

**Doctoral Dissertation**

**Exploring the possibilities of improving the situation of ICT in teaching EFL: the case of  
public universities in Iraqi Kurdistan**

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## 1. Introduction

By the end of the 20<sup>th</sup> century, Information Communications Technology (henceforth ICT) rapidly proliferated in every aspect of human beings life, affecting the ways people work, communicate, and socialize. Today, using and understanding ICT has turned into an exceptionally important topic in educational settings.

The emergence of the knowledge society has led the governments across the world to dedicate a significant amount of resources and make tremendous investment to integrate ICT tools into their education system in order to help students graduate with adequate skills and abilities necessary to live in a 21<sup>st</sup> century environment (Buabeng-Andoh, 2012; Binkley et al. 2012).

The major aims of these investments are to convey a series of challenges for scientific institutions in order to enhance the quality of teaching and learning through making changes associated with curriculum, evaluation and transforming the traditional teaching and learning experiences. This is to prepare better students who are considered to be digital experts in order to take part in the emerging knowledge economy and information based society as well as accelerate national development efforts (Dede, 2010).

Today, the utilization of ICT in the field of education, in general, has turned out to be unavoidable. As a result, many educational institutions are using ICT tools at a very fundamental level from improving teaching with PowerPoint to delivering instruction via a combination of face-to-face and online, or teaching entirely online (Winke & Goertler, 2008).

Since its establishment in 1921 till the end of the 1970s, the education system of the Iraqi government was recognized as one of the most developed systems in the Arab world, “higher education especially the scientific and technological institutions were of international standard, staffed by high-quality personnel” (UNOHC, 2003, p.,1). From the beginning of 1980 till the mid of the 2000s, Iraq was involved in long wars with neighbouring countries and the international communities. According to a report by UNOHC (2003), three decades of war have deteriorated the Iraqi education system and left it with critical shortcomings in many areas, for instance:

1. the reduction of teacher salaries from 500-1000 dollars per month in 1990 to 5-10 dollars today has resulted in the increased turnover of teachers looking for better-paid jobs elsewhere.

2. in-service training of teachers and school management staff has been more or less non-existent.
3. curricula and textbooks have not been revised for about two decades, and teaching methodologies have not been updated

(p.2)

Thus, the wars and international sanctions turned the best education system in the Arab world into the worst one.

According to UNOHC, (2003), Iraqis have a strong tradition and motivation for education and are committed to rebuilding the system.

It is therefore, in 2010, a platform to reform the system of higher education was declared by the Ministry of Higher Education and Scientific Research in Iraqi Kurdistan (MOHE). A great emphasis of the platform was given to adopt new methods of teaching and update the knowledge and skills of teachers with a new philosophy towards integrating (ICT) in the process of teaching and learning (MOHE, 2010).

The intention of this platform has been premised on the potential of the new technological tools to challenge the inherited out-of-date higher education system of the "old Iraq", and approach a modern and westernized system of higher education to prepare students to realize the job demands of the local market (MOHE, 2010). As a result, the Kurdish government took the initiative to invest a great deal to transform the teaching environments with ICT infrastructures and the decision makers of the universities encourage their teachers to use multimodal technology in language teaching (MOHE, 2010).

The platform has generated a whole set of national intentions about the ubiquity of technology integration to achieve the above broad aims without specifying how teachers, students, and administrators may achieve these aims operationally, and there was no overarching strategy in place to support them in order to overcome the challenges they face.

Unfortunately, the accommodation of ICT tools into teacher education programs in the Kurdish public universities was not researched. In particular, the response of the teachers, students and policymakers and their pedagogical and conditional implementation of ICT integration seem to be lacking consideration. After eight years of intensive investment of ICT into the process of teaching and learning, no significant project has been conducted to investigate its impact in the process of foreign language teaching.

Thus, the lack of research in this area stipulates the researcher to carry out the present study to investigate different aspects of the current situation of ICT integration in the English as a Foreign Language (EFL) teaching programs at public universities in Iraqi Kurdistan.

