developing Nations

The main purpose of the light on the environment are investigated in this study with respect to the adoption of ICT in Iraq, it begins by describing the current state of the use of ICT in developing countries, and continues with a discussion on the state of ICT in Iraq and the Arab countries in general and education in special.

The obstacles to the effective use of ICT is the digital divide between developed and less fortunate countries which suggested the need for more ICT research in the context of agreements with the less developed countries to bridge the gap (Ali, 2004). The

dissemination of ICT in developing countries patterns tend to the digital divide rather than expand instantly ease which indicates that the mere application of technology in a developing country is not the whole solution (Müller, Gil, Hernández, Giró, & Bosco, 2007).

Learners or students in developing regions struggling with limited technology and the budget to transform the cultural context of the utilization of ICT into something significant for them (Aduwa-Ogiegbaen & Iyamu, 2005). Although the spread of ICT provides an incentive for economic growth, the result depends on the role of the education sector in the production of trained workers and technically trained (Mistry, 2005).

Though, the developing regions or countries are faced with numerous challenges to accept and adopt the new technologies in the learning or educational system and environment. In Malaysian universities, Wee and Abu Bakar (2006) discovered that the prompt growth of technologies in the absence of spending adequate effort and time to comprehend the technologies, which is seen as one of the hindrances of the modern technologies. They also discovered that the absence or lack of network connectivity, as well as the lack of management encouragement and support for the academic staff to utilize the technologies in learning and teaching process. This obstructs the integration and adoption of technologies in the learning or educational system.

51

The diffusion of the Internet in the developing world of nature not only to the communications infrastructure, but also to the development of education (Deichmann, , Eshghi, Haughton, Masnghetti, Sayek, & Topi, 2006). However, the digital divide, the double education problem because the cost of education systems supported by the technology, and education are the key challenges for them in a position to compete in the global community (Yang, 2006). In addition, always educational technology does not have acceptance in the developing countries to an increase in direct proportion to the results of student learning result, so it is important that the critical success.

factors in order to understand to improve results (Yang, 2006 ; Müller et al., 2007). Therefore, the ICT in educational curriculums must be enhanced to increase the national economic productivity for the generation of economic well-being to back the dispersal of technology in the wider population.

2.6.2 ICT in the Arab World

The Arab world consists of twenty-two countries, with all of them under the league of Arab states. ICT was introduced in the Arab world in the early 1960. In that time, the efforts of Arab countries were focused on utilization of IS tools and translating them into the Arabic language. This encourages the information technology companies to produce Arabic software product. Created as a result of this unified Arab efforts icon that was founded in 1985 by the Arabian Standards Organization (ASMO), and the Office for the Coordination of Arabisation specialist organizations within the League of Arab States (Goodman & Green, 1992).

The ICT becomes a main cause in an economy that drives economic, human and social development. The significant increase in the utilization of the Internet and ICT by individuals, the government and non-government in the Arab world has caused many changes from the traditional, to the digital world. Hence, an increase in economic knowledge is crucial in developing countries to develop a strategy for information and communication technology. Over the past three decades, information and communication technology for the driving force of the world economy and the attention of national leaders of the industry has grown (Association-Intaj, 2007).

Numerous ICT adoption researches have been conducted extensively in the industrialized world, however, there is insufficient knowledge on ICT adoption in the Arab regions specifically, and in less developed countries at large. The embracing of technologies in the Arab countries as compared to other regions in Europe, North America, and other developing countries, is still at its very primary stages (Rasmy, Tharwat, & Ashraf, 2005). Adoption and practice of ICT in the Arab countries has not been fully researched by academia or practitioners in the region. Many countries in these regions are still far behind the developed countries in regards to the adoption of technologies. In addition, various organizations situated in these regions are not prepared to accept the ICT. The shortage of interest in ICT adoption, basic infrastructure, expertise in the domain, senior management support, level of skills and education, sufficient funds, and the opposition to anything that is modern or unfamiliar, uncertain, and unclear all hinders the adoption of the new technologies (Twati & Gammack, 2006).

In the last world economic forum in Indonesia, 2011, the Global Information Technology Report presents that the UAE continues to be the highest-ranked in the Arab world and ranked 24th over the world in terms of utilizing ICT. The second rank in the Arab world is Qatar (25th), followed by Bahrain at (30th) and Saudi Arabia (33rd). The performance of the Arab countries is uncertain, but some governments have clearly put the ICT development at the heart of their competitiveness agenda (Dutta & Mia, 2011).

2.6.3 ICT in Iraq

The education systems in most of countries in the world have evolved due to emergence of ICT. However, in terms of infrastructure, applications, the development levels of ICT in teaching and learning as well as in implementation wise are differed by country, region, area, and institution. In Middle East, a developing country like Iraq has demonstrated a wide range of interest with regards to ICT development in education system such as "ICT in Education for Iraq" A project on the development of sustainable capacity in the Iraqi Ministry of Education in order to continuously improve the quality of teaching and learning , with an emphasis on the use of ICT (Magambo, 2007).

According to UNESCO (2003) and the Iraqi Ministry of Education (MOED) (Alwan, 2004), Iraq was the first country in the Middle East to introduce basic computer and programming subjects in secondary and elementary schools. UNESCO also argues that the learning and teaching quality in Iraqi schools depends on the improvement of ICT knowledge and practices.

54

2.6.4 ICT in Iraq Education System

ICT can be adopted in various ways. ICT does not only present innovation in the field of education, but also enhancing the efficiency of the teaching and learning processes as well as redefines the relationship between teachers and students. ICT facilities and resources, such as computers and the Internet serve as important instructional tools for teachers. The adoption of ICT in schools can significantly improve pedagogical outcomes, which can benefit both teachers and students. However, it can be seen that the ICT adoption in the Iraqi education system remains unclear. No attempts to gauge the real ICT situation in Iraq that includes the skills of teachers, the availability of ICT infrastructures, and the factors that affect ICT adoption (Saad & Hanna, 2011).

Most educational institutions require reconstruction, refurbishing, and additional resources for science, technology and other practical subjects. Libraries need to be replaced. The promotion of creative practices and the transformation of the Iraqi education system remain dependent on the in-service training of teachers, who have been cut-off from the outside world for a long time, as shown in their limited access to global journals, textbooks, and online resources (De Santisteban, 2005).

2.6.5 Structure of the Education System in Iraq

Formal education course in Iraq is 12 years - six years of compulsory education and the people (from the age of six), followed by six years of secondary education (three medium and three preparations). Students who complete the preparation route and the minimum entry qualifications can go directly to the university or college, for a period of not less than four years. Students have the option of Teacher Training (5 years) or

55

vocational training (3 years) programs to choose according to the middle stage. Those

who can outperform for these programs in the final exams in colleges or universities,

be allowed to pursue higher studies (Unesco, 2014b).

Table 2.3

Number of School, Teachers and Students in Iraq

	Iraq	KRG
Total Number of Students[1]	6,604,167	1,031,604
Total Number of Teachers[2]	466,960	86,580
Total Number of Schools[3]	23,271	5,323
1. Covering Kindergarten, Primary, Intermediate, Secondary and Tertiary school levels. 2. Covering Kindergarten, Primary, Intermediate, Secondary, and Tertiary school levels, as well as Institutes and Vocational schools. 3. Covering Kindergarten, Primary, Intermediate, Secondary, and Tertiary school levels, as well as Institutes and Vocational schools.		

Management and organization of education in Iraq is a central under two ministries

are the Ministry of Education, Education (MOE) and the Ministry of Higher Education

and Scientific Research (MOHE) (Unesco, 2003). The Ministry of Education (MOE)

is responsible for managing and implementing the pre-school and primary and

secondary education, teacher training, including the latter, and the Institute of Fine

Arts and technical/vocational education (Unesco, 2003).

2.6.6 Internet and Social media in Iraq

In recent years, the Internet and social network as a communication tool allowed users to communicate very quickly. There was no clear number of Internet users by 2003, because there were few people who have access to the Internet. However, the number of users began to increase after 2003 (Abedalla, 2014). Currently, the Internet situation and access to social network has improved data collected on the participation of civilians in access to the Internet in 2009. At that time nearly 325, 900 Iraqis had home access to the Internet, occupies position 126 to access the Internet worldwide (Abedalla, Escobar, & Al-Quraishi, 2014). Access to the Internet in 2011 for homes in Iraq nearly 60%, this means occupies advanced positions to get to the Internet (Mark & Johnston, 2011).

2.7 Theoretical Framework

The study will designed to examine perceptions of social network use from the theoretical perspectives of social constructivism. Vygotsky (1978) inferred that children learn through social interaction and guidance from peers and adults. Lave and Wenger (1991)expanded the social learning concept to adults by viewing apprenticeship as a way to bridge experienced with less experienced community members. Through social interaction, sharing personal experiences, and role modelling, learned knowledge transfers and distributes throughout the community (Lave, J., & Wenger, 1991). Lave and Wenger defined the experience as situatedness; learning which occurs within a specific sociocultural context.

Varney (2009) noted supports social constructivist principals as individuals bring cultural and professional experience to group learning and construct knowledge

57

through interaction. In education, (Viel-Ruma, Houchins, Jolivette, & Benson, 2010) believed that social learning with colleagues affects a teacher's sense of self-efficacy. Teachers who engage in meaning-making through collaboration will increase opportunities for self-reflection, positive self-efficacy, and improved student outcomes (Nelson, LeBard, & Waters, 2010; Dufour & Dufour, 2008).

Lave and Wenger (1991) extended social learning and learning concepts, through the community of practice model. Wenger (2006) stated that a community of practice provides a real-life curriculum for the novice learner. Anchored within social constructivist principles (Bronack, Riedl, & Tashner, 2006), communities of practice are socially driven entities composed of domain, community, and practice (see Figure 2.4.) (Wenger, McDermott, & Snyder, 2002). According to Wenger (2006), domain refers to the members' shared competencies with an area of interest, while community includes the activities in which members engage (e.g., sharing stories, problem solving, and seeking information). Wenger (2006) conceptualized practice as the reification of knowledge by creating resources for the community. In communities of practice, learning occurs through tacit and explicit forms of knowledge exchange (Lave, J., & Wenger, 1991; Etienne Wenger et al., 2002).
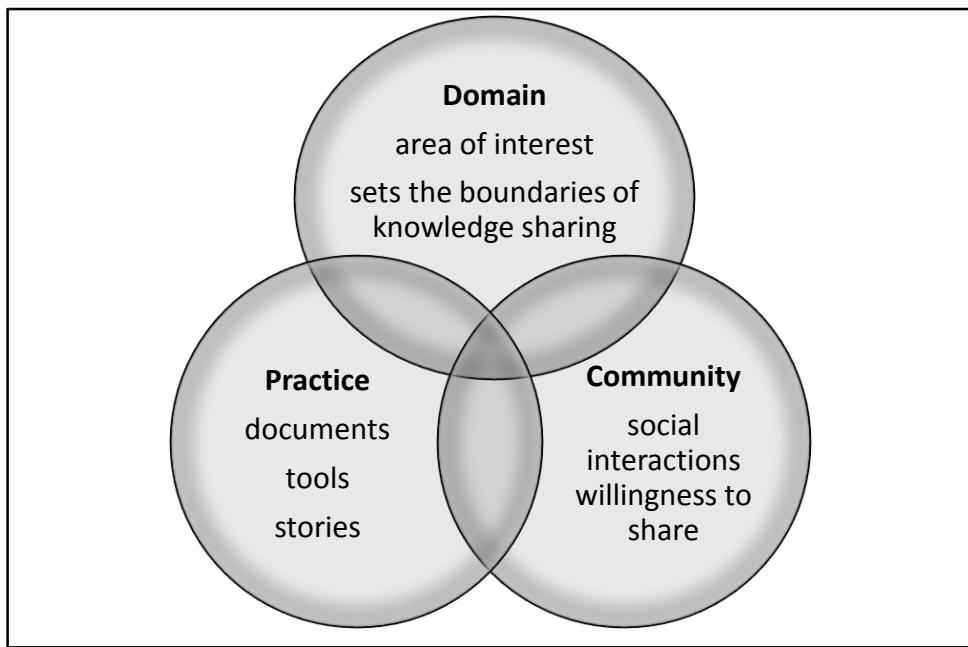
Figure 2.4: Community of practice model (Wenger, 2006).

Derven (2009) added, as technology becomes a part of daily life, administrators might leverage employees' technology proficiency to support employee learning and relationship building. Interactive technologies, such as social network sites, may offer a means for administrators to connect with the growing millennial workforce (Derven, 2009). According to Correia and Davis (2008), online communities of practice undergo a constant state of flux, reconfiguring knowledge and reshaping group identity. Hur and Brush (2009) inferred that teachers value online communities as a place to share emotions and work-related concerns. Duncan-Howell (2010) surmised that teachers preferred sharing professional issues with colleagues who did not work in the same physical environment. Duncan-Howell (2010) suggested that online communities might offer teachers the ability to confide with other professionals in a separate, virtual location. Despite the value teachers may place upon informal online venues, teachers may perceive online discussion forums as a preferred means for professional development (Duncan-Howell, 2010).

Constructivism focuses on a learner's personal experiences with regard to physical occurrences in his/her daily life (Piaget & Duckworth, 1970). On the other hand, a social constructivist is of the opinion that learning necessitates the supporting presence of others. Learning requires one to be part of a metaphorical world with its theoretically ordered and rigid belief systems determining what is real, the way to achieve objectives, and what is to be appreciated (Bruner, 1985).

Baviskar, Hartle, and Whitney (2009) recognized four constructivist criterions. They stressed that for any teaching or learning process to be deemed constructivist, these criterions need to be abided by. The acquirement of prior knowledge is the first required criterion. This is in line with the principal that all new knowledge gained by an individual is related to the knowledge that a person already holds. The second criterion is a requirement that an individual comprehends the disparity between his/her prior knowledge and new knowledge. The third criterion involves the application of knowledge in accordance to feedback received. Here, an individual need to decipher and alter prior knowledge from the perspective of new knowledge. This criterion is in line with the portrayal of constructivism as a communal and concerted activity (Al-Fadhli & Khalfan, 2009), which works to permanently incorporate the new knowledge. Learning is declared successful upon the permanent incorporation of new knowledge (Baviskar et al., 2009). Theoretical framework in this study explains in Figure 2.5.
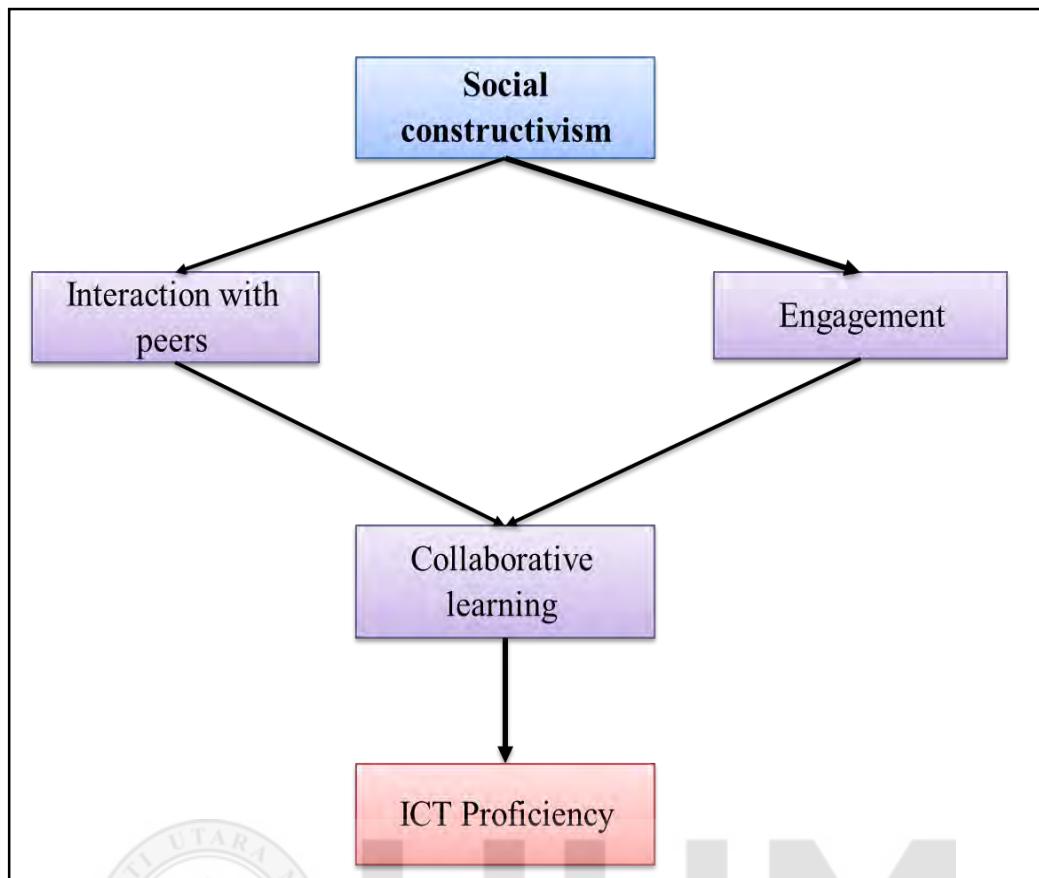
Figure 2.5: Theoretical Framework (Mugahed Al rahmi et al., 2014)

Traditional learning techniques can interrupt smooth interactions within the class (Cotner, Fall, Wick, Walker, & Baepler, 2008). In addition, limited class time, rigid seating plans and students' reservations about speaking in school are really known as vital obstacles towards class interaction (Draper & Brown, 2004). However, advanced technologies have transformed the way students interact in classes and outside classes, this consist of new choices to enhance interaction. Aiding interaction is important because it results in better and even more effective learning and might be an essential way to obtain success in education (Siau, Sheng, & Nah, 2006). When interaction is obtained within the learning activity, students are motivated to understand, and also more conscious, participative and more susceptible to changing ideas together with fellow students. Consequently, interaction influences student learning benefits (Y. Liu, 2003; Blasco-Arcas, Buil, Hernández-Ortega, & Sese, 2013; Al-rahmi & Othman,

61

2013). Of those teachers, the conventional and the idea of interactions with peers and faculty held more appeal and purpose it performs often and depth of connection.

According to Astin (1999), engagement was defined as the quantity of physical and mental energy that a student devotes towards the academic experience. This theory of student engagement that took its origin from the potency of any educational practice is proportional to all that is practiced to improve student engagement. Engagement is seen today as the energy an individual student puts in educational activities, which are empirically associated with preferred college final results (Kuh, 2007). Engagement includes various factors, such as the academic experience with college, interactions with faculty, participation in activities within the class, and interaction with peers. (Kuh, 2007) added that there are two major aspects these are: in-class or academic engagement and out-of-class engagement in educationally relevant or co-curricular activities, each of which are essential to students' success. The study further suggests that due to peer group nature influential teacher can influence other teachers through the use of social media. Institutions should therefore take decisive actions to harness and shape this influence so that it is educationally purposeful and helps to reinforce ICT proficiency.

There has been wide acceptance and integration of social media into pedagogy in recent years. However, the effectiveness of the social media in improving academic performance in collaborative learning has also been envisaged to have risen substantially. Available studies have shown that social media is a positive tool in enhancing academic performances (Selwyn, 2009; Arnold & Paulus, 2010; Hung & Yuen, 2010; Othman, 2013). In addition, collaborative learning using the social media

such as Facebook, E-mail, twitter etc. facilitates learning and knowledge sharing among students, teachers or trainers to the context in real life situation and experiences. Therefore, their novelty effects may mislead thinking that the social media support collaborative learning (SSCL) outcomes effectively (Zoghi, Mustapha, & Mohd Maasum, 2011). Nelson and Kuh,(2005) found that, social media has a significant and positive potential of engaging learners as well impacting on their academic performance. (D. W. Johnson & Johnson, 2009) stated that collaborative learning depends on groups. This implies that learners differ from group to group. In a situation where you have a serious and active group member, it translates to positive outcomes and vice versa.

2.8 Social Constructivism Theory

Two psychologists by the names of Lev Vygotsky (1978) and Jean Piaget (1961) are credited with the encroaching of constructivism into the educational domain. All forms of constructivism are guided by the principal that new knowledge derives from knowledge that an individual already holds.

Vygotsky (1978) believes that fundamentally, learning is a journey from the Zone of Approximal Development (ZAD) to the Zone of Proximal Development (ZPD). While in the ZAD, a learner is capable of performing selected activities at a level that matches the knowledge and experience he possesses, while at the ZPD the learner performs these exercises with guidance and support from knowledgeable adults or possibly even a colleague. Vygotsky is fully convinced that learning can only come to pass in a social environment and certainly not in a circumstance where isolation prevails (Vygotsky, 1978).