### **1.1 The aims of the research**

In the case of the Kurdish context, the process of ICT integration in teacher education programs and its impacts on the teaching and learning English as a foreign language have not been researched. Thus, the study aims at illuminating and understanding the current situation of ICT from the perspectives of EFL teachers, EFL learners, and policymakers to:

1. explore, describe, and interpret the selected participants' experiences regarding the use of ICT in the process of teaching and learning EFL.
2. assess issues and bottlenecks from the teachers, students and policymakers' perspectives in order to gain a holistic view and illustrate the current status of ICT use in English language teaching and learning, and
3. provide university decision-makers and practitioners with several proposals that will address the challenges and give recommendations to improve the current state of ICT use in teaching the English language in teacher education programs at public universities in Iraqi Kurdistan.

## **2. Review of related literature and research**

### **2.1 Education in the 21st century**

Since education has come to be considered as a human right in 1948 (UNESCO, 2000), policymakers around the world tried to decrease the level of illiteracy through education compulsory in order to enable their citizens to have basic education which includes the three Rs: Read, wRite and aRithmetic (Haddad & Draxler, 2002). Since that time students as raw materials come to schools in order to be converted into graduates as a finished product by their teachers through the application of curricula, discipline, and pedagogy (Hodas, 1996).

In the 21<sup>st</sup> century, this version of education, which was considered to be a good one for the last 60 years, is no longer capable of meeting the educational needs of our times. The rapid changes and increased complexity of 21<sup>st</sup>-century globalization era challenges the structure and content of teaching and learning activities of the traditional version of education. The new structure should equip the citizens with the "knowledge, skills, values, and attitudes they need to survive, to improve their quality of life, to empower them to participate fully and responsibly in the life of their communities and nations." (Haddad & Draxler, 2002, p. 61)

The challenges are not small, and it is the responsibility of our educational system to stand out for the inevitable changes and prepare our students to respond to the unique demands of today's life. The National Education Association in the United States of America (2014) mentions some of the challenges which should be addressed and solved by students:

Global warming, immigration reform, pandemic diseases, and financial meltdowns are just a few of the issues today's students will be called upon to address. Today's students must be prepared to solve these challenges. (p.5)

Addressing these issues and finding solutions for them requires the whole educational system including learners, teachers, decision makers, teacher education programs, curricular materials, discipline, and pedagogy to live between the functions of continuity and change or dynamic and reform. The function of continuity is to drive learners from what is known to the unknown and the change function is to view the education system and to examine how the new teaching/learning environments can be used to engage both the teachers and students in the kind of team and project work that can enable learners to take greater responsibility for their learning and the construction of their knowledge in order to meet the needs of new era (Haddad, 2002).

Teachers and learners are the main players in the educational system, and their role is very important, but as human beings, they have limits. In order to teach the 4Cs super skills and achieve the six Big Shifts, both teachers and students need other interventions to be brought into the teaching/learning environment. In the case of education, the other intervention is information communication technology (ICT).

## **2.2 What is ICT?**

Even though one can come across ICT in almost every aspect of human activities, the question of what exactly ICT is arises rather often, especially among the older generation: What is ICT? It is still not possible to find one single simple universally accepted definition for this term.

Blurton (2002) defines ICT as a “diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information” (p.1). Salehi (2011) recognizes ICT as a nonspecific term referring to technologies that are being utilized to gather, save, edit, give and take information in different forms.

Anderson and Glen (2003) derived the origins of information and communication technology (ICT) from information technology (IT). Anderson and Glen (2003) remark that adding the term of communication to information technology (IT) is to reflect the important development of new technologies in all fields of education.

Based on the definitions mentioned above and for the purpose of this study, information and communication technology is defined as a method of gathering, processing, and transmitting information in the course of the study. Its importance lies not in the technology itself but in its capacity to make more noteworthy access to scientific/ academic resources that facilitate the process of EFL teaching and learning in order to address teachers' and students' needs or purposes.



### **2.3 How can ICT help?**

The purposes of ICT application is to raise the quality of education because ICT integration facilitates huge access to new information for the teachers, students, and administrators that did not exist in the past (Perraton 2004 as cited in Evoh, 2007). ICT can be used to update the educational system in order to go parallel with the needs of a knowledge society for all and may improve teaching/learning process and facilitate a more active and interactive pedagogies, increased motivation, updated teaching materials, supporting different learning styles (Schmidt & Brown, 2004).

Under the right conditions, the integration of ICT into the educational environment may change the traditional teacher-centred and text-bound systems into student-centred and interactive teaching/learning systems (UNESCO, 2009). According to a study (ITL Research, 2011), education should integrate ICT in order to change the roles and relationships among teachers and students.

Integrating ICT into education will influence the process of teaching and learning by changing the role and relationships between teachers and learners (UNESCO, 2002). ICT challenges the authority of the teachers in the classroom and gives them new position which is increasingly different from being a master who stands in front of the learners as the owner of knowledge to a facilitator who helps them to become good learners (UNESCO, 2009).

Fullan (2013) states that “teachers are needed, but it is the new role that is required” (p. 25). The new role does not diminish the value of teachers in the process of teaching but shifts them from being a single transmitter of knowledge to become facilitators and guides the learning process in order to help and encourage students acquire knowledge.

It should be clear that integrating ICTs into the educational process is not a simple, one-step activity but a very sophisticated, multifaceted process which involves a series of deliberate decisions, plans, and measures and a rigorous analysis of educational objectives and changes, a realistic understanding of the potential of technologies, a purposeful consideration of the effectiveness of ICTs for education (Haddad, 2002). Therefore, decision-makers, parents, teachers, and students should understand that introducing ICT tools into the classrooms and the education process does not mean to expect magical performance. Teachers should not have blind pedagogical faith or utopian visions about the ability of the ICT, and they need to understand that ICT tools will not bring about improvements in educational quality and using them cannot automatically result in that students will learn better or more (Toure, 2008). ICT cannot make a

bad teacher into a good one as they cannot fix a bad educational philosophy or compensate for bad practice (Haddad & Draxler, 2002).

Experiences show that existing ICT tools in the classrooms do not always promise better teaching as these tools may not suit all subjects and students equally. Educational planners should focus on the fact that there are considerable differences between a subject like physical-education and a subject like English as a foreign language. For instance, uploading web content for these two different subjects does not result in quality teaching in the same way. Therefore, the conditions for using these different tools, strategies, and pedagogical possibilities should be met concurrently to realize the potential of the ICT for knowledge dissemination and effective learning otherwise they may "promote automated thinking instead of critical thinking, encourage dependency rather than autonomy and interdependence" (Toure, 2008, p. 1).

Finally, no matter how well an ICT project is designed and planned to be used in the teaching and learning process before it is introduced its different components on a smaller scale should be piloted. The small piloted scale is to examine whether the integration is appropriate for the "educational objectives, desired roles of teachers and learners." (Haddad, 2008, p. 5).

#### **2.4 ICT and foreign language teaching**

Over the past few decades, several innovative concepts have been presented on the views of disregarding students as empty vessels holding up to be poured with knowledge. These innovations view students as learners who go to classrooms with their interests, personal learning experiences, unique background, and individual conditions.

As in every other field, the use of technology has resulted in serious changes in the process of language teaching and learning. Eaton (2010) argues that in the field of language pedagogy, today's foreign language teaching is significantly different from that of the second half of the twentieth century. Most of the changes are related to new trends in language teaching methodologies. Eaton (2010) explains that in order to challenge the new changes effectively, and replacing "old authoritarian classroom models into gentler and more collaborative models", language teacher training programs need to invest time and effort to think about "how we learn, teach and acquire knowledge" ( p.6).

Taylor (2009) insists that the traditional foreign language classroom, which focuses on language mastery, should be converted into a cooperative learning environment through technology. Eaton (2010) mentions that "the focus on language education in the 21<sup>st</sup> century is

no longer on grammar, memorization, and learning from rote, but rather using language and cultural knowledge as a means to communicate and connect to others around the globe" (2010, p. 5).

According to the American Council on the Teaching of Foreign Language (ACTFL, 2013), at all different education levels, teachers and learners exploit some forms of technology as pedagogical tools in language classrooms to facilitate and enhance the process of language teaching and learning. There is some proof that coordinating ICT in teaching and language learning brings about desirable learning results (Becta, 2007; Oyaid, 2009). Cononelos and Oliva (1993) noticed that utilizing technology innovatively can be exceptionally profitable and fulfilling for language teachers and furthermore useful for language students; most EFL instructors have turned out to be aware of the opportunities to coordinate ICT into their teaching procedure (Chen, 2008).

ICT applications for language teaching are varied and ranged from audio and video recordings to online resources. Today, evidence suggests that web-based technologies such as blog, wiki, online-audio dictionary, Skype and social media (Facebook and Twitter) may offer language learners large quantities of authentic learning material resources that may greatly increase students contact with the foreign language they are learning (Stanley, 2013).