63

Social constructivism highlights the significance of traditions in comprehending the occurrences in society and assembles knowledge in accordance to this comprehension (McMahon, 1997). This viewpoint can be observed in a substantial number of modern-day theories with the most prominent among them being the developmental theories of Vygotsky and Bruner, and the social cognitive theory of Bandura (Schunk, 2004). The basis of social constructivism derives from the elements of reality, knowledge, and learning.

i. Reality: Social constructivists are of the opinion that reality is a result of human activity. Members of a grouping work in cohesion to conceive global properties (Kukla, 2000). As far as social constructivists are concerned, reality can never be discovered as it only comes into existence as a consequence of social (human) invention.

ii. Knowledge: Similarly, knowledge too is believed to derive from social and cultural human activities (Ernest, 1998). From a constructivist's viewpoint, knowledge transpires from the relationships among humans and with the surroundings in which they exist.

iii. Learning: Social constructivists look upon learning as a social development. It is not an occurrence confined to an individual and neither is it an inert progression of behaviours influenced by external elements (McMahon, 1997). Individuals can only learn through their involvement in social activities.

Web still true to the network's initial goal, a way to connect documents across different networks and regions (Mark, 2009) and this raises concerns about the level of interaction and participation, which can be supported. There is no doubt that the Internet is a global provider of information likely to be good for learning. It is worth

noting that the network does not guarantee to learn more than the library on campus (Mark, 2009). It is appropriate, social constructivism as the only solution to see most of the restrictions on the Internet, but it is a theoretical approach, which is likely to bring a wider range of educational.

The constructivists viewed such technology like the SNS as it provides essential tools with which to be used Semester in order to achieve the objectives of social constructivism. As can support the teaching of social and constructivist learning process. For example, e-mail and the SNSs on the Internet provide a means for communication, sharing of views and general interactivity that leads to the social construction of meaning to them. In the last few years, as the Internet and the SNSs have matured; those social aspects of learning described by Vygotsky (1978) become very useful to those aiming at designing educational models, projects or websites that involve academic distribution and intercommunicating of information to audience.

Vygotsky believed that interaction from more knowledgeable peers would help develop a deeper understanding than one's own individual capacity (Schunk, 2004). The basic social constructivist principles (Schunk, 2004) are:

i. Learning occurs when people exchange information and negotiate meaning through participatory and collaborative activities.

ii. Social environments that lead to the development of higher mental processes.

iii. Knowledge must be built divided between two or more people.

iv. The level of knowledge and skill that does not equal among the educated.

However the reason for choosing this theory because most previous studies ridiculed this theory to measure the performance of students while a few studies that have

65

focused on teachers (Al-rahmi & Othman, 2013; Mugahed Al rahmi, Shahizan Othman, & Alhaji Musa, 2014). In addition to this, previous literary studies were used to develop the theory of developed countries, while there is a growing number of users of information and communications technology in developing countries (Kurt Ronald Schulze, 2014; Chen, 2011).

2.9 Overview of the Related Studies

During the search for social networks emphasis on educational skills, it was discovered that networks dedicated to ICT Proficiency enhancement for teachers were few and far between. Confronted by this predicament, the social network PROEDI was introduced to convince Portuguese-speaking educators to develop their ICT skills on their own initiatives.

Coutinho & Lisbôa (2013) examined the utilization of social networks such as PROEDI for the enhancement of ICT Proficiency. PROEDI investigates innovative methods for the development of teachers. The involvement of teachers in the PROEDI social network gives them the opportunity to acclimatize themselves with Web 2.0 instruments. Lessons and group discussions on the utilization of these instruments are available to participating teachers. The involvement of teachers in the PROEDI social network can have a positive impact on their frame of mind regarding the incorporation of these instruments into their working lives. The PROEDI social network (http://www.proedi.ning.com) was unveiled online on January 15th, 2011.

Investigators are currently turning to social networks for clarification and recognition regarding the spaces within the logic of 'learning ecologies' where teachers can work

66

towards self-improvement on their own initiatives. A space that (a) considers a teacher's experiences and expectations, (b) creates a situation conducive to collaborative learning, (c) offers support, (d) promotes teamwork and (c) facilitates interaction can change his/her mind-set concerning the utilization of new technology.

For the purpose of verifying if PROEDI had the capacity to promote the concept of collaborative knowledge construction among community members, a number of diagnostic investigations were conducted with the focus on discussion forums as the central unsynchronized communication instrument. As the modification of knowledge is a never-ending process, constant alterations to our procedures and mind-sets are imperative if we are to keep pace. Due to the fast-growing influence of digital technology on our daily lives, the development of ICT proficiency by the PDT should be accelerated. ICT Proficiency can open the doors to formal as well as informal knowledge development. Furthermore, enhanced ICT Proficiency will pave the way for teachers to engage the social web and participate in collaborative learning. The sharing of experiences and information facilitated by this setting will go a long way towards improving teacher performance. Social networks and virtual communities provide an avenue for interaction between teachers of different backgrounds from all over the world irrespective of time or distance. Such interaction contributes towards personal and professional growth.

An earlier study to assess the effectiveness of the network for educators: the Pathways for Learning, Anywhere, Anytime (PLANE) website was carried out by (Maher et al., 2013). This investigation, involving teachers from government, Catholic and independent schools located in either rural or urban regions, was conducted in New

South Wales, Australia. The purpose of this endeavour was to: (a) recognize the benefits to be gained from enhanced ICT competencies made possible through a professional learning network programme and (b) identify the obstacles that stand in the way of efforts to elevate ICT proficiency. The outcomes from this investigation suggest that a well-organized online programme has the potential to ease the way for teachers to incorporate ICT into their teaching syllabus. Responding to queries, more than half the teachers involved reported that they were dissatisfied with the ICT training they received at their schools. This response reinforces the need for more web facilities such as PLANE. All participating teachers were highly appreciative of the opportunity to be certified by the NSW Institute of teachers for professional learning in PLANE.

As teachers located in rural areas were rarely given the opportunity to attend professional learning courses, they were understandably very eager participants indeed. The current situation does not favour rural teachers, as they are likely to be left behind by a momentum-gaining technological world. The above-mentioned programme, However, is not globally available as it is a private network managed by the New South Wales, Australia Institute of Teachers.

Research carried out by Vuorikari, Berlanga, Cachia, Cao, Fetter, Gilleran, Klamma, Punie, Scimeca, Sloep and Petrushyna (2011) portrayed the interaction between eTwinning and the professional development schemes of national and local teachers. eTwinning, the community for schools in Europe, supports the collaboration between educator and school through the utilization of ICT under the Lifelong Learning Programme of the European Union. This programme strives to maintain and promote

high-achieving teacher networks with the objective of employing these networks as launching pads for formal and informal teacher development. The eTwinning network uses ICT for communication and collaboration in a combination of face-to-face and online interactions. The eTwinning Portal facilitates interaction among more than 137,000 teachers all over Europe. The Teach Web 2.0 Consortium is the brainchild of (Drexler, Baralt & Dawson, 2008). This is a virtual learning setting created to increase the knowledge of teachers regarding Web 2.0 instruments and the benefits that come with their usage. This consortium of volunteers is made up of forty-four teachers and seven administrators who meet in person twice a month, and thirty-one others whose interactions take place solely online. Consortium members were given the opportunity to familiarize themselves with Web 2.0 instruments such as blogs, wikis, voice threads, Skype, Google Doc, and Twitter. A survey conducted after a period of one year saw twenty-four (30%) out of eighty-two members responding fully to a survey. Among them, 79% declared that they had utilized at least one teach Web 2.0 instrument in a classroom setting. Nonetheless, the collaboration intensity anticipated by the researchers did not fully materialize, as teachers seemed hesitant about taking on the job at hand and appeared to be relying on the moderators to complete the task on their behalf.

A study conducted on three social media networks fashioned for teachers divulged that 53% of participants (n=98) unreservedly involved themselves in exchanges on subject matters they found appealing, while 12% did so as and when they were in need of assistance or guidance. Twenty-three percent of participants claimed peaks and drops in the level of involvement depending on the severity of external pressures. The survey also disclosed that teachers wanted the right to decide on the area of

development they felt was applicable to their individual situations (Duncan-Howell, 2010).

A study by Anayochukwu (2013) to investigated the ICT proficiency of teachers in secondary schools two instruments were used and these were: Teachers Self-Assessment Form (TSAF) and an ICT practical Proficiency Achievement Test (IPSAT). The results from the data analyzed revealed that; teachers possess Proficiency only in Microsoft word, World Wide Web and Window explorers, in other words they possess only three ICT proficiency out of the seven ICT proficiency tested. The ICT proficiency level of these teachers is low. These teachers apply ICT to a low extent in teaching and learning in their classroom. The male teachers possess more ICT proficiency than the female teachers do. The ICT proficiency these teachers claim they possessed were far below what they actually possessed. Gender had nothing to do with the proficiency level of these teachers. This is because there was no significant difference in the ICT proficiency of the male and female teachers.

The previous studies conducted by Hamid, Waycott, Chang, and Kurnia (2011) and Hamid, Chang, and Kurnia (2009) indicate that Online Social Networking (OSN) is quickly gaining ground in the higher education domain worldwide. This is attributed to its capacity for swift as well as easy broadcasting and dissemination of knowledge. Two case studies engaging semi-structured interviews were carried out to evaluate the standpoint of tutors regarding the utilization of OSN. Case Study 1 focused on the tutors' utilization of Blogging facilities and Facebook), while Case Study 2 was directed at the tutors' usage of Wiki, Twitter, Facebook and SlideShare.net. In both studies, content generating, engagement, interacting and collaborating were OSN

activities that involved both tutors and students. This investigation revealed that interaction, engagement and collaboration left a lasting impression on teachers. However, for some tutors, the lack of necessary skills restricted their utilization of online social networking facilities. The results from this investigation can be harnessed to pave the way for a more extensive application of OSN in the field of education.

The utilization of the social media in the field of education was delved into by Tay & Allen (2011). The calls for more effective higher education research and development have pushed the concept of constructivism to the forefront. This is mainly due to the growing acceptance of Web 2.0 and the social media. The initial outcomes from this investigation revealed the beneficial relationship between collaboration and the social media, the importance of evaluation exercises, the need for teamwork, and the significance of support with regard to the utilization of collaborative instruments. In our opinion, while teachers may anticipate their students' use of certain technologies, these students can only work with the instruments at their disposal and will also tend to limit themselves to instruments they feel comfortable with. Effective social media engagement in the higher education field requires educators to assist students in the selection of the most appropriate instrument for the task at hand. In the best interest of students, teachers ought to steer clear of spelling out the instrument required. Instead, teachers should emphasize on the procedure that needs to be conducted and leave the choice of instrument to the student. This will serve to develop the students' independency, confidence and decision making capabilities. It can be surmised that the technologies themselves are less significant than the generation of social interactions through the application of social media instruments.

Othman (2013) opined that the social media has evolved into a leading instrument in the areas of teaching and learning. Currently, the utilization of social networking websites including Facebook and LinkedIn to link up with students is increasing by leaps and bounds. This situation has given rise to speculation that the social media can be harnessed as an instrument for facilitating collaborative learning and effective teaching. The primary goal of this study is to recognize the main factors influencing the application of social media facilities to enhance collaborative learning in higher education establishments. The interactive level with colleagues and tutors, engagement, perceived ease of use and perceived usefulness were assessed to determine the effects and benefits of social media usage in relation to the academic performance of students. The statistics uncovered a rather pessimistic association between 'perceived usefulness' and the element of 'satisfaction'. The factors 'engagement' and 'perceived ease of use' were observed to be closely associated to 'satisfaction' in the context of social media usage by students for collaborative learning. The outcomes from this exercise suggest that the elevated 'interactive' and 'engagement' levels in the context of social media usage are attributed to 'perceived ease of use'. However, the low rating recorded by 'perceived usefulness' is an indication that the level of motivation requires lifting.

2.9.1 Research Hypotheses

The following sub-sections describe the factors extracted from social constructivism theory that is explained in conceptual framework in Chapter Three.

2.9.1.1 Interactions with Peers (INT_P)

It is believed that traditional learning techniques are not providing smooth interactions within the class . Conversely, it is also an accepted fact that advanced and innovative technologies have changed interaction style in and outside the class, to see this improvement it may be said that choices of interaction has been increased. To give importance to aid the interaction is very important as it is the main source of learning and become a pillar to obtain success in educational field. Finally, interaction can influence the learning benefits of teachers received from medium of interaction (Siau et al., 2006). Another angle to see this term is that interaction is the basic tool for students to understand the ideas and they can participate more actively and become more susceptible to change ideas with peers (Y. Liu, 2003; Blasco-Arcas, Buil, Hernández-Ortega, & Sese, 2013; Al-rahmi & Othman, 2013).

H1: Interaction with peers owing to the use of social media increases teachers' ICT proficiency through collaborative learning.

2.9.1.2 Engagement (ENG)

According to Astin (1999) to gain academic experience the amount of mental and physical energy that a student can gives is called engagement. It is considered as the student's effort in educational activities and empirically related with wished for final results (Kuh, 2007). Academic experience with college, relation with faculty members and participation rate and class activity are the main factors, which can be included in engagement. Kuh (2007) further added in this concept that it can be divided in to two different aspects known as out-of-class engagement and academic

73

or in-class engagement and may also be called co-curricular activities. Both aspects of these engagements are the key pillar in success of a student. To ensure that social and academic interactions, relation between student and environment is a necessary in engagement. Interaction is also essential in class in order to change teachers' awareness (Siau et al., 2006). According to Wang, Chan, and Wei, Liu, Liang, (2003), engagement can perform the role of mediation on teacher performance between influence of curricular and training changes.

Additionally, the study further proposes that social media is a tool used by teacher by which they can influence other peers. Therefore, institutional decision may be very helpful to shape this influence and for ICT proficiency, it is very helpful.

H2: Engagement owing to using social media expands teachers' ICT proficiency through collaborative learning.

2.9.1.3 Collaborative learning (CL)

In the recent past years' pedagogy and is considered as interacted with social media. Although, in collaborative learning the efficiency of the social media in improving proficiency in ICT have its substantial importance. According to recent available studies academic performance can be increased with collaboration of social media (Arnold & Paulus, 2010; Hung & Yuen, 2010; Othman, 2013). Facebook and Twitter are the main social media, which are used in collaborative learning. Knowledge sharing among students, teachers or trainers can also be due social media.

74

The main determining factor in decision of selecting whether to use collaborative or individual learning activity is the extent of cognitive load. There is also a resilient desire for learning with technology and collaborative learning between students. Thus, another point the social media support collaborative learning (SSCL) and outcomes effectively (Zoghi et al., 2011) . This infers that learners vary from group to group which results in positive outcomes and vice versa.

H3: Collaborative learning owing to the use of social media enhances ICT proficiency.

2.10 Summary

Chapter 2 includes a review of the research literature on defining ICT proficiency, teachers' professional development, related learning theories, personal learning networks and social network technologies and professional development, and potential benefits online communities. Moreover, this chapter gives an overview of Iraq in terms of its geographical location, economic status, education system, and the current implementation of ICT in the country. This chapter also concludes the usage of ICT in developing countries with focusing on Arab world, and Iraq in particular.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter describes the methodology of the study, and it covers a detailed account of factor recognition, sampling, use of instrument, execution of pilot study, validity assessment, reliability evaluation, data gathering and data breakdown. The quantitative method is applied through a survey. Surveys are frequently employed for gathering data from an extensive area. The employment of survey exercise involves the selection of a typical sample from a sizeable population

For the purpose of investigation, the employment of quantitative procedures is deemed imperative for the attainment of a well-substantiated outcome and the identification of the link (if any exists) between social media meant for the enhancement of ICT proficiency among educators, for interaction and engagement with peers and collaborative learning that influences the utilization of social media. The quantitative procedure based survey in our bid to compute harnesses the scale of the problem and comprehends its pervasiveness. The Baghdad – Karkh 2nd is selected as the study location for the present study.

3.2 Conceptual Framework

This section presents a brief discussion on the content of the proposed framework on ICT proficiency assessment for teachers in the use social network among secondary school teachers in Iraq. The variables identified to be utilized in this study are

interaction with peers, engagement through collaborative learning "mediator" as independent variable and the ICT proficiency skills as the dependent variable.

In the similar vein, a conceptual framework that discovers instruments by which the use of social media affects ICT proficiency is supplied (see Figure 3.1). This suggests that teachers gain awareness from interaction with peers and engagement through collaborative learning.

It has been reported in various literature that interaction or communication is an important aspect in every training process. Social media increases the quality of interaction with peers. Interaction is created like a critical aspect in the training process. It encourages teachers to have fun playing the class active collaborative learning (Ajjan & Hartshorne, 2008), and it also creates a sustained behavior participation in mastering activities that involve the engagement (So & Brush, 2008). The existence of these components is instrumental in improving collaborative learning and ICT proficiency among teachers.
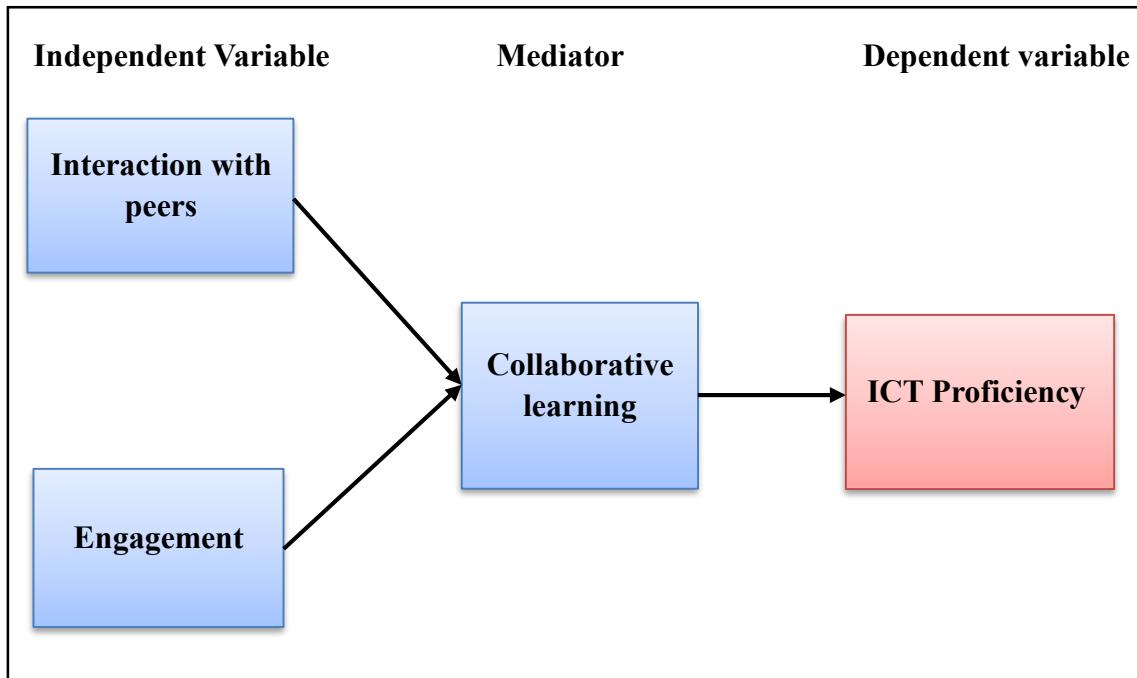
Figure 3.1: Conceptual Framework

3.2.1 Interaction with Peers

Traditional learning techniques can interrupt smooth interactions within a class. However, advanced technologies have changed the interaction style in and outside classes, and this consists of new choices to enhance interaction. Aiding interaction is important because it results in better and even more effective learning and might be an essential way to obtain success in education; consequently, interaction influences teachers' learning benefits (Siau et al., 2006).

3.2.2 Engagement

The engagement is dependent on the interactions between the individual and the environment, and this is done in order to encourage academic and social interactions in class for the purpose of teachers' engagement and awareness modification (Siau et al., 2006). According to Wang, Chan, Wei, Liu and Liang (2003), engagement

78

moderates the effect of training and curricular modifications on teachers' accomplishments and performances. Furthermore, teacher interactions create a social atmosphere, which influences the engagement coded in the training experience.

3.2.3 Collaborative Learning

Computer networking in education is mentioned as a social media networking, and the basic theme of this networking is to support collaborative learning (SSCL). It also encourages the learners in understanding process and cooperation in groups, communication between students, trainer and experts. Mature discussion and understanding are seen because the tools for understanding are precise and have similarity with the actual context in tangible presence (Blasco-Arcas et al., 2013).
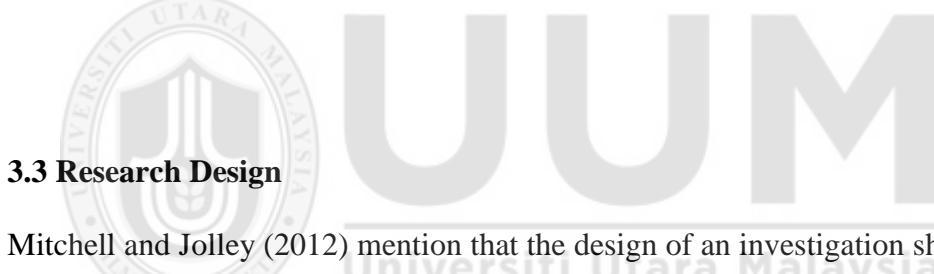
3.3 Research Design

Mitchell and Jolley (2012) mention that the design of an investigation should be such that strict control can be constantly maintained over issues that could negatively affect the authenticity of the study outcomes. A well-conceived research design can be defined as an accurate map leading an investigator to appropriate and precise solutions.

An effective research design is one that is specific about the most suitable route to the researcher's objective (Babbie, 2012). A quantitative exploratory descriptive design is employed by the researcher to recognize and examine the issues that influence a teacher's sentiment regarding the engagement of social media for the enhancement of ICT Proficiency. Quantitative investigation procedures endeavour to extend the objectivity and generalizability of outcomes to the fullest and are characteristically concerned about forecasts. Quantitative techniques are often deemed to infer that a

single fact, free from human discernment, does exist (Babbie, 2012). The quantitative process also entails the gauging of the dependent variable to ascertain if the manoeuvring of the independent variable led to any aftermaths. Babbie (2012) describes a superior gauging procedure as one that is both applicable and dependable.

The data is gathered from primary sources. The accumulation of primary data is collected by the help of a questionnaire fashioned to take into account the position of the respondent regarding the engagement of social media for elevating the level of ICT Proficiency among educators. The primary data is acquired from online accounts, periodicals, books and other printed materials that carry information on the relationship between social media and the upgrading of ICT proficiency of teachers. The three stages of the research process are portrayed in Figure 3.2 that presents the overall research method, which consists of three phases.
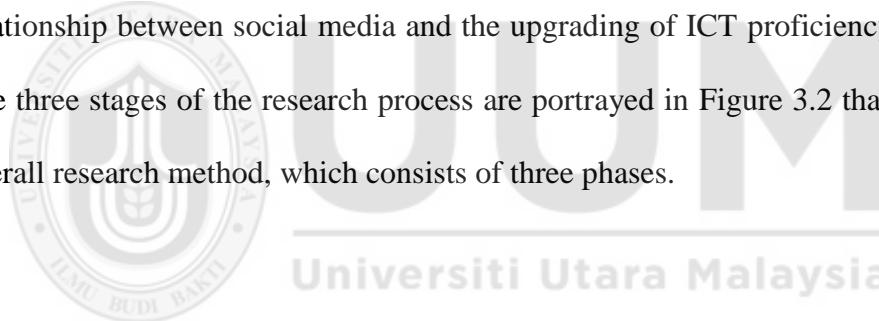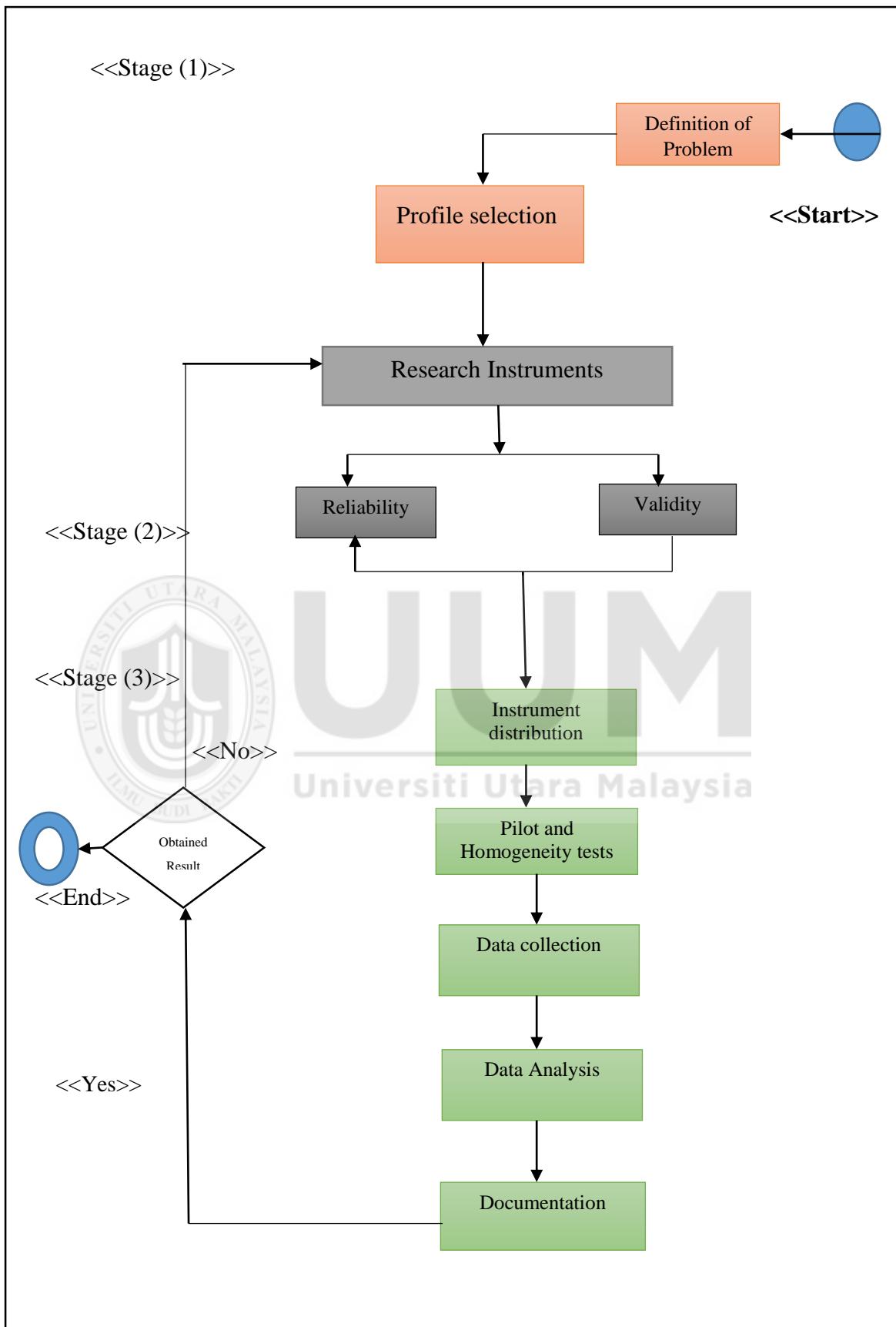
Figure 3.2: Research methodology (Adopted from Sandelowski, (2000))

The questionnaire research queries are designed to elicit responses in a wide variety of modes ranging from practical to viewpoint based and from tick boxes to free text rejoinders. A questionnaire that is easy to understand, cost effective, and specific about objectives goes a long way towards acquiring accurate and beneficial results. It can be viewed as an instrument for obtaining the information needed to achieve the objectives of a study (Taylor-powell, 1998).

The two forms of questions in a questionnaire are open-ended questions and closed-ended questions. Open-ended questions are those that allow answers in the respondent's own words while a close-ended question calls for the selection of one or more precise answers from a listing. It should be noted that there is a wide variety of responses associated to a closed-ended question. These include two-option responses, a rating scale, items in a series, one best answer, paired comparisons, ordered choice, matching and multi-choice answer (Friborg & Rosenvinge, 2013). In view of this extensive range, closed-ended questions are harnessed by this investigation for data collection and analysis.

Among the benefits to be gained from the use of questionnaires are: (a) the standardized accumulation of responses that ensure more objectivity, (b) the gathering of data in a swift process, (c) it is an efficient and cost-effective way to acquire information from a sizeable group, (d) more often than not the responses can be speedily and effortlessly quantified via SPSS software and (e) the data can be quantified for comparisons, and variations can be recognized during the process of evaluation. The researcher opts for a rating scale with a response range stretching from

'strongly disagree' to 'strongly agree'. The advantage that comes with a rating scale is the receipt of lucid and impartial responses.

3.3.1 Stage One

3.3.1.1 Definition of Problem

The research problem is defined through information acquired from editorials, symposium dissertations, statements and paperbacks. This information is used for the identification of the main variables required for the formation of the research problem, and the research problem relates the lack of ICT proficiency among the majority of Iraqi teachers.

3.3.1.2 Profile Selection (Sampling)

This segment describes the process by which the population and sample size for this investigation are determined. A population is defined as any grouping of persons who possess a single or more like traits that are of relevance to the investigator (Creswell, 2009). Sperling and Gay (2003) are precise in their description of population, and they define population as the group of relevance to the researcher, i.e., it means that the group is appropriately generalized through the research results. For the investigation of the study, the population that is chosen is made up of all teachers in secondary schools located in Baghdad – Karkh 2nd. The population of both groups from this area makes up a total of 1,620 teachers.

As exhibited in Table 3.1, the sample size for this investigation is 180 teachers. The extraction of the sample is achieved through a simple random sampling procedure

(Creswell, 2009). This procedure is preferred as it allows for the involvement of all groups. Israel (1992) states that the sample size could be determined by referring to the sample size of a comparable investigation. Other ways to determine sample size include references to relevant printed documentation and use of formulas.

The sample size for secondary school teachers is 180. The name for teachers were selected randomly by using Fishbowl technique to the male and female teachers. The name of the teacher was selected by putting all the names in the fishbowl, and for the selection of sample size is done by selecting a name randomly from 180 through Fishbowl technique. The reason for choosing this technique is to ensure that all groups have the same chance to participate in this study (Fallis, 2013; Chasib, 2014).

According to Iraqi Ministry of Education, about 31,668 secondary school teacher are registered with the Ministry of Education, and the ratio of male is 16,032 and the female ratio is 15,636 (Ministry of Education & Statistics, 2014). In fact, the mentioned ministry consists of twenty-one provinces under the Directorate of Education, and the Directorate of Education is distributed as: six districts in Baghdad and fifteen from each province. Baghdad -Karkh 2nd consists of 1,620 teachers, and out of them, the number of male teachers is 652 and the number of female teachers is 968. These districts are centrally managed by the Ministry of Education (Ministry of Education & Statistics, 2014).

Table 3. 1

Determining the sample size (Adapted from Stoker (1981))

N		Relationship of Sample	Sample size	
20		100%	20	
30	÷20 = 1.5	80%	√ 1,5	* 20= 24
50	÷20 = 2.5	64%	√ 2.2	* 20= 32
100	÷20 = 5.0	45%	√ 5	* 20= 45
200	÷20 = 10	32%	√ 10	* 20= 63
500	÷20 = 25	20%	√ 25	* 20= 100
1,000	÷20 = 50	14%	√ 50	* 20= 141
10, 000	÷20 = 500	4.5%	√ 500	* 20= 447
100,000	÷20 = 5,000	1.4%	√ 5, 000	* 20= 1,414
200,000	÷20 = 10,000	1.0%	√ 10, 000	* 20= 2, 000
29, 688	÷20 = 1,484		√ 1,484	* 20= 770

3.3.2 Stage Two:

3.3.2.1 Research Instrument

For the purposes of this study, data was gathered by means of closed-ended questionnaire. The researcher personally asked each respondent to fill out the questionnaire. The survey instrument is categorized into five sections; the first section consists of personal information form to capture teachers gender, age, education level. The second section concerns Interaction with peers (consists of 8 items) under a five-point Likert scale. Section three is related to Engagement (consists of 8 items). The

85

section four relates Collaborative Learning (consists of 8 items), and the section five is related to Proficiency ICT (consists of 4 items). A five-point Likert scale is used in this section to describe the level of agreement with each item having the range of Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. This issue addresses the main constructs adapted and modified from previous researches. Appendix A describes that there are 35 elements to be measured. Table 3.2 presents the total number of questions and response that are categorized in each section of the survey. The number of questions and response categories is given in the questionnaire section.

Table 3. 2

Number of questions and response categories by questionnaire section

Section	Number of Questions	Sources
Demographics	6	Adapted from Abdulwaheed, 2015
Interaction with peers	8	Adapted from Y. Liu, 2003; McMillan & Hwang, 2002; Al-rahmi & Othman, 2013; Liao, 2007

Engagement	8	Adapted from Moely, 2003; So & Brush, 2008; Al-rahmi & Othman, 2013; Liao, 2007
Collaborative learning	8	Adapted from So & Brush, 2008) ; Zhu,2012; Al-rahimi, Othman & Musa, 2013
ICT proficiency	4	Adapted from Al-rahmi & Othman, 2013; Al-rahimi et al., 2013

3.3.2.2 Validity: Content Validity

The aim of content validity test is to check the understandability of the questionnaire, and this test makes sure whether the questions included in questionnaire are easily understood by the respondents or not. In fact, content validity and construct validity are the main types of validity test along with many other tests. Furthermore, it is concerned in the present study as it addresses the issue of the validity that causes and influences the relationship of generalization and the exterior situation (Lee, Cho, & Ahn, 2012).

To confirm the authenticity of instrument that meets the validity requirement content, construct validity was applied by the researcher. In a nutshell, content validity confirms the concept of the study to make sure that the instruments comprise of a sufficient representative group of items. On the other hand, content validity assures the relation of every dimensions which have been included in the questionnaire.

Nonetheless, Construct validity inspires the researcher to deduce the hypotheses from a relevant theory to suit the research concept. Based on the study by Buchanan and Bryman (2007), as the researcher expresses confidence that the unit of investigation is of multifaceted quality and anchors predictions projected or proposed by hypothesis. It gets ensured that the instrument that is used in this research has high construct validity.

Two researchers, Dr. Wan Rozaini Sheik Osman, Associate Professor in School of Computing in University Utara Malaysia and Dr. Ariffin Abdul Mutalib, the Head of the Department of Multimedia Technology in University Utara Malaysia were involved in assessing the questionnaire's content validity. The experts were carefully chosen in accordance with their area of specialization in related researches on the Internet. The comments involve the number of questions and their reflection on the dependent variables. The researcher consider all the comments and recommended modifications, following the experts' point of view. Afterwards, the questionnaires were sent to the Language Center at University Utara Malaysia to work on grammatical and linguistic amendments, and also to translate into Arabic language.

3.3.2.3 Reliability

Reliability is concerned with the consistency of measurement, that is, the degree to which the questions used in a survey elicit the same type of information each time they are used under the same conditions. Cronbach's alpha is tabulated for three Variables (Cronbach, 1951). A reliable measurement has 0.60 or more alpha values (Nunnally, Bernstein, & Berge, 1978). Reliability and item analysis are utilised to develop reliable measurement to the scales that improve current scales and to examine the reliability scales that have existed before.

There is availability of various types of reliability terms, such as test-retest reliability, alternative-form reliability and internal consistency reliability (Coakes & Steed, 2009; Hair et al., 2006). Reliability test on the items is conducted, using SPSS 20.0 where the Cronbach alpha values are determined. Items analysis used to measure reliability scale that improves the existing scales and to evaluate the reliability already being used. Internal consistency can also mean the tests that have the same characteristic, skill or quality, which measures the instruments used in this study. "Internal consistency is referred to a scale hang together, i.e. measuring the same underlying constructs. Cronbach's alpha is mostly used as indicators of internal consistency for the correlation strength between the correlating items (Sheridan J Coakes & Steed, 2009).

Table 3.3

Cronbach's Alpha Value

Range of Cronbach 's Alpha	Reliability
Perfect	1
Good	0.8 – 0.9
Acceptable	0.6 – 0.79
Poor	Below 0.6

3.3.3 Stage Three:

3.3.3.1 Pilot Study

To check the reliability measures, a pilot study was conducted among 30 teachers of the Baghdad – Karkh 2nd. Cronbach's alpha was utilized for the measurement of the result achieved from the pilot study that uses the Statistical Package for Social Science (SPSS) program version 20. The main data evaluation does not include the respondents in the study as recommended by (Checkoway, Pearce, & Kriebel, 2004).

Furthermore, the pilot study is a minor experiment constructed for the assessing of data and logistics before the main experiment is conducted. The main benefit of this pilot study is that the quality and effectiveness levels of the actual experiment can be enhanced. It is also able to identify the weaknesses in the configuration of the recommended experiment of the research. Another benefit of this study is that flaws can be corrected before the start of the main experiment in the research (Creswell, 2009). The result from the pilot study proves that all the constructs obtained shows an acceptable reliability greater than 0.9 (reliability > 0.9) as recommended by (Bryman & Cramer, 2011) (See Appendix B).

3.3.3.2 Data Collection

Data collection processes has to be performed upon the face-to-face interaction with the teachers, and the researcher describes the purpose of the study in the cover letter to them. The procedure of data collection is that a distribution of questionnaires is made to the respondents in order to obtain their feedbacks pertaining to the objectives of the study. In this study data collection procedure required the collaboration of teachers at the Baghdad Karkh 2nd.

The questionnaires were distributed to them to capture their feedbacks or responses associated with the objectives of the study. The use of questionnaires enables the collection of a huge amount of information from a significant number of individuals in a short period of time. This method has also been found to be cost effective (Creswell, 2009).

The population of the study includes all the teachers from secondary schools located in Baghdad Karkh 2nd. The population of both groups from this area makes up a total of 1,620 teachers; out of them, 652 are males and 968 are females (Ministry of Education & Statistics, 2014).

3.3.3.3 Data Analysis

Statistical Packages for the Social Science (SPSS) version 20 was used for data analysis (after the data is gathered by using questionnaires). The purpose of this analysis is to get some useful conclusions, and on the basis of these results, some recommendation is given.

The contribution of the present research is shown by establishing patterns, trends and relationships from the information gathered by questionnaire. Inferential statistic also is helpful to describe the data and the whole population of the research.

A number of statistical techniques were executed on the SPSS software version 20. These approaches include multicollinearity, missing data, and descriptive statistics to demonstration the recipients' characteristics. Various testing methods were applied to compare the range of attitude towards the recipient of the reliability analysis, correlation analysis, and descriptive analysis and also to measure the association between two variables. SPSS version 20 was utilized in checking and testing the data in a deeper depth in this study.

3.3.3.3.1 Descriptive Analysis

This study uses descriptive analysis to examine the demographic profiles, such as age, grade, social media, and field of study. Furthermore, the study also includes the frequencies and variability of the sample for analyses.

3.3.3.3.2 Correlation Analysis

Zikmund et al. (2012) illustrate that the correlation is the determination of the relationship or association of one variable to an alternate. Referring to Table 3.4, Pearson's item minute correlation coefficient, r is the measure of acquaintanceship between two variables. With this, $r > 0$ indicates a positive relationship, $r < 0$ demonstrates a negative relationship, and $r = 0$ shows that no relationship exists between the variables, that is, they are autonomous variables. Here, $r = +1.0$ indicates an impeccable positive association, and $r = -1.0$ signifies an immaculate negative

connection. The closer the coefficients are to -1.0 and +1.0, the more outstanding is the relationship quality between the variables. The accompanying rules signify the relationship quality for a certain value of r as a dependable guideline.

Table 3.4

Strength of Relationship for Coefficient Correlation

Value of r	Strong of relationship
-1.0 to -0.5 or 0.5 to 1.0	Strong
-0.5 to -0.3 or 0.3 to 0.5	Moderate
-0.3 to -0.1 or 0.1 to 0.3	Weak
-0.1 to 0.1	None of very weak

In this study, the correlation analysis was performed for independent variables, such as Interaction with peers, Engagement, and Collaborative learning (mediator) and dependent variables, such as ICT Proficiency. This analysis is used in assessing the hypotheses established in the initial phase of the study.

3.4 Summary

This chapter describes the methodology used to conduct this study. The first section describes the research design and the conceptual framework, the ways the participants are selected for the study, demographic information concerning the participants and information about Sample. The second section describes data collection method used in the study. The procedures for the study are included in details in the third section. The seven section describes the validity and reliability of the tests conducted in the present study. The final section includes a summary of the statistical analysis.

CHAPTER FOUR

ANALYSIS AND RESULT

4.1 Introduction

The present chapter shows the results of this study which are separated into three main stages, namely response rate, data screening and cleaning phase. To answer the research questions and to prove hypotheses of the study, the researcher uses the descriptive statistical analysis for collecting data. The analysis mainly emphases on correlation, and ratability.

4.2 Response Rate

The collection of data have been made from teachers of secondary schools situated in the area of Baghdad – Karkh 2nd , and the number of questionnaires are 180. The response rate is 93.8% which confirms that 169 questionnaires are received, and this rate is considered as very good for research (Babbie, 1990; Forza, 2002; Njoroge, 2013). The percentage of response rate is shown in the following table.

Table 4.1

Response Rate

	Total	Percentage
Questionnaire distributed	180	100
Collected questionnaire	169	93.88
Usable Questionnaires	169	93.88

4.3 Data Screening and Cleaning

This step involves checking and it ensures that concerned data has no multicollinearity and missing values (Den Broeck, Cunningham, Eeckels, & Herbst, 2005).

4.3.1 Missing Data

The data are mainly collected from the questionnaires of the respondents and keyed into the computer. It is a common thing that some values are missing when the data is collected. The main cause of this happening is that some respondents do not fill questionnaire properly and due to this carelessness, some questions remain unanswered (Sekaran, 2011). As far as the data of this is concerned, it is analyzed and seen that there is presence of missing data and out of 169 questionnaires, no question or part of question is missing. It confirms that data is free from missing values as shown in the Table 4.2 below.

Table 4.2

Summary for Missing Data

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Interaction with peers	169	100.0%	0	0.0%	169	100.0%
Engagement	169	100.0%	0	0.0%	169	100.0%
Collaborative learning	169	100.0%	0	0.0%	169	100.0%
ICT Proficiency	169	100.0%	0	0.0%	169	100.0%

Missing data is the mutual event, and it has important effects on the results of the of the study (Sekaran, 2011). It happens when the respondents are reluctant to answer the question. In other words, missing values or missing data is the data where respondent leave option blanks. All the data is collected through self-administration. Therefore, all the respondents are guided in the process of data collection; as a result, the researcher finds no missing value in the data set. The total number of sample size is 169, and the researcher finds no missing value from the data set. Table 4.2 shows the summary of the missing data, which represents the missing values of each instrument.

4.3.2 Multicollinearity

If two or more input variables are correlated with each other, the condition is called multicollinearity. Furthermore, if this situation is present in any data, the results may be biased. To measure the multicollinearity, Variance Inflation Factor (VIF) is the most common measure which is widely used. There are many rules of thumb associated with VIF, but the most common is the rule of 10. The value above this threshold value shows that there is multicollinearity and it is suggested that one or more variable should be removed from the model (Norusis, 2011).

Table 4.3 shows the results of municollinearity, Variance inflation factor (VIF) for Interaction with peers, Engagement and Collaborative Learning, and the values are 2.007, 4.166 and 4.252 respectively. Similarly, the value of the tolerance level of Interaction with peers, Engagement and Collaborative Learning is 0.498, 0.240 and 0.235 respectively. All the values of VIF are below 10 that shows the variables have no municollinearity. Likewise, the same as all the tolerance values are greater than 0.10 that confirms no municollinearity.

96

Table 4.3

Results of Multicollinearity

Variables	Collinearity Statistics	
	Tolerance	VIF
INT_PIV1	0.498	2.007
ENG_IV2	0.240	4.166
CL_MV	0.235	4.252

a. Dependent Variable: ICT_PDV

4.4 Demographic Profile of Respondent

The demographic profile is structured to make clear understanding of the distribution of respondent in terms of use of social media, social media site(s), the use of frequency, the number of hours the respondents spend on social media per week, their gender, age, education degree, years your experience. The Ministry of Education provides a comprehensive demographic profile that has been made for the 169 respondents. Table 4.4 shows the descriptive statistics of demographic profile.

Table 4.4

Summary of Demographic Profile

Demographic	Frequency	Percent
Do you use social media		
Yes	169	100.0
Social media site(s) do you frequent use		
Facebook	169	100.0

Twitter	53	31.4
YouTube	150	88.8
How many hours do you spent on social media per week		
6- 10 hours	23	13.6
11- 15 hours	69	40.8
16- 21 hours	77	45.6
Gender		
Male	94	55.6
Female	75	44.4
Age		
Under 30 years old	36	21.3
30 – 40 years old	98	58.0
41 – 50 years old	35	20.7
Highest Education Degree		
Bachelor Degree	157	92.9
Master Degree	12	7.1
Experience in Ministry of Education		
1 – 5 years	36	21.3
6 – 10 years	68	40.2
11 – 15 years	48	28.4
Over 15 years	17	10.1

4.4.1 Use of Social Media

Demographically, all the respondents are users of social media. All the users show their interest in using social media sites, as shown in Table 4.4.

4.4.2 Frequently used Social media site(s)
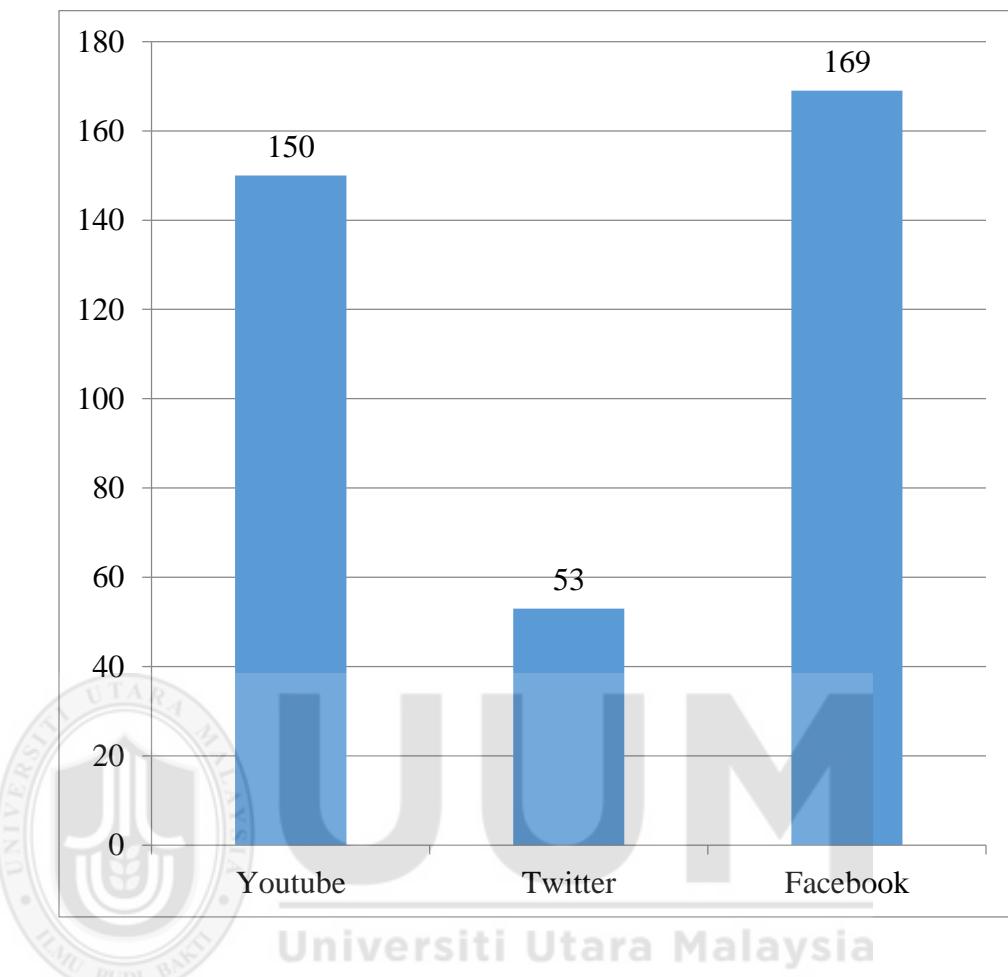
Figure 4.1: Frequently used Social media site(s)

Demographic statistics show that approximately, all the 169 respondents are the users of Facebook. On the other hand, only 150 respondents having frequency 88.8 are the users of both Facebook as well as Youtube. More interestingly, only 53 respondents are the user of Facebook, Youtube as well as Twitter. The results show that there is representation of 31.4% of the respondents, as shown in Table 4.4 above.

4.4.3 Hours spent on social media per week
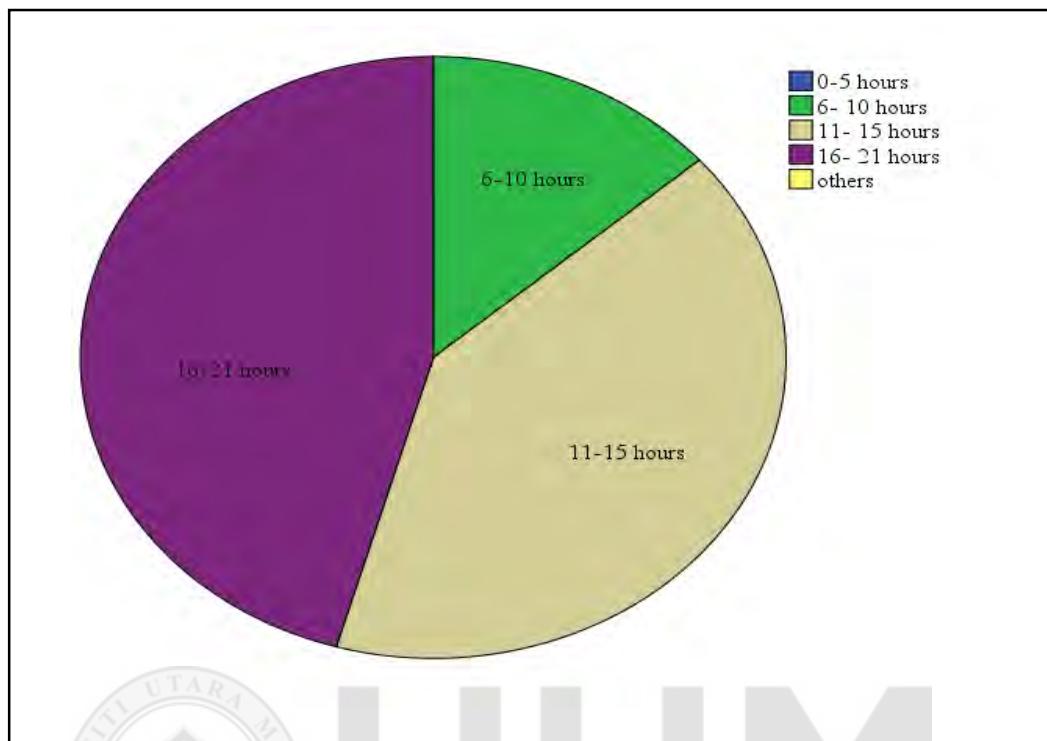
Figure 4.2: Hours spent on social media per week

As per statistics given in the demographics table, the majority of the respondents have the frequency of 77, and this represents the 45.6% of the respondents who spend time on all the social media sites approximately from 16 to 21 hour per week. Whereas, 69 respondents who represents 40.8% of the respondents spend 11 to 15 hours per week on social media sites. The remaining of 23 respondents who represent 13.6% of the sample only spend 6 to 10 hour per week on social media, as show in Table 4.4.

4.4.4 Gender

From the overall respondents, approximately 55.6% are male having frequency 94 and remaining 44.4% are female having frequency 75, as shown in Table 4.4.

100

4.4.5 Category that Best Describes the age

According to the distribution of the age, the majority of the respondents belong to the age group 30 to 40 years. The frequency of the respondents belongs to the age group is 98 which represents approximately 58% of the respondents. On the other hand, the respondents having age below 30 have 36 frequency which represents 21.3% of the respondents. Lastly, the age group having interval age 41 to 50 with the frequency of 35 represents 20.7% of the respondents, as shown in Table 4.4.

4.4.6 Education Level

From the demographic profile mentioned above, the majority of the respondents are from the degree level, and they have 157 frequency. The approximate percentage is 92.9% and the remaining respondents belong to the postgraduate level with the frequency of 12 which represents approximately 7.1% of the respondents, as shown in Table 4.4.

4.4.7 Experience in Ministry of Education

All the respondents belong to Ministry of Education. There are 21.3% of the respondents with the frequency of 36 and they have 1 to 5 years' of work experience. While, 40.2% of the respondents having frequency 68 have 6 to 10 year of work experience. However, 28.3% of the respondents having frequency 48 have 11 to 15 years of experience and the remaining 10.1% of the respondents having frequency 17 have more than 15 year job experience. The majority of the respondents have 6 to 10 year of experience, as shown in Table 4.4.

4.5 Descriptive Statistics

The information of data and analysis are shown by descriptive statistic. For this purpose and to describe the acquired results, a table is made by complete detail of data analysis (R. B. Johnson & Onwuegbuzie, 2004), and this is explained by Coakes and Steel (2007). For the detailed description, accurate information and unequivocal facts are used. From the survey, the respondent were asked to give their point of view by using Five Point Likert-Scale valued "l" for strongly disagree and "5" strongly agree and 2,3 and 4 are disagree, neutral and agree respectively. There is the mean value for every variable, and low, moderate and high agreement values are between "1 to 2.33, 2.34 to 3.66 and 3.67 to 5" respectively (Mawaddah, 2013).

Table 4.5

Descriptive Statistics for INT_P

	Mean	Std. Deviation
INT_PQ1	4.01	0.883
INT_PQ2	4.06	0.943
INT_PQ3	4.15	0.945
INT_PQ4	4.20	0.781
INT_PQ5	4.08	0.869
INT_PQ6	4.03	0.903
INT_PQ7	4.04	0.944
INT_PQ8	4.18	0.807
Valid N (listwise)		

The above table 4.5 shows the respondents' mindset towards interaction with peers, and the majority of the respondents have positive inclination towards interaction. In the first item of the instrument, respondents agree that they feel that using the social media in class facilitates interaction with peers. The positive trend is gauged through the mean value M which is 4.01 and the value of standard deviation is 0.883.

The same indication is found from the second question where respondents agreed that they feel that social media can become the source of discussion. The positive trend is gauged through the mean value M which is 4.06, and the value of standard deviation is 0.943.

The respondents also agreed on the item three when they are asked that using the social media in class facilitates dialogue with peers. The positive trend is gauged through the mean value M which is 4.15, and the value of standard deviation is 0.945. When the people are asked in item four that the use of social media in class allows to exchange the information with peers. The mean value represents the positive trend of the respondents. The positive trend is gauged through the mean value M which is 4.20, and the value of standard deviation is 0.781. Similarly, a positive trend is seen when the respondents are asked that the usage of social media benefit them in terms of interaction with other teachers. The mean value shows the positive trend. The mean value M is 4.08, and the value of standard deviation is 0.869.

In the case of item on six, when the respondents were asked about the usage of social media, the respondents inform that they learn how to work with other effectively. Furthermore, the respondents showed positive trends, representing the mean value M which is 4.03 and the value of standard deviation is 0.903. In the second last item, a

strong positive trend is found when the respondents were asked that the respondents feel that social media makes it easy to reach peers. The mean values shows the positive trend. The mean value M is 4.04, and the value of standard deviation is 0.944.

Finally, the respondents also showed positive trends when they are asked that interacting with other members in social media can increase the motivation to learn. The respondents showed positive trends, representing the mean value M which is 4.18, and the value of standard deviation is 0.807. Based on this result, the respondents gave their feedbacks for each item in this survey, and the range varies almost between agree and strongly agree. (More details in Appendix C).

Table 4.6

Descriptive Statistics for ENG

	Mean	Std. Deviation
ENG_Q1	4.24	0.796
ENG_Q2	3.97	0.929
ENG_Q3	4.13	0.955
ENG_Q4	4.24	0.921
ENG_Q5	4.11	0.903
ENG_Q6	4.02	0.967
ENG_Q7	4.04	0.934
ENG_Q8	4.11	0.782
Valid N (listwise)		

The above Table 4.6 shows the respondents' mindset towards engagement, and the majority of the respondents are positively inclined towards interaction. In the first item of the instrument, the respondents agreed that they feel that using the social media in the class has favored their personal relationships with their peers. The positive trend is gauged through the mean value M which is 4.24, and the value of standard deviation is 0.796. The same indication is found from the second question where respondents agree that they feel that the usage of social media in class, with their peers and faculty interaction have made them feel valuable. The positive trend is gauged through the mean value M which is 3.97, and the value of standard deviation is 0.929.

The respondents also agreed on the item three when they are asked that the usage of social media, they opine that their opinions have taken into account in this class. The positive trend is gauged through the mean value M which is 4.13, and the value of standard deviation is 0.955.

When the people are asked in item four that the usage of social media and their interests in knowing and working with people from diverse backgrounds have increased. The mean value represents the positive trend of the respondents. The positive trend is gauged through the mean value M which is 4.24, and the value of standard deviation is 0.921. Similarly, a positive trend is seen when the respondents are asked that in the usage of social media, they often share with their peers the new information they acquire. The mean values shows the positive trend. The mean value M is 4.11, and the value of standard deviation is 0.903.

In the case of item six, when the respondents were asked that regarding the usage of social media, their colleagues share new information with them when they acquire. Again, the respondents show positive trends having mean value M which is 4.02 and the value of standard deviation is 0.967. In the second last item, a strong positive trend is found when the respondents are asked that the respondents feel that concerning the usage of social media, their colleagues often share with them the working skills they know when they asked them. The mean values shows the positive trend. The mean value M is 4.04, and the value of standard deviation is 0.934.

Finally, the respondents also showed positive trends when they are asked that in terms of the usage of social media, they often share with their colleagues the working skills they know when they ask them. The respondents showed positive trends having mean value M is 4.11 and the value of standard deviation is 0.782. It is found that the respondents are able to response independently and effectively to the questions asked in the questionnaire. It is also noticed that their responses reflect their precise judgments on the use of social media (More details in Appendix C).

Table 4.7

Descriptive Statistics CL

	Mean	Std. Deviation
CL_Q1	4.04	0.858
CL_Q2	3.78	0.762
CL_Q3	4.15	0.891
CL_Q4	4.02	0.916

CL_Q5	4.02	0.954
CL_Q6	4.20	1.098
CL_Q7	4.01	0.997
CL_Q8	2.56	0.714
Valid N (listwise)		

The above table 4.7 shows the respondents' mindset towards collaborative learning, and the majority of the respondents are positively inclined towards interaction. In the first item of the instrument, respondents agreed that they feel that the use of social media for collaborative learning in their group is effective. The positive trend is gauged through the mean value M which is 4.04, and the value of standard deviation is 0.858. The same indication is found from the second question where respondents agree that they feel they are able to enhance research skills via peer collaboration. The positive trend is gauged through the mean value M which is 3.78, and the value of standard deviation is 0.762. The respondents also agreed on the item three when they were asked if they are able to enhance new knowledge and skills from the other members in their group. The positive trend is gauged through the mean value M which is 4.15, and the value of standard deviation is 0.891.

The respondents were asked in item four that collaborative learning experience in the social media environment is better than face-to-face learning environment. The mean value of item four represents the positive trend of the respondents. The positive trend is gauged through the mean value M which is 4.02, and the value of standard deviation is 0.916. Similarly, a positive trend is seen when the respondents are asked that regarding the usage of social media, they feel a part of a learning community in their

group. The mean values show the positive trend. The mean value M is 4.02, and the value of standard deviation is 0.954.

In the case of item six, the respondents were asked that they actively exchange the ideas with group members in social media. Again the respondents show positive trends having mean value M is 4.20, and the value of standard deviation is 1.098.

In the second last item, a strong positive trend is found when the respondents are asked that the respondents feel that in the usage of social media, collaborative learning in their group is effective. The mean values shows the positive trend. The mean value M is 4.01, and the value of standard deviation is 0.997.

Finally, respondents also show positive trends when they were asked that the usage of social media, collaborative learning in their group is time consuming. The respondents show slightly negative trends having mean value M is 2.56, and the value of standard deviation is 0.714. (More details in Appendix C).

Table 4.8

Descriptive Statistics for ICT_P

	Mean	Std. Deviation
ICT_PSQ1	4.10	0.986
ICT_PSQ2	4.09	0.921
ICT_PSQ3	3.82	1.095
ICT_PSQ4	4.06	0.980

Valid N (listwise)				

Table 4.8 shows the respondents' ICT proficiency. The majority of the respondents are positive inclined towards interaction. In the first item of the instrument, respondents agreed that using the social media to facilitate academic activities and coordinate with peers can improve my ICT Proficiency. The positive trend is gauged through the mean value M which is 4.10, and the value of standard deviation is 1.206. The same indication is found from the second question where respondents agree that group discussion can be arranged with their classmates, using social media, and this improves their ICT Proficiency. The positive trend is gauged through the mean value M which is 4.09, and the value of standard deviation is 0.921.

In the second last item, a strong positive trend is found when the respondents were asked, and the respondents feel that the usage of social media to build a teacher relationship with their peers improves their ICT Proficiency. The mean values shows the positive trend. The mean value M is 3.82, and the value of standard deviation is 1.095. Finally, respondents also showed positive trends when they are asked that the usage of social media improves their interaction with peers and helps them to improve their ICT Proficiency. The respondents show positive trends having mean value M is 4.06, and the value of standard deviation is 0.980. (More details in Appendix D).

4.6 Reliability

Reliability analysis measures the internal consistency of the instrument. It is measured through the value of Cronbach Alpha. The recommended value for the acceptance of value for reliability is 0.70 that is recommended by Nunnally (1970). Alpha value

109

greater than 0.90 shows that the items of the instrument are more homogenous. In the present study, all the instrument having Alpha value is greater than 0.70 and is less than 0.90, and it fulfills the criteria that all the instrument are consistent. From the table, it is seen that Interaction with peers has Cronbach Alpha value which is 0.741, while Engagement having Cronbach Alpha value is 0.801. Moreover, the Cronbach Alpha value of Collaborative Learning and ICT Proficiency are 0.803 and 0.818 respectively. More details about Cronbach's alpha value for each item from those variables are in Appendix C.

Table 4.9

Cronbach's alpha value for each factor

Variable	Number of Items	Cronbach's Alpha
INT_PIV1	8	0.741
ENG_IV2	8	0.801
CL_MV	8	0.803
ICT_PDV	4	0.818

4.7 Correlation Analysis

Correlational analysis is used to define the relationship of all the independent variable i.e. Interaction with Peers, Engagement, Collaborative Learning with dependent variable ICT Proficiency. Correlation analysis shows the direction of the relationship whether it is positive or negative. The range of the correlational analysis is -1 to +1. The value of the relationship shows the strength of the relationship. In the study, Pearson correlation is applied because the liner relationship is found between

independent and dependent variable, which has been too categorized in to low, moderate or high based on value of the Pearson's correlation analysis. This has been mentioned in Chapter 3 in details.

Table 4.9

Correlations INT-P ⟶ ICT_ P

		INT_PIV1
ICT_PDV	Pearson Correlation	.622**
	Sig. (2-tailed)	.000
	N	169

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.9 shows the significant positive relationship of Interaction with peers and ICT Proficiency having value (r = 0. 622, p = 0.000). The relationship is significant because the level of significance is 0.05 and the p value is less than 0.05. The value of Pearson correlation is 0.622 that shows the strength of relationship between Interaction with peers and ICT Proficiency which is high (see to Appendix C).

Table 4.10

Correlations ENG ⟶ ICT_ P

		ENG_IV2
ICT_PDV	Pearson Correlation	.825**
	Sig. (2-tailed)	.000

	N	169

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.10 shows the significant positive relationship of Engagement and ICT Proficiency having value (r = 0.825, p = 0.000). The relationship is significant because the level of significance is 0.05 and the p value is less than 0.05. The value of Pearson correlation is 0.825 that shows the strength of relationship between Engagement and ICT Proficiency which is high (see to Appendix C).

Table 4.11

Correlations CL $\longrightarrow$ ICT_P

		CL_MV
ICT_PDV	Pearson Correlation	.819**
	Sig. (2-tailed)	.000
	N	169

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.11 shows the significant positive relationship of Collaborative Learning and ICT Proficiency having value (r = 0.819, p = 0.000). The relationship is significant because the level of significance is 0.05 and the p value is less than 0.05. The value of Pearson correlation is 0.819 that shows the strength of relationship between Collaborative Learning and ICT Proficiency which is high (see to Appendix C).

Overall, Table 4.12 below shows that all independent and dependent variables are significantly correlated to each other. The Pearson correlation for Interaction with

peers, Engagement and Collaborative learning have positive relation with ICT Proficiency (see Appendix C).

Table 4.12

Results of Pearson's Correlation Analysis Summary

	INT_PIV1	ENG_IV2	CL_MV	ICT_PDV
INT_PIV1	1	.680**	.688**	.622**
ENG_IV2	.680**	1	.864**	.825**
CL_MV	.688**	.864**	1	.819**
ICT_PDV	.622**	.825**	.819**	1

**. Correlation is significant at the 0.01 level (2-tailed).

4.9 Summary

The main part of this chapter is the Interpretation of the data, and the interpretation is done by using Pearson's correlation analysis to check correlation. The relationship between independent and dependent was checked and included in analysis. The mediator and two independent variable show that there is significant relationship between them. The results of the present study depicts that the level of correlation is very high between the variables. Furthermore, the findings are also used to answer the research questions and to prove the hypotheses of the study.

CHAPTER FIVE

DISCUSSION AND CONCLUSION

5.1 Introduction

This chapter discusses the research objectives and the findings based on the data analysed. In the first section, research objectives are discussed and the next part thoroughly which elaborates on theoretical and practical contribution of research. In the last section, the limitation, conclusion and future work of the research are also discussed.

5.2 Discussion

In order to see whether the study has achieved its objectives, it is critical to look back and analyze the information and data gathered from the study. A set of questionnaire was developed from different elements and literature of previous studies based on SCOT (social constructivism theory), which is used as an instrument for the research. Furthermore, the questionnaire is divided into section such as "1st" for demographic profile and 2nd, 3rd, 4th and 5th sections shows the independent variables such as Interaction with peers, Engagement and Collaborative learning as Mediator, and dependent variable like ICT Proficiency. For analysis, SPSS version 20 was used and to achieve objectives. The analysis was done using correlation technique and descriptive statistic been used.

Objective one: To investigate the relationship between interaction with peers among teachers in social media with teachers' ICT proficiency through collaborative learning.

The first objective of this study is to investigate the relationship between interaction with peers among teachers' in social media with teachers' ICT proficiency through collaborative learning.

The results of the analysis show that, most of the teachers have consent that social media (Facebook, Twitter, and YouTube) can be a source of interaction between peers among them and also helpful in improving their ICT proficiency through collaborative learning. The descriptive statistical analysis for interaction with peers and teachers show the evidence that the teacher are in favor of using social media for interaction. Be specific, which description of fourth chapter shows that first objective has been achieved and the first hypotheses (Interaction with peers as a result of using social media improves teachers' ICT proficiency through collaborative learning) is also accepted. In addition, modern approach for the improvement of ICT proficiency has obtained favor in view of secondary school teachers. As far as social media is concerned as a tool, it looks like interactive as well as collaborative in nature, and helpful in educational setting. Similarly, this nature makes these tools as a substantial and useful tool for facilitates interaction with peers in to improving ICT. The concept of using media which is mentioned before as tool, the teachers agreed that it is a good communicative bridge between peers and among them.

The other point of thinking for this social media is to give consideration this tool as a means of communication and make it diverse than other websites and medium. Additionally, it is a very strong belief from the teachers' side that it can be an instrument to improve creativity and abilities, in which knowledge sharing is another hallmark of this tool. With lot of benefits such as a good interactive instrument and a

source of positive interaction, this tool has less limitations than other social communication tools. Firstly, this tool is strictly different from personal profile tools and also can become a solution for limitation of other tools.

Another point explained by the study is that it is a reasonable and reliable source of interaction between teachers and also clearly seen through the study that working relation can be ameliorated by using social media application. It is believed that this tool is also the answer of the question "how to work with others effectively".

Besides that, teachers also agreed that they can and makes it easy to reach peers. Teachers clear attitude and agreement towards benefited a great deal from the interactions I had with other teachers that provided by social media tools. Social media tools can increase motivation to learn. These findings also indicated teachers' tendency with the role of social media as a facilitator and counsellor should be unignorably considered. This tool proves itself as a source of improving ICT proficiency between teachers and also be source of learning and seeking of new technology.

Overall, the result of the analysis discovered a positive relationship between interaction with peers and ICT proficiency and being satisfied with it. The teacher in this study confirmed that their interaction with peers in using social media that can considered in term of benefits to ICT proficiency in among secondary schools teachers.

The findings of this study are support the study conducted by (Al-Rahimi et al., 2013) through numerous studies conducted by researchers in order to know how an impact

to tools and social media a basic role in academic performance among university students.

Coutinho and Lisbôa (2013) that examined the interaction with peers of teachers who completed courses that use social media as an instructional tool and found that the participants considered social media a valuable tool that helps to strengthen interpersonal relationships, teachers in ICT proficiency. In addition, Hamid, Waycott, Chang, and Kurnia (2011), Hamid, Chang, and Kurnia, (2009) in their study, showed social media can have a significant impact on teacher's to interaction with peers .In both studies, content generating, engagement, interacting and collaborating were OSN activities that involved both tutors and students. This investigation revealed that interaction, engagement and collaboration left a lasting impression on teachers. However, for some tutors, the lack of necessary skills restricted their utilization of online social networking facilities. The results from this investigation can be harnessed to pave the way for a more extensive application of OSN in the field of education.

As explored by Vuorikari et al. (2011) explored that the perception of adopting social media by teachers as a podium of learning is positive. The social media as networking tool have its unique interactive and collaborative nature; it is helpful in making a belief that this tool is also very useful regarding university students. There are two major benefits of this tool, firstly the teacher become able to deliver and share knowledge with peers and produce such a learning environment that can cause an accelerator for the knowledge of peers.

Objective Two: To investigate the relationship between engagement among teachers in social media with teachers' ICT proficiency through collaborative learning.

The second objective of this study is to investigate the relationship between engagement among teachers' in social media with teachers' ICT proficiency through collaborative learning. The result of the analysis show that the respondents agreed that there is a positive impact of social media on teachers' engagement in ICT proficiency through collaborative learning.

The responses show that the second hypotheses should not be rejected and the second objective has been achieved. Additionally, a number of benefits can be achieved by using media as a tool of interaction. The major benefits are self-confidence and self-independence. Furthermore, it also provides the capacity to change the social structure of a personality. Flow of information and ideas are the engagement benefits received by social media. The size of social circle of the teachers can be increased and traveling also become very easy using the social media.

In the beginning, social media tools for teachers have favoured personal relationships with peers. Also, arrived at through the teacher's employment of these tools for interest in knowing and working with people from diverse backgrounds was increased in social communication. In education, the social media is informative and effective tool for sharing knowledge and information. The capacity of social media can be seen by this fact that a large number of teachers are using online groups for the purpose of discussion of educational and informative topics. This is also a major tool to remain in contact socially with colleagues and teachers also remained updated.

The findings of present study are consistent with a study of Mugahed Al Rahmi, Shahizan Othman and Alhaji Musa (2014). This confirms that educational performance can be ameliorated by full engagement in class by using social media. The result of the study found the performance of student is concerned with the reference of engagement, educational performance at the level of university seems to be improved due to positive spillovers of social media. As it the basic connection between students and very beneficial in sharing knowledge in the class and library at university level.

In addition, this finding is similar to the concept of the result for Ciampa (2012), Shaltry, Henriksen, Wu and Dickson (2013). These studies have shown that social media is slowly being admitted into the learning process through a shift away from traditional learning that allows students to build knowledge through the use of partnerships and active engagement. The integration of social media tools in classrooms provides more opportunities for engagement and collaboration.

As well as, Lee and Loughlin (2011)and Mouza (2011) pointed out that with other practical benefits social media also has positive psychological effect for students at class level in school. The backbone of social media, which is "internet", is a channel used for communicative purposes as well as creative expression in education.
A social learning environment is formed by building communication that ensures trust, established guidelines and purposeful professional development. For instance, the use of laptops, one-to-one devices, interactive whiteboards, games, and internet promotes academic learning and is making collaboration with peers a daily part of teaching.

Objective Three: To investigate the relationship between collaborative learning among teachers in social media with teachers' ICT proficiency.

The third objective of this study is to investigate the relationship between collaborative learning among teachers' in social media with teachers' ICT proficiency. The result of data analysis shows that most of the respondents agreed that teachers' collaborative learning using the social media can improve ICT proficiency among teachers. Hence,by using the responses and the results as evidence, this study adopted to accept third hypothesis (Collaborative learning owing to the use of social media enhances ICT proficiency), which indicates that collaborative learning of social media could improving teachers' ICT proficiency and research objective three is achieved. The respondents indicated the positive effects or influences of using the social media on collaborative learning to improvement of ICT proficiency among teachers in secondary school.

Collaborative learning seems to be a precondition that teachers should be such a capable to know the effective use of this tool. It is revealed by present study that respondents have consensus on some points like transfer of files, wish to share knowledge, opinion and online working all are better to do these things by face to face learning. It is also easy to have contact with one another and use online groups to share thing instead of doing it personally as face-to-face contact. Another point is also remained unopposed that a big objection on social media is that it is time consuming but respondent are in favor of this point that it is not a time consuming.

Overall, the analysis show a positive relationship between teachers Collaborative learning and ICT proficiency and being satisfied with it. The teachers in this study confirmed that their experience in using social media that can considered improving for ICT proficiency in among teacher's secondary schools. The findings from this study support the study of Al-rahmi and Othman (2013) who found that. Social media gives a platform to teachers where they can express their views and experiences with the other teachers. Moreover, the finding that social media may as be used a source to improve the experience of teachers.

Furthermore, in the opinion of Arnold and Paulus (2010) social media recently has penetrated and integrated into pedagogy. Due to this, social media has increased dramatically in improving educational performance especially in collaborative learning. It is also considered by the majority of the student that through different kinds of communications their subject can be extended by different angle (Arnold & Paulus, 2010).

The findings from this study support the study of Zoghi, Mustapha, and Mohd Maasum, (2011) depicts that social media is an influential tool can be used to improve educational experience and performance of the students through extending the learning activities beyond the classroom. It is also a decision can be taken through social media that collaborative learning is better than individual activity. Furthermore, the cognitive load on student is the main determinant of social media act as a platform for the collaborative learning and technology as a tool of learning.

5.3 Theoretical Contributions

The present study is supported by social constructivism theory that is mainly concerned with social context of learning. Vygotsky (1978) explored that collaboration with peers, engagement and technology can change the practice of the community. More essentially, the results have resemblance with other studies and as far as contribution is concerned it will be helpful in improving ICT proficiency (Wenger, 2006b).

Theory revealed how technology and social media affect the educational capabilities of teachers through technology. Another point of thinking is that in secondary school this type of research is not very common. The findings of this study shows that social media is very useful for class teaching and ICT proficiency for teachers of secondary schools in Iraq.

Identifying interaction with peers is the first aspect of social constructivism theory. Utilizing the social media can improve ICT proficiency in ways such as information dissemination and knowledge increase among teachers via a collaborative learning scheme that occurs through higher level of interactivity among teachers. Hence, the interaction with peers of teachers improves via collaborative learning and the use of social media in ICT proficiency.

The second aspect of the social constructivism theory is the engagement of teachers and the effect of social media on teacher engagement in learning environment. By this, the teacher becomes interactive, effectively in communication and is able to obtain quicker responses from peers. The social media has helped in assisting teachers who

122

are introverts to become more positive and open in the classroom, hence, developing

their sense of belonging to the community (by sharing their views on topics on the

social media). Therefore, the engagement of learners are influenced by the use of social

media via interaction between the teachers, exchange of information and experiences

that led to improve ICT proficiency among teachers.

Finally, the collaborative learning is also an aspect of the social constructivism theory.

This is achieved through assessing teachers' collaborative learning skills such as the

desire to learn from others, share knowledge and information with others and the

preference to work with online groups. Indeed, social media assists teachers in self-

expression, hence improving their relationships with their colleagues and giving them

a distinctive place in the learning environment. This demonstrates that social media is

a mean of helping teachers improve their ICT proficiency.

Based on the result and information above, the social constructivism theory is helpful

in this study by using social media to improve ICT proficiency through three main

aspects interaction with peers, engagement and collaborative learning for teachers in

secondary schools. These findings are consistent with study of Al-rahmi and Othman

(2013) who confirmed in their study the use of Vygotsky social constructivism theory

to conduct research using social media and its impact of students' academic

performance, specifically how students themselves believe Facebook can be used to

enhance their educations. The findings of this study showed that teachers themselves

saw much benefit with incorporating social media into the classroom. The majority of

respondents concluded that social media can help them better understand their work by enhancing teachers' ICT proficiency.

5.4 Practical Contributions

This papers aims at exploring the impact of social media on learning of secondary school teachers in Iraq. Most of the previous literature has focused on higher education and the secondary education has remiss of the researchers (Abdulwaheed, 2015). This study would enhance the understanding of the role of social media in contributing towards the learning, commitment and their approach towards online education tools.

As previously mentioned, this study values the lifting of the perception of the need for the involvement of teachers in informal learning processes throughout life, in promoting their professional development, highlighting the role of social media in this context. This study also seeks to address the problem identified, due to the perception of the gap between the technology that exists today and the educational practices, as well as the perception of the existence of a shortage of ICT proficiency in the majority of teachers to participate or have access to networks social/educational communities (Alalgawi et al., 2014).

This study focuses on the steps to elevate the utilization of ICT by Iraqi teachers in the education system in secondary schools. In the view of the development, the information uncovered by this study can guide decision makers and the personnel in the Ministry of Education towards an effective implementation of ICT in the country's educational scheme. Therefore, this study attempts to describe the skills for teachers

that effect the ICT proficiency and access to learning situations that can contribute to a sustainable learning throughout life.

5.5 Limitation of Study

The first limitation of this study area of date collection this does not represent the whole Iraq. This makes the result study are limited only to the area where that deta collection was conducted. Secondly, teachers practice of the categories of ICT proficiency including MS word, MS excel, MS power point and MS access is slight inside class. The low level of ICT applications in the classroom by the teachers effect the result of this study. If the teachers actively use ICT application in the classroom, the result of this study might be more integrities. Thirdly, ICT proficiency focuses only teachers although it should focus on both teachers and students. Another limitation is the difficulty of movement between schools located in flashpoints. Nonetheless, these limitations could be reduced in future by adoption of alternative measures.

5.6 Recommendation for Future Work

For future works into this or similar research, some recommendations have been proposed. Required further research in the field of social media in science to improve comprehension of the impact of social media for individual learning and learning in general to promote skills (self-study), among students and teachers. Study in the future procedure it would be useful, such as social media use in the classroom affects all students in primary school age to graduate level.

This study focused only secondary school teachers while future studies can be conducted on primary school teachers. Future research should focus on taking additional factors that may affect teacher's ICT proficiency expertise.

Hence, further studies should make use of qualitative methods to grasp the interaction with peers; engagement and collaborative learning for teachers of social media towards improve ICT proficiency. Future study is to explore the influence and role of social media to students' performance. In addition, the research could implore means to look more closely at each individual being assessed for the use of social media. For instance, how it can be used to extend classroom communication and discussions between teachers and students.

5.7 Conclusion

In conclusion, this study was conducted with the aim of identifying whether the use of social media has the ability to improve the ICT proficiency among the secondary school teachers. The purpose of this paper was to identify the impact of social media on learning behaviors of secondary school teachers. The data was collected from the secondary school teachers though questionnaires. The research framework was designed by applying the social constructivism theory.

The researcher was found through test the relationship between these three variables, there was a positive relationship between interaction with peers and ICT proficiency there was a positive relationship between engagement and ICT proficiency. There are additionally a positive relationship between collaborative learning and ICT proficiency. Along these lines, the hypothesis H1, H2 and H3 were supported. Researcher gave measures of these builds and showed the reliability and validity of

the measures to encourage extra research on the effect of social media in the improving ICT proficiency.

The results indicated that ICT proficiency with interaction to peers are positively related. The alternative hypotheses were accepted based on the results of the study. From the results it could be implied that social media has significant impacts on the learning behaviors of the school teachers. Lastly, the Iraq being a developing country, the appearance of the modern technological is also showing its outcomes in educational institutions.

Finally, this study has highlighted that the use of social media has significant influence on the improvement of the ICT proficiency among secondary school teachers, especially in secondary schools in Iraq. It is found that although social media is presumably new in Iraq, it has started contributing towards the indication of success in the improve ICT proficiency.

References

Abdulwaheed, M. S. (2015). *The role of social media in learning among male students in secondary school: a case of iraq mustafa sabah abdulwaheed*.

Abedalla, R. (2014). The Issue of Technology Implementation in the Classrooms in Iraqi Universities. *International Journal of Information and Communication Technology Research*, *4*(1), 280–283.

Abedalla, R., Escobar, L. S., & Al-Quraishi, D. A. (2014). Accessing Information Technology- Social Media in Iraq. *International Journal of Scientific and Research Publications, 4*(9).

Aduwa-Ogiegbaen, S. E., & Iyamu, E. O. S. (2005). Using information and communication technology in secondary schools in Nigeria: Problems and prospects. *Educational Technology & Society*, *8*(1), 38–53.

Ahmed Abdelaziz, H. (2013). From physical benchmarks to mental benchmarks: A four dimensions dynamic model to assure the quality of instructional activities in electronic and virtual learning environments. *Turkish Online Journal of Distance Education*, *14*(3), 268–281.

Ajjan, H., & Hartshorne, R. (2008). Investigating faculty decisions to adopt Web 2.0 technologies: Theory and empirical tests. *The Internet and Higher Education*, *11*(2), 71–80.

Akudolu, L. R., & Olibie, E. (2007). Seeking appropriate ICT teaching approach for developing teacher-ICT competencies: Views from Europeans Union. *UNIZIK Orient Journal of Education*, *3*(1), 33–38.

Alalgawi, Rosnafisah, & Norshakirah . (2014). Factors Affecting Teachers' Adoption of ICT into Teaching and Learning in Iraq Education System. *International*

Journal of Modern Education Forum (IJMEF), *3*(2), 46–55.

Albirini, A. (2004). An exploration of the factors associated with the attitudes of high school EFL teachers in Syria toward information and communication technology.

Albirini, A. (2006). Teachers attitudes toward information and communication technologies: The case of Syrian EFL teachers. *Computers & Education*, *47*(4), 373–398.

Al-Fadhli, S., & Khalfan, A. (2009). Developing critical thinking in e-learning environment: Kuwait University as a case study. *Assessment & Evaluation in Higher Education*, *34*(5), 529–536.

Ali, J. M. H. (2004). Information technology in the Middle East. *Journal of Global Information Technology Management*, *7*(1), 1–4.

Allahawiah, S., & Tarawneh, S. a. (2015). Factors Affecting Information And Communication Technology (Ict) Use By Southern Colleges Teachers In Balqa Applied University. *WEI International Academic Conference Proceedings*, *7*(1), 138–145.

Al-Rahimi, W. M., Othman, M. S., & Musa, M. A. (2013). Using TAM Model To Measure The Use Of Social Media For Collaborative Learning. *International Journal of Engineering Trends and Technology*, *5*(2), 90–95.

Al-rahmi, W., & Othman, M. (2013). The impact of social media use on academic performance among university students: A pilot study. *Journal of Information Systems Research and Innovation*, *4*(1), 1–10.

Alwan, A. A. S. (2004). *Education in Iraq: Current Situation and New Perspectives A report on the situation today an our strategies for the immediate future*.

Al-zaidiyeen, N. J., & Mei, L. L. (2010). Teachers ' Attitudes and Levels of

Technology Use in Classrooms : The Case of Jordan Schools. *International Education Studies*, *3*(2), 211–219.

Ananiadou, K., & Claro, M. (2009). 21st century skills and competences for new millennium learners in OECD countries. *OECD Education Working Papers*, *3*(41), 33.

Anayochukwu, A. A. (2013). *Assessment Of Information And Communication Technology (ICT) Proficiency Level Of Computer Science Teachers In Secondary Schools In Agbani Education Zone Of Enugu State*.

Anthony, A. B. (2012). Activity theory as a framework for investigating district classroom system . *Journal of Research on Technology in Education*, *44*(4), p335–356.

Arnold, N., & Paulus, T. (2010). Using a social networking site for experiential learning: Appropriating, lurking, modeling and community building. *The Internet and Higher Education*, *13*(4), 188–196.

Association-Intaj, I. T. (2007). Jordan's Information Society A Fast Growing Sector for a Transforming Nation. *Jordan's Information Society*.

Astin, A. W. (1999). Student involvement : A developmental theory for higher education. *Journal of College Student Development*.

Augar, N., Raitman, R., & Zhou, W. (2012). Teaching and learning online with wikis. *Beyond the Comfort Zone : Proceedings of the 21st ASCILITE Conference, Perth, 5-8 December*, *4*(6), 95–104.

Avidov-Ungar, O., & Eshet-Alkakay, Y. (2011). Teachers in a World of Change : Teachers ' Knowledge and Attitudes towards the Implementation of Innovative Technologies in Schools. *Interdisciplinary Journal of E-Learning and Learning*

Objects, *7*(1), 291–303.

Babbie, E. (2012). *The Practice of Social Research, Twelfth Edition*.

Babbie, E. R. (1990). Survey research methods Wadsworth Pub. *Co Belmont, Calif*, *3*(9).

Baker-Doyle, K. J., & Yoon, S. A. (2011). In search of practitioner-based social capital: a social network analysis tool for understanding and facilitating teacher collaboration in a US-based STEM professional development program. *Professional Development in Education*, *37*(1), 75–93.

Bakhshandeh, R., Samadi, M., Azimifar, Z., Schaeffer, J. (2011). Degrees of Separation in Social Networks. Proceedings, The Fourth International Symposium on Combinatorial, 2011, 18-23.

Banister, S., & Vannatta, R. (2006). Beginning with a baseline: Insuring productive technology integration in teacher education. *Journal of Technology and Teacher Education*, *14*(1), 209–235.

Barbara O'Connor, Paul Anderson, McGaw, B., & Murray, S. (2002). *Digital Transformation: A Framework for ICT Literacy. A Report of the International ICT Literacy Panel*. *Educational Testing Service*.

Barnes, N. G., & Lescault, A. M. (2012). The 2011 Inc. 500 social media update: Blogging declines as newer tools rule. *Center for Marketing Research, University of Massachusetts, Dartmouth. Retrieved Feburary*, *4*(1).

Baviskar, S. N., Hartle, R. T., & Whitney, T. (2009). Essential Criteria to Characterize Constructivist Teaching: Derived from a review of the literature and applied to five constructivist-teaching method articles. *International Journal of Science Education*, *31*(4), 541–550.

131

Bebell, D., Russell, M., & Dwyer, L. O. (2004). Measuring Teachers ' Technology Uses : Why Multiple-Measures Are More Revealing. *Jourtnal of Research on Technology in Education*, *37*(3), 1–63.

Bielefeldt, T. (2012). Guidance for Technology Decisions from Classroom Observation. *Journal of Research on Technology in Education*, *44*(3), 205–223.

Bingham, T., & Conner, M. (2010). The new social learning. *Learningexecutive.Com*.

Bissessar, C. S. (2014). Facebook as an Informal Teacher Professional Development Tool. *Australian Journal of Teacher Education*, *39*(2).

Blasco-Arcas, L., Buil, I., Hernández-Ortega, B., & Sese, F. J. (2013). Using clickers in class. The role of interactivity, active collaborative learning and engagement in learning performance. *Computers & Education*, *62*(3), 102–110.

Blau, I. (2011). Teachers for " Smart Classrooms ": The Extent of Implementation of an Interactive Whiteboard- based Professional Development Program on Elementary Teachers ' Instructional Practices. *E-Learning and Learning Objects*, *7*(3), 275–288.

Boyd, & Ellison, N. B. (2008). Social Network Sites : Definition , History , and Scholarship.

Bozdoğan, D., & Özen, R. (2014). Use of ICT technologies and factors affecting pre-service ELT teachers' perceived ICT self-efficacy. *Turkish Online Journal of Educational Technology*, *13*(2), 186–196.

Bronack, S., Riedl, R., & Tashner, J. (2006). Learning in the zone: A social constructivist framework for distance education in a 3-dimensional virtual world. *Interactive Learning Environments*.

Bruner, J. (1985). Vygotsky: A historical and conceptual perspective. *Culture,*

Communication, and Cognition: Vygotskian Perspectives, *6*(1), 21–34.

Bryman, A., & Cramer, D. (2011). *Quantitative data analysis with IBM SPSS 17, 18 and 19*. Routledge.

Buchanan, D. A., & Bryman, A. (2007). Contextualizing methods choice in organizational research. *Organizational Research Methods*, *10*(3), 483–501.

Buus, L. (2012). Scaffolding teachers integrate social media into a problem-based learning approach? *Electronic Journal of E-Learning*, *10*(1), 13–22.

Carlson, S., & Gadio. (2002). *Teacher Professional Development in the Use of Technology*.

Caroll, T., & Resta, P. (2010). Redefining teacher education for digital-age learners. *Summit Report from the Invitational Summit on Redefining Teacher Education for Digital-Age Learners*.

Casey, G., & Evans, T. (2011). Designing for Learning : Online Social Networks as a Classroom Environment. *International Review O F Research in Open and Distance Learning*, *12*(6), 1–26.

Chasib, H. A. (2014). *Exploring The Effects Of Cyber-Bullying On Student's Attitude In Online Learning: A Case Study Of Uum*. Igarss 2014.

Checkoway, H., Pearce, N., & Kriebel, D. (2004). *Research methods in occupational epidemiology* (Vol. 34). Oxford University Press.

Chen, B., & Bryer, T. (2012a). January – 2012 Investigating Instructional Strategies for Using Social Media in Formal and Informal Learning. *The International Review of Research in Open and Distance Learning*, *13*(1), 1–19.

Chen, B., & Bryer, T. (2012b, January 9). Investigating instructional strategies for using social media in formal and informal learning. *The International Review of*

133

Research in Open and Distributed Learning.

Chen, L.-L. (2011). Improving Teachers' Teaching WithCommunication Technology. *J. Educational Technology Systems*, *40*(1), 35–43.

Christiansen, R., &, & Knezek, G. (2008). *Springer International Handbook of Information Technology in Primary and Secondary Education*.

Ciampa, K. (2012). ICANREAD: The Effects of an Online Reading Program on Grade 1 Students' Engagement and Comprehension Strategy Use. *Journal of Research on Technology in Education*, *45*(1), 27–59.

Coakes, S. J., & Steed, L. (2009). *SPSS: Analysis without anguish using SPSS version 14.0 for Windows*. John Wiley & Sons, Inc.

Coakes, S. J., & Steel, L. (2007). SPSS Version 14.0 for Windows: Analysis with out anguish. *JohnWiley & Sons Australia Ltd., Australia*, *3*(1), 15.

Correia, A., & Davis, N. (2008). Intersecting communities of practice in distance education: the program team and the online course community. *Distance Education*.

Costa, F., Rodrigues, Â., Peralta, M. H., Cruz, E., Reis, O., Ramos, J. L., … others. (2008). Estudo de Implementação do Projecto Competências TIC. *(GEPE)*, *1*(3).

Cotner, S. H., Fall, B. a., Wick, S. M., Walker, J. D., & Baepler, P. M. (2008). Rapid feedback assessment methods: Can we improve engagement and preparation for exams in large-enrollment courses? *Journal of Science Education and Technology*, *17*(5), 437–443.

Coutinho, C. P., & Lisbôa, E. S. (2013). Social networks as spaces for informal teacher professional development: Challenges and opportunities. *International Journal of Web Based Communities*, *9*(2), 199–211.

Creswell. (2009). *Research design: qualitative, quantitative, and mixed methods approaches edition statement (NR) 3rd ed. Research design Qualitative quantitative and mixed methods approaches*.

Cronbach, L. J. (1951). Coefficient Alpha and the Internal Structure of Tests. *Psychometrika*.

Daud, M. Y., & Khalid, F. (2014). Nurturing the 21st Century Skills among Undergraduate Students through the Application and Development of Weblog. *International Education Studies*, *7*(13), 123–129.

De Lay, A. M. (2009). Behold! The power of teacher collaboration. *The Agricultural Education Magazine*, *82*(1), 7.

De Santisteban, A. V. (2005). Sanctions, war, occupation and the de-development of education in Iraq. *International Review of Education*, *51*(1), 59–71.

Dede, C. (2010). Comparing frameworks for 21st century skills. *21St Century Skills*, 51–76.

Deichmann, J., Eshghi, A., Haughton, D., Masnghetti, M., Sayek, S., & Topi, H. (2006). Exploring break-points and interaction effects among predictors of the international digital divide. *Journal of Global Information Technology Management*, *9*(4), 47–71.

Den Broeck, J., Cunningham, S. A., Eeckels, R., & Herbst, K. (2005). Data cleaning: detecting, diagnosing, and editing data abnormalities. *PLoS Med*, *2*(10), e267.

Draper, S. W., & Brown, M. I. (2004). Increasing interactivity in lectures using an electronic voting system. *Journal of Computer Assisted Learning*, *20*(2), 81–94.

Drexler, W., Baralt, A., & Dawson, K. (2008). The Teach Web 2.0 Consortium: A tool to promote educational social networking and Web 2.0 use among educators.

135

Educational Media International, *45*(4), 271–283.

Dufour, R., & Dufour, R. (2008). Revisiting Professional Learning Communities at Work ᵀᴹ : New Insights for Improving Schools, 1–59.

Duncan-Howell, J. (2010). Teachers making connections: Online communities as a source of professional learning. *British Journal of Educational Technology*, *41*(2), 324–340.

Dunlap, J. C., & Lowenthal, P. R. (2009). Tweeting the night away: Using Twitter to enhance social presence. *Journal of Information Systems Education*, *20*(2), 129–135.

Dutta, S., & Mia, I. (2011). The global information technology report 2010–2011. *World Economic Forum*.

Ebenezer, J., Columbus, R., Kaya, O., Zhang, L., & Ebenezer, D. (2012). One Science Teacher's Professional Development Experience: A Case Study Exploring Changes in Students' Perceptions o f Their Fluency with Innovative Technologies. *Journal O F Science Education & Technology*, *21*, 22–37.

Ernest, P. (1998). *Social constructivism as a philosophy of mathematics*. Suny Press.

Ertmer, P., & Anne. (2010). Teacher Technology Change: How Knowledge, Confidence, Beliefs, and Culture Intersect. *Journal of Research on Technology in Education*, *42*(3), 255–284.

Fallis, a. . (2013). Research methodology and sampling. *Journal of Chemical Information and Modeling*, *53*(9), 1689–1699.

Flumerfelt, S., & Green, G. (2009). Using lean in the flipped classroom for at risk students. *Educational Technology and Society*.

Forza, C. (2002). Survey research in operations management: a process-based

perspective. *International Journal of Operations & Production Management*, *22*(2), 152.

Friborg, O., & Rosenvinge, J. H. (2013). A comparison of open-ended and closed questions in the prediction of mental health. *Quality & Quantity*, *47*(3), 1397–1411.

Gee, J. (2003). What Video Game Have to Teach Us About Learning and Literacy. *Computers in Entertainment (CIE)*.

Geisert, W. E., & Futrell, B. L. (2001). Computer anxiety and other factors preventing computer use among secondary school educators. *Journal of Education*, *45*(2), 15–20.

Giannini, G. T. (2010). *Marketing Public Relations: A Marketer{ś} Approach to Public Relations and Social Media*. Prentice Hall.

Goodman, S. E., & Green, J. D. (1992). Computing in the Middle East. *Communications of the ACM*, *35*(8), 21–24.

Greenhow, C. (2009). Tapping the Wealth of Social Networks for Professional Development. *Learning Leading with Technology*, *36*(8), 10–11.

Gulbahar, Y., & Guven, I. (2008). A survey on ICT usage and the perceptions of social studies teachers in Turkey. *Educational Technology and Society*, *11*(3), 37–51.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (Vol. 6). Pearson Prentice Hall Upper Saddle River, NJ.

Ham, V. (2006). *National Trends in the ICT PD School Cluster Programme*.

Hamid, S., Chang, S., & Kurnia, S. (2009). Identifying the use of online social networking in higher education. *Same Places, Different Spaces. Proceedings*

Ascilite Auckland 2009, *42*(3), 419–422.

Hamid, S., Waycott, J., Chang, S., & Kurnia, S. (2011). Appropriating Online Social Networking (OSN) Activities for Higher Education: Two Malaysian Cases. *ASCLITE 2011 Proceedings*, *4*(16), 526–538.

Harris, & Rea. (2009). Web 2 . 0 and Virtual World Technologies : A Growing Impact on IS Education. *Journal of Information Systems*, *20*(2), 137–145.

Harris, J., & Hofer, M. (2011). Technological Pedagogical Content Knowledge (TPACK) in action : a descriptive study of secondary teachers' currciulum-based, technology-related instructional planning. *Journal of Research on Technology in Education*, *43*(3), 211–229.

Harris, J., Mishra, P., & Koehler, M. (2008). Teachers' Technological Pedagogical Content Knowledge and Learning Activity Types: Curriculum-Based Technology Integration Reframed. *Journal of Research on Technology in Education*, *41*(4), 393–416.

Harrison, A. W., Rainer, R. K., & others. (1992). An examination of the factor structures and concurrent validities for the computer attitude scale, the computer anxiety rating scale, and the computer self-efficacy scale. *Educational and Psychological Measurement*, *52*(3), 735–745.

Hepp, P., Hinostroza, J. E., Laval, E., & Rehbein, L. (2004). Technology in Schools: Education, ICT and the Knowledge Society. *World Bank Education Advisory Service*, *3*(1), 94.

Holden, H., & Rada, R. (2011). Understanding the Influence of Perceived Usability and Technology Self-Efficacy on Teachers' Technology Acceptance. *Journal of Research on Technology in Education*, *43*(4), 343–367.

Horton, W. (2008). Knowledge management: From the graveyard of good ideas. *The E-Learning Handbook: Past Promises, Present Challenges*, *1*(3), 77–108.

Huang, Y., Hwang, W., & Chang, K. (2010). Social learning networks: Build mobile learning networks based on collaborative services. *Educational Technology & Society*, *13*(November 2015), 1–2.

Huffaker, D. (2006). Teen Blogs Exposed : The Private Lives of Teens Made Public. In *Adolescence* (pp. 1–15).

Hung, H.-T., & Yuen, S. C.-Y. (2010). Educational use of social networking technology in higher education. *Teaching in Higher Education*, *15*(6), 703–714.

Hur, J. W., & Brush, T. a. (2009). Teacher Participation in Online Communities : Why Do Teachers Want to Participate in Self-generated Online Communities of K-12 Teachers ? *Journal of Research on Technology in Education*, *41*(3), 279–304.

Iloanusi, N. O., & Osuagwu, C. C. (2009). ICT in Education: Achievements so far in Nigeria. *Research, Reflections and Innovations in Integrating ICT in Education*, *3*(1), 1331–1335.

Israel, G. D. (1992). *Determining sample size*. University of Florida Cooperative Extension Service, Institute of Food and Agriculture Sciences, EDIS.

Ivala, E., & Gachago, D. (2012). Social media for enhancing student engagement: The use of Facebook and blogs at a University of Technology. *SAJHE*, *26*(1), 152–167.

Java, A., Song, X., Finin, T., & Tseng, B. (2007). Why We Twitter : Understanding Microblogging. *Proceedings of the 9th WebKDD and 1st SNA-KDD 2007 Workshop on Web Mining and Social Network Analysis*.

Jerles, J. (2012). Blogging in Elementary School: Why, How, and What Teachers Can

Do To Encourage Writing. *National Teacher Education Journal*, *5*(3).

Johnson, D. W., & Johnson, R. T. (2009). An Educational Psychology Success Story: Social Interdependence Theory and Cooperative Learning. *Educational Researcher*, *38*(5), 365–379. http://doi.org/10.3102/0013189X09339057

Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed Methods Research : A Research Paradigm Whose Time Has Come. *American Educational Research*, *33*(7), 14–26.

Kaplan, & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*, *53*(1), 59–68.

Kluever, R. C., Lam, T. C. M., Hoffman, E. R., Green, K. E., & Swearingen, D. L. (1994). The computer attitude scale: Assessing changes in teachers' attitudes toward computers. *Journal of Educational Computing Research*, *11*(3), 251–261.

Knox, A. B. (2007). Proficiency theory of adult learning. *Contemporary Educational Psychology*, *5*(4), 378–404.

Kozma, R. B. (2005). National policies that connect ICT-based education reform to economic and social development. *Human Technology*, *1*(3), 117–156.

Kozma, R., & McGhee, R. (2003). ICT and innovative classroom practices. *Technology, Innovation and Educational Change*, *4*(2), 43–80.

Kuh, G. D. (2007). Connecting the Dots: Multi-Faceted Analyses of the Relationships between Student Engagement Results from the NSSE, and the Institutional Practices and Conditions That Foster Student Success. *Education*, *43*(3), 812–856.

Kukla, A. (2000). *Social constructivism and the philosophy of science*. Psychology Press.

Kurt Ronald Schulze. (2014). *Relationships Between Teacher Characteristics and Educational Technology*.

Kurtz, J. (2009). Twittering About Learning : Using Twitter in an Elementary School Classroom. *Horace Summer*, *25*, 1–4.

Laferrière, T., Lamon, M., & Chan, C. K. K. (2006). Emerging e-trends and models in teacher education and professional development. *Teaching Education*, *17*(1), 75–90.

Larson, L. C. (2009). Reader response meets new literacies: Empowering readers in online learning communities. *Reading Teacher*, *62*(8), 638–648.

Lave, J., & Wenger, E. (1991). *Participación periférica legítima*. Cambridge University Press, 1991.

Lee, M., & Loughlin, C. M. (2011). Understanding Web 2.0 and its Implications for E-Learning. In *Web 2.0-Based E-Learning* (Vol. 15, pp. 21–42). IGI Global.

Lee, T. J., Cho, H., & Ahn, T.-H. (2012). Senior citizen satisfaction with restaurant service quality. *Journal of Hospitality Marketing & Management*, *21*(2), 215–226.

Lei, J. (2009). Digital Natives As Preservice Teachers: WhatTechnology Preparation Is Needed? *Journal of Computing in Teacher Education*, *25*(2015), 87–97.

Lemke, C. (2002). enGauge 21st Century skills: Digital literacies for a digital age. *North Central Regional Educational Laboratory*, *3*(1), 1–32.

Levin, T., & Wadmany, R. (2006). Teachers' Beliefs and Practices in Technology-based Classrooms: A Developmental View. *Journal of Research on Technology in Education*, *39*(2), 157–181.

Lewis, L., Parsad, B., Carey, N., Bartfai, N., Farris, E., Smerdon, B., & Greene, B.

(Project O. (1999). *Teacher Quality: A Report on the Preparation and Qualifications of Public School Teachers. CENTER (ERIC)* (Vol. 1999).

Liao, S. & W.-C. F. and C.-C. C. (2007). Knowledge sharing, absorptive capacity, and innovation capability: an empirical study of Taiwan's knowledgeintensive industries. *Journal of Information Science*, *33*(3), 340–359.

Liu, L., Jones, P. E., & Sadera, W. A. (2010). An investigation on experienced teachers knowledge and perceptions of instructional theories and practices. *Computers in the Schools*, *27*(1), 20–34.

Liu, T. C., Liang, J. K., Wang, H. Y., Chan, T. W., & Wei, L. H. (2003). Embedding educlick in classroom to enhance interaction. *Proceedings of International Conference on Computers in Education (ICCE)*, *3*(2015), 117–125.

Liu, Y. (2003). Developing a scale to measure the interactivity of websites. *Journal of Advertising Research*, *43*(3), 207–216.

Luehmann, A. L., & Tinelli, L. (2008). Teacher professional identity development with social networking technologies: learning reform through blogging. *Educational Media International*, *45*(4), 323–333.

Magambo, J. (2007). Use of Information and Communications Technologies (ICTs) in teacher education in Sub-Saharan Africa : case studies of selected African universities.

Maher, D., Sanber, S., Cameron, L., Keys, P., & Vallance, R. (2013). An online professional network to support teachers ' information and communication technology development. In *Electric Dreams* (pp. 526–530).

Maria, I. (2012). *Competências Na Utilização Das Ferramentasserviços Web 2.0.*

Mark, & Johnston, R. (2011). *Audience Analysis The Role of Journalism and Social*

Media in the Consumption of News in Iraq 2011 Iraq Media Study.

Mark, J. (2009). Social Software and Participatory Learning. *Pedagogical Choices with Technology Affordances in the Web 2.0 Era*.

Matthíasdóttir, Á., Dal, M., & Lefever, S. C. (2003). How do teachers use information and communication technology in Icelandic high schools in 2002? *Proceedings of the 4th International Conference Conference on Computer Systems and Technologies eLearning CompSysTech 03*, *5*(November 2015), 562–567.

Matzen, N. J., & Edmunds, J. a. (2007). Technology as a Catalyst for Change : The Role of Professional Development.

Mawaddah, B. M. (2013). *Factors Affecting the Success of Nanotechnology Product Commercialisation in Malaysia*.

Mayes, T. and de Freitas, S. (2012). JISC e-Learning Models Desk Study Stage 2 : Review of e-learning theories , frameworks and models. *Learning*, *202*(September), 43.

McMahon, M. (1997). Social constructivism and the World Wide Web-A paradigm for learning. In *ASCILITE conference. Perth, Australia*.

McMillan & Hwang. (2002). Measures of perceived interactivity: an exploration of the role of direction and communication, user control and time in shaping perceptions of interactivity. *Journal of Advertising*, *31*(3), 29–42.

Ministry of education, & Statistics, D. of social and educational. (2014). Report census secondary education in Iraq 2014/2013 academic year.

Miranda, H. P., & Russell, M. (2012). Understanding factors associated with teacher-directed student use of technology in elementary classrooms: A structural equation modeling approach. *British Journal of Educational Technology*, *43*(4),

652–666.

Mistry, J. J. (2005). A conceptual framework for the role of government in bridging the digital divide. *Journal of Global Information Technology Management*, *8*(3), 28–46.

Mitchell, M., & Jolley, J. (2012). *Research design explained*. Cengage Learning.

Moely, S. M. G. and B. E. (2003). Service-Learning and Engagement, Academic Challenge, and Retention. *Michigan Journal of Community Service Learning*, 5–14.

Morsink, P., Hagerman, Heintz, A., Boyer, D., Harris, R., Kereluil, K., & Hartman, D. (2010). Professional development to support TPACK technology integration: The initial learning trajectories of thirteen fifth-and sixth-grade educators. *Journal O F Education*, 3–16.

Moursund, David, Bielefeldt&, & Talbot. (1999). Will New Teachers Be Prepared To Teach in a Digital Age? ANational Survey on Information Technology in TeacherEducation. *Milken Exchange on Education Technology*, *7*(3), 62.

Mouza, C. (2011). Promoting Urban Teachers' Understanding of Technology, Content, and Pedagogy in the Context of Case Development. *Journal of Research on Technology in Education*, *44*(1), 1–29.

Mugahed Al rahmi, W., Shahizan Othman, M., & Alhaji Musa, M. (2014). The Improvement of Students' Academic Performance by Using Social Media through Collaborative Learning in Malaysian Higher Education. *Asian Social Science*, *10*(8), 210–221.

Müller, J., Gil, J. M. S., Hernández, F., Giró, X., & Bosco, A. (2007). The socio-economic dimensions of ICT-driven educational change. *Computers &*

144

Education, *49*(4), 1175–1188.

Murphy, V., & Thuente, K. (1995). Using Technology in Early Learning Classrooms. *Learning & Leading with Technology*, *22*(8), 8–10.

Nelson, T. H., LeBard, L., & Waters, C. (2010). How to Create a Professional Learning Community. *Science and Children*, *47*(9), 36–40.

Nelson, T., & Kuh, G. (2005). *Student Experiences With Information and Their Relationship Technology To Other Aspects of Student Engagement*.

NETS-T, I. (2008). International Society for Technology in Education. *The ISTE NETS and Performance Indicators for Teachers*.

Njoku, S. (2006). ICT and Nigerian teachers. In *Paper delivered at Teachers Registration Council of Nigeria (TRCN) National Workshop. Abuja: TRCN* (p. 30).

Njoroge, R. (2013). *Impacts of Social Media Among the Youth on Behavior Change*.

Norusis, M. J. (2011). SPSS Statistics 19. Guide to Data Analysis. Prentice-Halla, Upper Saddle River.

Nunnally, J., Bernstein, I., & Berge, J. (1978). *Psychometric theory*.

O'Reilly, T. (2005). Web 2.0: compact definition. *Message Posted to Http://radar. Oreilly. com/archives/2005/10/web_20_compact_definition. Html*, *6*(13), 9.

O'Reilly, T., & Battelle, J. (2009). Web Squared : Web 2 . 0 Five Years On. *Proc of the 6th Annual Web*.

Othman, W. M. A.-R. and M. S. (2013). Evaluating Student's Satisfaction Of Using Social Media Through Collaborative Learning In Higher Education. *International Journal of Advances in Engineering & Technology*, *6*(4), 1541–1551.

145

Paiva, J. (2002). As Tecnologias de Informação e Comunicação: Utilização pelos Professores. *DAPP*, *6*(2), 1–144.

Palak, D., & Walls, R. (2009). Teachers ' Beliefs and Technology Practices : A Mixed-methods Approach. *Journal O F Research on Technology in Education*, *41*(4), 417–441.

Pelgrum, W. J. (2001). Obstacles to the integration of ICT in education: results from a worldwide educational assessment. *Computers & Education*, *37*(2), 163–178.

Peluso, D. C. C. (2012). The fast-paced iPad revolution: Can educators stay up to date and relevant about these ubiquitous devices? *British Journal of Educational Technology*, *43*(4), E125–E127.

Piaget, J., & Duckworth, E. (1970). Genetic epistemology. *American Behavioral Scientist*, *13*(3), 459–480.

Plomp, T., Ten Brummelhuis, A., & Rapmund, R. (1996). Teaching and learning for the future (Report of the Committee on Multimedia in Teacher Training (COMMITT)) to the Netherlands Minister of Education). *The Hague: Sdu*, *15*(4), 1–11.

Poellhuber, B., Anderson, T., & Roy, N. (2011). Distance students readiness for social media and collaboration. *The International Review of Research in Open and Distributed Learning*, *12*(6), 102–125.

Porterfield, K., & Carnes, M. (2012). School Communication in the Age of Google. *Journal of School Public Relations*, *33*(2), 115–130.

Prasad, C. V. V. S. N. V., Lalitha, P., & Srikar, P. V. N. (2015). Barriers to the Use of Information and Communication Technology (ICT) in Secondary Schools: Teacher's Perspective. *Journal of Management Research*, *7*(2), 190.

Ractham, P., & Zhang, X. (2007). Podcasting in academia: A new knowledge management paradigm within academic settings. *Journal of Hospitality, Leisure, Sport & Tourism Education*, *6*(1), 49–57.

Rasmy, M. H., Tharwat, A., & Ashraf, S. (2005). Enterprise resource planning (ERP) implementation in the Egyptian organizational context. *European and Mediterranean Conference on Information Systems EMCIS 2005*.

Rastogi, A., & Malhotra, S. (2013). ICT Skills and Attitude as Determinants of ICT Pedagogy Integration. *European Academic Research*, *I*(3), 301–318.

Ravenscroft, A., Schmidt, A., Cook, J., & Bradley, C. (2012). Designing social media for informal learning and knowledge maturing in the digital workplace. *Journal of Computer Assisted Learning*, *28*(3), 235–249.

Roblyer, M. D., Edwards, J., & Havriluk, M. A. (2010). Integrating educational technology into teaching, *4*(2), 11.

Ropp, M. M. (1999). Exploring individual characteristics associated with learning to use computers in preservice teacher preparation. *Journal of Research on Computing in Education*, *31*(4), 402–424.

Saad, & Hanna. (2011). Iraq ICT Situation and its effect on Iraq Rebuilding: Study, Analysis, and Suggestion, *3*(6), 14.

Sawchuk, S. (2008). Sites Mimicking Social Networks Set Up for Staff Development. *Education Week*, *28*(1), 1–18.

Schmucki, L., Hood, J., & Meel, S. (2009). A survey of K-12 educators on social networking and content-sharing tools. *EdWeb. Net*, *5*(3), 15.

Schunk, D. . (2004). Learning Theories: An Educational Perspective. *Big Theories Revisited*, *4*, 115.

147

Selwood, I., & Pilkington, R. (2005). Teacher workload: using ICT to release time to teach. *Educational Review*, *57*(2), 163–174.

Selwyn, N. (2009). Faceworking: exploring students' education-related use of Facebook. *Learning, Media and Technology*, *34*(2), 157–174.

Shaltry, C., Henriksen, D., Wu, M. L., & Dickson, W. P. (2013). Situated Learning with Online Portfolios, Classroom Websites and Facebook. *TechTrends*, *57*(3), 20–25.

Shih, J., Chuang, C.-W., & Hwang, G.-J. (2010). An inquiry-based mobile learning approach to enhancing social science learning effectiveness. *Educational Technology & Society*, *13*(4), 50–62.

Siau, K., Sheng, H., & Nah, F. F.-H. (2006). Use of a classroom response system to enhance classroom interactivity. *Education, IEEE Transactions on*, *49*(3), 398–403.

Singh, T. K. R., & Chan, S. (2014). Teacher Readiness On Ict Integration In Teaching-Learning: A Malaysian Case Study Case Study. *International Journal of Asian Social Science*, *4*(7), 874–885.

Slepkov, H. (2008). Teacher professional growth in an authentic learning environment. *Journal of Research on Computing in Education*, *41*(1), 85–111.

Smith, P. L., & Ragan, T. J. (1999). *Instructional Design*. *Instrucional Design*.

So, H. J., & Brush, T. A. (2008). Student perceptions of collaborative learning, social presence and satisfaction in a blended learning environment: Relationships and critical factors. *Computers & Education*, *51*(1), 318–336.

So, H.-J., & Brush, T. A. (2008). Student perceptions of collaborative learning, social presence and satisfaction in a blended learning environment: Relationships and

critical factors. *Computers & Education*, *51*(1), 318–336.

Sperling, R. A., Gay, L. R., & Airasian, P. W. (2003). *Student Study Guide to Accompany LR Gay and Peter Airasian's Educational Research: Competencies for Analysis and Application*. Merrill.

Struyven, K., Dochy, F., & Janssens, S. (2008). The effects of hands-on experience on students' preferences for assessment methods. *Journal of Teacher Education*, *59*(1), 69–88.

Sutherland, L., Howard, S., & Markauskaite, L. (2010). Professional identity creation: Examining the development of beginning preservice teachers' understanding of their work as teachers. *Teaching and Teacher Education*, *26*(3), 455–465.

Tay, E., & Allen, M. (2011). Designing social media into university learning: technology of collaboration or collaboration for technology? *Educational Media International*, *48*(3), 151–163.

Taylor-powell, E. (1998). Questionnaire Design : Asking questions with a purpose. *System*, *6*(2), 1–20.

Tinio, V. L. (2005). ICT in Education department of ICT for Development United Nations Development Programme Bureau for Development Policy. *Essential*, *4*(1), 34.

Training, & Australia, W. D. of E. (2005). Teacher ICT skills. *Evaluation of the Information and Communication Technology (ICT) Knowledge and Skill Levels of Western Australian Government School Teachers*, *4*(1), 82.

Tsou, W., Wang, W., & Tzeng, Y. (2003). Applying computer multimedia storytelling Website in foreign language learning. *Proceedings - 3rd IEEE International Conference on Advanced Learning Technologies, ICALT 2003*, *47*(3), 262–263.

Twati, J. M., & Gammack, J. G. (2006). The impact of organisational culture innovation on the adoption of IS/IT: the case of Libya. *Journal of Enterprise Information Management*, *19*(2), 175–191.

Unesco. (2002). *Information and communication technology in education. dera.ioe.ac.uk*.

Unesco. (2002). Information and communication technology in education. *Dera.Ioe.Ac.Uk*, 148.

Unesco. (2003). *Situation analysis of education in Iraq*.

Unesco. (2014a). ICT in Education in Iraq | United Nations Educational, Scientific and Cultural Organization.

Unesco. (2014). Unesco country programming document for the republic of iraq.

Unesco. (2014b). *UNESCO National Education Support Strategy (UNESS)*.

Unesco. (2008). competency standards for teachers: Competency standards modules. Paris: UNESCO.

United States Department of Education. (1996). Getting America's students ready for the 21st century: meeting the technology literacy challenge: a report to the Nation on Technology and Education.

Uwameiye, B. E. (2015). Application Of Information And Communication Technology (Icts) In The Effective Teaching And Learning Of Home Economics In Secondary Schools In Nigeria. *European Scientific Journal*, *11*(7), 458–465.

van Braak, J., Tondeur, J., & Valcke, M. (2004). Explaining different types of computer use among primary school teachers. *European Journal of Psychology of Education*, *19*(4), 407–422.

150

Viel-Ruma, K., Houchins, D., Jolivette, K., & Benson, G. (2010). The Relationships Among Collective Efficacy, Teacher Self-Efficacy, and Job Satisfaction. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children*, *15*(3), 9.

Vuorikari, R., Berlanga, A. J., Cachia, R., Cao, Y., Fetter, S., Gilleran, A., Petrushyna, Z. (2011). ICT-based school collaboration, teachers' networks and their opportunities for teachers' professional development - A case study on eTwinning. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, *7*(3), 112–121.

Vygotsky. (1978). *Mind in society: The development of higher psychological processes*. Harvard university press.

Wahab, M. (2006). *Usage Of Electronic Information Sources And Services By Teachers At Smart Schools In Selangor : Towards Developing Digital School Resource Centers*. UNIVERSITY OF MALAYA KUALA LUMPUR.

Walter, Allan, J. L. E., Brookhouse, P., & Johnson, J. L. (2010). Teacher Professional Development Through a Collaborative Curriculum Project – an Example of TPACK in Maine. *TechTrends*.

Wee, M. C., & Bakar, Z. A. (2006). Obstacles towards the use of ict tools in teaching and learning if information system in Malaysian Universities. *The Internationak Arab Journal of Information Technology*, *3*(3), 1–7.

Wenger. (2006a). Communities of practice: A brief introduction.

Wenger, E. (2006b). Community of Practice: a Brief Introduction. *Learning in Doing*, *15*(4), 1–7.

Wenger, E., McDermott, R., & Snyder, W. M. (2002). Cultivating Communities of Practice. 2002. *Boston, Mass: Harvard Business School Publishing*.

Wood, E., Mueller, J., Willoughby, T., Specht, J., & Deyoung, T. (2005). Teachers perceptions: Barriers and supports to using technology in the classroom. *Education, Communication & Information*, *5*(2), 183–206.

Yang, J. F. (2006). The discussion of media selection and accessible equity in distance education. *Journal of American Academy of Business, Cambridge*, *10*(1), 5.

Yusuf, M. O. (2005). Integrating information and communication technologies in Nigerian tertiary education. *An On Line Journal Of African Educational Research Network*, *13*(3), 1–100.

Zalon, M. L. (2008). Using technology to build community in professional associations. *Journal of Continuing Education in Nursing*, *39*(5), 235–240.

Zhu, C. (2012). Student Satisfaction, Performance, and Knowledge Construction in Online Collaborative Learning. *Educational Technology & Society*, *15*(1), 127–136.

Zikmund, W., Babin, B., Carr, J., & Griffin, M. (2012). *Business research methods*. Cengage Learning.

Zoghi, M., Mustapha, R., & Mohd Maasum, T. N. R. (2011). The Effects Of Modified Collaborative Strategic Reading ({MCSR}) Intervention On Reading Performance Among Freshmen In Iran. *Jurnal Teknologi*, *56*(3), 23–46.

Appendix A Questionnaire

UNIVERSITI UTARA MALAYSIA

جامعة أوتارا الماليزية

College of Arts and Science

كلية الآدب والعلوم

School of Computing

شعبة الكمبيوتر

Research Questionnaire

أسئلة الاستبانة

Examining The Relationship Between the Use of Social Media and ICT Proficiency Among Secondary School Teachers in Baghdad Karkh 2nd, Iraq

دور وسائل التواصل الاجتماعي في رفع مستوى مهارة تكنولوجيا المعلومات

والاتصالات لدى مدرّسي المدارس الثانوية في العراق

The present survey is part of my study for Master Degree which aims to determine the Relationship between the use of social media and ICT proficiency among teachers in secondary school in Iraq. Please read each questions carefully and answer it to the best of your ability. There are no correct or incorrect responses; we are merely interested

in your personal point of view. This survey is designed for teachers in secondary school in Iraq. "The study is purely used for academic purpose and will not be used for others".

This questionnaire is divided into five sections (Section A, B, C, D and E). Section A: Demographic information; Section B: Interaction with Peers, Section C: Engagement, Section D: Collaborative Learning and Section E: ICT Proficiency. This survey should only take 20-25 minutes to complete. Respondents are required to answer all the questions in order to complete the session. ICT Proficiency consists of Essential for computer operation; Word Processing (MS Word); Spreadsheet (MS Excel) and Graphing; Presentation (MS PowerPoint) Skills; Databases (MS Access); Search engines (Google, Yahoo,etc) Communication (e.g. Email), looking up information on CD-ROMs skills.

هذه الدراسة هي جزء من دراستي للحصول على درجة الماجستير الذي يهدف إلى تحديد العلاقة بين استخدام وسائل الإعلام والاجتماعية وإتقان تكنولوجيا المعلومات والاتصالات فيما بين المدرسين في المدارس الثانوية في العراق. وأرجو من أصدقائي المستجوبين قراءة الأسئلة جيداً، وإجابتها بأفضل ما عندكم من المعلومات. وليست هناك الإجابة الصحيحة والإجابة غير صحيحيه لأننا نرغب في معرفة آراءكم حول هذا الموضوع. ويُصمّم هذا المسح للمدرّسين في المدرسة الثانوية في العراق لغرض الدراسة الأكاديمية، لا غير.

وتنقسم هذه أسئلة الاستبانة إلى خمسة أقسام (القسم الأول، والثاني، والثالث، والرابع، والخامس). ويحتوي القسم الأول على البيانات الشخصية، والقسم الثاني على التفاعل مع الأصدقاء، والقسم الثالث على التعلّق، والقسم الرابع على الدراسة المتعاونة، والقسم الخامس على مستوى المهارات. والمدة في الإجابة عن جميع الأسئلة يمكن أن تكون عشرون دقيقة إلى خمسة وعشرين دقيقة. فعلى الجميع الإجابة عن جميع الأسئلة لأجل تكملة هذه الدراسة الأكاديمية. والمقصود من مهارة تكنولوجيا المعلومات والاتصالات هو المهارة الأساسية في عملية الكمبيوتر، ومن ضمنها: MS Word، MS Excel، MS PowerPoint، MS Access، Google Yahoo، Email، CD-ROM.

Thank you for your time and consideration. It is only with your generous help this study can be successful.

وأشكركم على تعاونكم وأوقاتكم، وتعاونكم إياي يساعدني في نجاح هذه الدراسة.

المخلص

Sincerely Yours,

Nadhim Azeez Sayel

ناظم عزيز صايل

Email. nazim201369@yahoo.com

Contact: 07707150870 - 0183876875

Section A: This part is about your background information. Please fill in the blanks and tick (√) where appropriate.

1. Do you use social media?

1-هل تستخدم وسائل التواصل الاجتماعي؟

    [   ]   Yes   نعم

    [   ]   No   لا

If yes, please proceed to the next question. إن كانت إجابتك نعم، فيرجى الانتقال إلى السؤال التالي.

If No, please stop here. وإن كانت إجابتك لا، فيرجى التوقّف من الإجابة.

2. Which social media site(s) do you frequent use? (Check all that apply)

2- ما هي أنواع وسائل التواصل الاجتماعي التي تستخدمها غالباً؟ (يمكن أن تكون إجابتك أكثر من الواحد).

[ ]	Facebook	الفيس بوك
[ ]	Twitter	التوتير
[ ]	Instagram	الإنستراغرم
[ ]	Pinterest	بينتيريست
[ ]	YouTube	اليوتيوب
[ ]	LinkedIn	اللينكد إن
[ ]	Blog sites	مواقع المدونات

3. How many hours do you spend on social media per week?

3- كم ساعة تقضي على وسائل التواصل الاجتماعي لكل أسبوع؟

[ ] 0-5 hours	صفر – خمس ساعات
[ ] 6-10 hours	ست ساعات – عشر ساعات
[ ] 11-15 hours	أحد عشرة ساعة – خمس عشرة ساعة
[ ] 16-21 hours	ستة عشرة ساعة – واحد وعشرون ساعة
[ ] More than 21 hours	اكثر من واحد وعشرون ساعة

4. What is your gender?   ‏4-ما جنسك ؟

[ ]   Male   ‏ذكر

[ ]   Female   ‏انثى

5. Please select the category that best describes your age.

‏5- عمرك رجاء اختار التصنيف المناسب لوصف

[ ]   Under 30 years old   ‏أقل من ثلاثين سنة

[ ]   30 – 40 years old   ‏ثلاثون – أربعون سنة

[ ]   41 – 50 years old   ‏واحد وأربعون – خمسون سنة

[ ]   Above 50 years old   ‏واحد وخمسون – فأكثر

6. Please select your highest education degree. ‏6-رجاء اختار اعلى درجة علمية حصلت
‏عليها.

[ ]   Bachelor Degree   ‏درجة البكالوريوس

[ ]   Master Degree   ‏درجة الماجستير

[ ]   PhD   ‏درجة الدكتوراه

7. Please select how many years your experience in Iraq Ministry of Education (MOE).

‏7- رجاء كم عدد سنوات خبرتك في وزارة التربية في للعراق؟، يرجى الاختيار ما يناسبك.

[ ]   1 – 5 years   ‏سنة – خمس سنوات

[ ]   6 – 10 years   ‏ست سنوات – عشرة سنوات

[ ]   11 – 15 years   ‏أحد عشرة سنة – خمس عشرة سنة

[ ]   Over 15 years   ‏اكثر من خمسة عشر سنة

Section B: Interaction with Peers? Tick (√) your choice of answer for items on the rating scale (Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree =5).

القسم الثاني: كيف يكون التفاعل مع الزملاء المدرّسين في وسائل التواصل الاجتماعي يرفع مستوى مهارة تكنولوجيا المعلومات والاتصالات من خلال التعليم التعاوني؟ يُرجى وضع علامة (√) حسب اختيارك للأسئلة الآتية حسب مستويات التقييم (غير موافق بشدة=1، غير موافق=2، معتدل=3، موافق=4، موافق بشدة=5).

No. الرقم	Questions الأسئلة	Evaluation Rate مستويات التقييم				
Interactivity with Peers (INT-P) **التفاعل مع الزملاء**		Strongly Disagree غير موافق بشدة	Disagree غير موافق	Neutral معتدل	Agree موافق	Strongly Agree موافق بشدة
Q1	Using the social media in class facilitates interaction with peers. من خلال استخدام وسائل التواصل الاجتماعي في الفصل، يسهل التفاعل مع الزملاء.	1	2	3	4	5
Q2	Using the social media in class gives me the opportunity to discuss with peers. من خلال استخدام وسائل التواصل الاجتماعي في الفصل، يتيح الفرصة لي في المناقشة مع الزملاء.	1	2	3	4	5
Q3	Using the social media in class facilitates dialog with peers. من خلال استخدام وسائل التواصل الاجتماعي في الفصل، يسهل المحادثة مع الزملاء.	1	2	3	4	5

Q4	Using the social media in class allows the exchange of information with peers. من خلال استخدام وسائل التواصل الاجتماعي في الفصل، يمكن تبادل المعلومات مع الزملاء.	1	2	3	4	5
Q5	Using social media, I benefited a great deal from the interactions I had with other teachers. من خلال استخدام وسائل التواصل الاجتماعي، يمكن التفاعل مع المدرّسين الآخرين.	1	2	3	4	5
Q6	Using social media, I learned how to work with others effectively. من خلال استخدام وسائل التواصل الاجتماعي، أدرس كيفية العمل المؤثّر مع الآخرين.	1	2	3	4	5
Q7	I feel that using social media makes it easy to reach peers. أشعر بأن استخدام وسائل التواصل الاجتماعي، يمكنني الوصول إلى الأصدقاء بسهولة.	1	2	3	4	5
Q8	Interacting with the other members in social media can increase my motivation to learn. التفاعل مع الأصدقاء الآخرين في وسائل التواصل الاجتماعي يشجّعني في الدراسة.	1	2	3	4	5

Section C: Engagement? Tick (√) your choice of answer for items on the rating scale (Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5).

القسم الثالث: كيف يكون التعلّق بين المدرّسين في وسائل التواصل الاجتماعي يرفع مستوى مهارة تكنولوجيا المعلومات والاتصالات من خلال التعليم التعاوني؟ يُرجى وضع علامة (√) حسب اختيارك للأسئلة الآتية حسب مستويات التقييم (غير موافق بشدة =1، غير موافق=2، معتدل=3، موافق=4، موافق بشدة =5).

No.	Questions الأسئلة	Evaluation Rate مستويات التقييم				
	Engagement (ENG) التعلّق	Strongly Disagree غير موافق بشدة	Disagree غير موافق	Neutral معتدل	Agree موافق	Strongly Agree موافق بشدة
Q1	By using the social media this class has favoured my personal relationships with my peers. من خلال استخدام وسائل التواصل الاجتماعي في الفصل، تكون علاقتي النفسية مع الزملاء أحسن.	1	2	3	4	5
Q2	By using the social media in this class, my peer and faculty interactions made me feel valuable. من خلال استخدام وسائل التواصل الاجتماعي في الفصل، تفاعلي مع زملائي وأعضاء هيئة التدريس يجعلني اشعر بأنني ذو قيمة.	1	2	3	4	5
Q3	By using the social media, I felt that my opinions have been taken into account in this class. من خلال استخدام وسائل التواصل الاجتماعي، أشعر بأن رأيي مأخوذ الاعتبار في هذا الفصل.	1	2	3	4	5

		1	2	3	4	5
Q4	By using the social media, my interest in knowing and working with people from diverse backgrounds was increased. من خلال استخدام وسائل التواصل الاجتماعي، اهتمامي بمعرفة والعمل مع الاخرين من خلفيات متباينة يزداد.	1	2	3	4	5
Q5	In using the social media, I often share with my peers the new information I acquire. من خلال استخدام وسائل التواصل الاجتماعي، أستطيع دائما المشاركة مع أصدقائي المعلومات الجديدة التي أكتسبها.	1	2	3	4	5
Q6	In using the social media, my colleagues often share with me the new information they acquire. من خلال استخدام وسائل التواصل الاجتماعي، يستطيع أصدقائي في المشاركة معي في المعلومات التي يكتسبونها.	1	2	3	4	5
Q7	In using the social media, my colleagues often share with me the working skills they know when I ask them. من خلال استخدام وسائل التواصل الاجتماعي، يستطيع أصدقائي في المشاركة معي في مهارات العمل التي يعرفونها عند ما أسألهم.	1	2	3	4	5
Q8	In using the social media, I often share with my colleagues the working skills I know when they ask me. من خلال استخدام وسائل التواصل الاجتماعي، أستطيع غالبا في المشاركة مع الأصدقاء مهارة العمل التي أعرفها عند ما يسألونني.	1	2	3	4	5

Section D: Collaborative Learning? Tick (√) your choice of answer for items on the rating scale (Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree = 4, Strongly Agree = 5).

القسم الرابع: كيف تكون التعليم التعاوني بين المدرّسين في وسائل التواصل الاجتماعي يرفع مستوى مهارات تكنولوجيا المعلومات والاتصالات؟ يُرجى وضع علامة (√) حسب اختيارك للأسئلة الآتية حسب مستويات التقييم (غير موافق بشدة=1، غير موافق=2، معتدل=3، موافق=4، موافق بشدة=5).

No.	Questions الأسئلة	Evaluation Rate مستويات التقييم				
		Strongly Disagree غير موافق بشدة	Disagree غير موافق	Neutral معتدل	Agree موافق	Strongly Agree موافق بشدة
Collaborative learning (CL) التعليم التعاوني						
Q1	I felt that using social media for collaborative learning in my group was effective. أشعر بأن استخدام وسائل التواصل الاجتماعي للتعليم التعاوني له أثر فعال.	1	2	3	4	5
Q2	I was able to develop research skills through peer collaboration. أستطيع تطوير مهارات البحث مع زملائي المتعاونين.	1	2	3	4	5
Q3	I was able to develop new skills and knowledge from other members in my group. أستطيع تطوير مهارات جديدة ومعرفة جديدة من الأصدقاء في مجموعتي.	1	2	3	4	5

Q4	Collaborative learning experience in the social media environment is better than in a face-to-face learning environment. الخبرة في التعليم التعاوني في بيئة وسائل التواصل الاجتماعي تكون أفضل من بيئة الدراسة وجها لوجه.	1	2	3	4	5
Q5	Using social media, I felt part of a learning community in my group. من خلال استخدام وسائل التواصل الاجتماعي، أشعر بأنني أحد أعضاء مجموعتي.	1	2	3	4	5
Q6	I actively exchanged my ideas with group members in social media. أستطيع تبادل الآراء مع أعضاء المجموعة في وسائل التواصل الاجتماعي.	1	2	3	4	5
Q7	Using social media, Collaborative learning in my group was effective. من خلال استخدام وسائل التواصل الاجتماعي، التعليم التعاوني في مجموعتي لها أثر فعال.	1	2	3	4	5
Q8	Using social media, Collaborative learning in my group was time consuming. استخدام وسائل التواصل الاجتماعي، والتعليم التعاوني في مجموعتي هو استهلاك للوقت.	1	2	3	4	5

162

Section E: ICT proficiency skills. Tick (√) your choice of answer for items on the rating scale (Strongly Disagree = 1, Disagree = 2, Neutral = 3, Agree =4, Strongly Agree = 5).

القسم الخامس: مهارة تكنولوجيا المعلومات والاتصالات من خلال التعليم التعاوني؟ يُرجى وضع علامة (√) حسب اختيارك للأسئلة الآتية حسب مستويات التقييم (غير موافق بشدة=1، غير موافق=2، معتدل=3، موافق=4، موافق بشدة=5).

No.	Questions الأسئلة	Evaluation Rate مستويات التقييم				
	ICT Proficiency كفاءة تكنولوجيا المعلومات والاتصالات	Strongly Disagree غير موافق بشدة	Disagree غير موافق	Neutral معتدل	Agree موافق	Strongly Agree موافق بشدة
Q1	Using of social media to facilitate academic activities and coordinate with peers can improve my ICT proficiency. استخدام وسائل التواصل الاجتماعي يساعد في تسهيل الأنشطة الأكاديمية، كما يساعد في تنسيقها مع الأصدقاء، وإنه أيضا يرفع مستوى مهارتي في تكنولوجيا المعلومات والاتصالات.	1	2	3	4	5
Q2	Group discussions can be arranged with my classmates using social media and this will improve my ICT proficiency. يمكن ترتيب المناقشة الجماعية مع الأصدقاء بواسطة وسائل التواصل الاجتماعي، وذلك يرفع مستوى مهارتي في تكنولوجيا المعلومات والاتصالات.	1	2	3	4	5

163

Q3	Using of social media to build a teacher relationship with my peers and this improves my ICT proficiency. استخدام وسائل التواصل الاجتماعي لبناء العلاقة مع أصدقائي، كما أنه يرفع مستوى مهارتي في تكنولوجيا المعلومات والاتصالات.	1	2	3	4	5
Q4	Using of social media improves my interaction with peers thus; help me to improve my ICT proficiency. استخدام وسائل التواصل الاجتماعي يرفع مستوى تفاعلي مع الأصدقاء، كما يساعدني في رفع مستوى مهارتي في تكنولوجيا المعلومات والاتصالات.	1	2	3	4	5

Thank You for Your Time and Assistance

شكرًا على تعاونكم وأوقاتكم

164

Appendix B: Analysis Output for Pilot Test

Case Processing Summary

		N	%
	Valid	30	100.0
Cases	Excluded[a]	0	.0
	Total	30	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
0.926	41
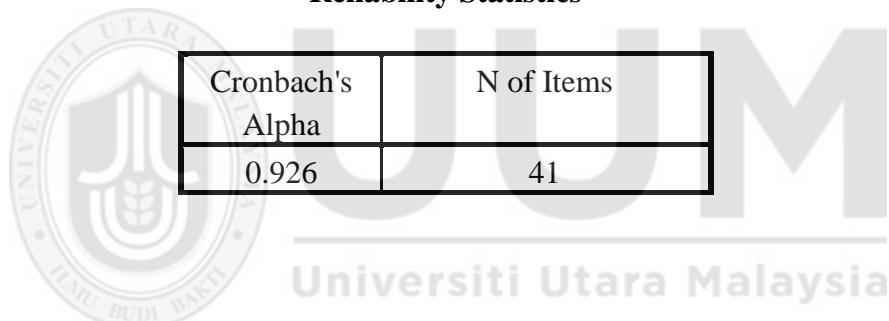
Appendix C Analysis Output for Main Study

Case Processing Summary Missing data

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
INT_PQ1	169	100.0%	0	0.0%	169	100.0%
INT_PQ2	169	100.0%	0	0.0%	169	100.0%
INT_PQ3	169	100.0%	0	0.0%	169	100.0%
INT_PQ4	169	100.0%	0	0.0%	169	100.0%
INT_PQ5	169	100.0%	0	0.0%	169	100.0%
INT_PQ6	169	100.0%	0	0.0%	169	100.0%
INT_PQ7	169	100.0%	0	0.0%	169	100.0%
INT_PQ8	169	100.0%	0	0.0%	169	100.0%
ENG_Q1	169	100.0%	0	0.0%	169	100.0%
ENG_Q2	169	100.0%	0	0.0%	169	100.0%
ENG_Q3	169	100.0%	0	0.0%	169	100.0%
ENG_Q4	169	100.0%	0	0.0%	169	100.0%
ENG_Q5	169	100.0%	0	0.0%	169	100.0%
ENG_Q6	169	100.0%	0	0.0%	169	100.0%
ENG_Q7	169	100.0%	0	0.0%	169	100.0%
ENG_Q8	169	100.0%	0	0.0%	169	100.0%
CL_Q1	169	100.0%	0	0.0%	169	100.0%
CL_Q2	169	100.0%	0	0.0%	169	100.0%
CL_Q3	169	100.0%	0	0.0%	169	100.0%
CL_Q4	169	100.0%	0	0.0%	169	100.0%
CL_Q5	169	100.0%	0	0.0%	169	100.0%
CL_Q6	169	100.0%	0	0.0%	169	100.0%
CL_Q7	169	100.0%	0	0.0%	169	100.0%
CL_Q8	169	100.0%	0	0.0%	169	100.0%
ICT_PSQ1	169	100.0%	0	0.0%	169	100.0%
ICT_PSQ2	169	100.0%	0	0.0%	169	100.0%
ICT_PSQ3	169	100.0%	0	0.0%	169	100.0%
ICT_PSQ4	169	100.0%	0	0.0%	169	100.0%

Descriptive Statistics for Interaction with peers

	N	Minimum	Maximum	Mean	Std. Deviation
INT_PQ1	169	2	5	4.01	0.883
INT_PQ2	169	2	5	4.06	0.943
INT_PQ3	169	2	5	4.15	0.945
INT_PQ4	169	2	5	4.20	0.781
INT_PQ5	169	2	5	4.08	0.869
INT_PQ6	169	2	5	4.03	0.903
INT_PQ7	169	2	5	4.04	0.944
INT_PQ8	169	2	5	4.18	0.807
Valid N (listwise)	169				

Descriptive Statistics for Engagement

	N	Minimum	Maximum	Mean	Std. Deviation
ENG_Q1	169	2	5	4.24	0.796
ENG_Q2	169	2	5	3.97	0.929
ENG_Q3	169	2	5	4.13	0.955
ENG_Q4	169	2	5	4.24	0.921
ENG_Q5	169	2	5	4.11	0.903
ENG_Q6	169	2	5	4.02	0.967
ENG_Q7	169	2	5	4.04	0.934
ENG_Q8	169	2	5	4.11	0.782
Valid N (listwise)	169				

Descriptive Statistics for Collaborative learning

	N	Minimum	Maximum	Mean	Std. Deviation
CL_Q1	169	2	5	4.04	0.858
CL_Q2	169	2	5	3.78	0.762
CL_Q3	169	2	5	4.15	0.891
CL_Q4	169	1	5	4.02	0.916

	N	Minimum	Maximum	Mean	Std. Deviation
CL_Q5	169	2	5	4.02	0.954
CL_Q6	169	1	5	4.20	1.098
CL_Q7	169	2	5	4.01	0.997
CL_Q8	169	1	4	2.56	0.714
Valid N (listwise)	169				

Descriptive Statistics for ICT Proficiency

	N	Minimum	Maximum	Mean	Std. Deviation
ICT_PSQ1	169	1	5	4.10	0.986
ICT_PSQ2	169	2	5	4.09	0.921
ICT_PSQ3	169	1	5	3.82	1.095
ICT_PSQ4	169	2	5	4.06	0.980
Valid N (listwise)	169				

Reliability Statistics Interaction with peers

Cronbach's Alpha	N of Items
0.741	8

Reliability Statistics Engagement

Cronbach's Alpha	N of Items
0.801	8

Reliability statistics collaborative learning

Cronbach's Alpha	N of Items
0.803	8

Reliability Statistics for ICT Proficiency

Cronbach's Alpha	N of Items
0.818	4

Correlations Interaction with peers and ICT Proficiency

		INT_PIV1	ICT_PDV
INT_PIV1	Pearson Correlation	1	0.622**
	Sig. (2-tailed)		.000
	N	169	169
ICT_PSDV	Pearson Correlation	0.622**	1
	Sig. (2-tailed)	.000	
	N	169	169

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations Engagement and ICT Proficiency

		ENG_IV2	ICT_PDV
ENG_IV2	Pearson Correlation	1	0.825**
	Sig. (2-tailed)		.000
	N	169	169
ICT_PSDV	Pearson Correlation	0.825**	1
	Sig. (2-tailed)	.000	
	N	169	169

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations Collaborative learning and ICT Proficiency

		CL_MV	ICT_PDV
CL_MV	Pearson Correlation	1	0.819**
	Sig. (2-tailed)		.000
	N	169	169
ICT_PSDV	Pearson Correlation	0.819**	1
	Sig. (2-tailed)	.000	
	N	169	169

**. Correlation is significant at the 0.01 level (2-tailed).