Language teachers can use ICT tools in the process of language teaching to assist their students improve their speaking, writing, reading and listening skills and practice the language they are learning with confidence (Ertmer et al. 2012). For example, in English as a foreign language classroom, a teacher may ask the students to practice their listening skill and speaking with the help of online audio dictionaries to understand the meaning of vocabulary. Students can listen to the native pronunciation from the dictionary; also make a record of themselves for playback which may assist them to identify grammatical errors, inaccuracy in pronunciation as well as explain the meaning of the words in context. (Warschauer, 2008)

Before the emergence of technology, one of the most notorious difficulties of language learners was the lack of authentic materials and lack of opportunities to practice the target language they learn. Warschauer (2006) states that ICT can play a big role to help students overcome these limitations and have virtual contact to the target language which, in the past, was just conceivable to visit the countries where the target language was spoken.

Thus, ICT affects not only how the language is taught, but also what kind of language is or should be taught, therefore combining different methodologies with the help of ICT tools in a

pedagogically sound way may "transform the learning context by providing multiple opportunities for shared content and resources, self-directed learning, collaborative learning, ubiquitous and lifelong learning" in order to graduate a language learner who is electronically literate and is able to speak, understand, analyze and critically respond to the demands in various models and evaluate the validity and reliability of informational resources for living and working context (Jimoyiannis, 2012, p. vii).

Although the above-mentioned literature confirmed that ICT elements play a great pedagogical role in empowering teachers and students to transform the traditional concept of the classroom, Stanley (2013) repeatedly emphasizes that the focus of the education planners is to "put pedagogy first and to only use technology when it genuinely adds value to the learning process." (p. 3). Moreover, these elements should not be treated as a silver bullet to solve the challenges in the process of teaching (Loveless & Ellis, 2003).

As far as language teaching is concerned, there is no evidence to show how teachers best use ICT tools (Adams, & Brindley, 2007). The use of technology should be based on the topic of the course of the study, therefore policymakers, principles and FL teachers may have a clear notion of 'bridging activities' in order to avoid "knee-jerk investments" in the classroom which may lead to "Everest syndrome": the temptation to 'use a specific technology just "because it's their" (Stanley, 2013, p. 3) Thus, having ICT elements in the classroom should be one goal to support language teachers to create a dynamic teaching environment where the students find many options in order to answer their interests and find appropriate opportunities to meet their language needs (Thorne & Reinhardt, 2008).

### **3. Research Questions**

This dissertation aims to answer the following two main research questions and related sub-questions:

- 1. What characterizes the current status of ICT use in TEFL to English major students in teacher education programs at public universities in Iraqi Kurdistan?**
  - 1.1 How is ICT used in TEFL to English major students in their teacher education programs at public universities in Iraqi Kurdistan?
  - 1.2 What pedagogical considerations regarding the use of ICT in TEFL teaching are important for EFL teachers at public universities in Iraqi Kurdistan?
  - 1.3 What conditional implementations regarding the use of ICT in teaching EFL are important for EFL teachers in teacher education programs at public universities in Iraqi Kurdistan?
  - 1.4 What are the attitudes of EFL teachers in teacher education programs at public universities in Iraqi Kurdistan towards the use of ICT in teaching EFL?
  - 1.5 What is the disposition of pre-service teachers (English major students) in teacher education programs at public universities in Iraqi Kurdistan towards the use of ICT in teaching EFL by their teachers?
  - 1.6 How do university officials perceive the use of ICT in teaching EFL in teacher education programs at their universities in Iraqi Kurdistan?
  
- 2. What needs to be done in order to improve the situation of ICT use in TEFL in teacher education programs at public universities in Iraqi Kurdistan?**
  - 2.1 What pedagogical steps need to be taken in order to integrate ICT in FL teaching meaningfully?
  - 2.2 What needs to be done in order to integrate ICT in FL teaching effectively? and
  - 2.3 What financial considerations should be taken into account in order to integrate ICT in TEFL in teacher education programs at public universities in Iraqi Kurdistan?

#### **4. Research Methods**

ICT integration in teacher education programs in Kurdish universities is a little-known phenomenon. When considering this little-known phenomenon, complementarity concurrent mixed method data collection strategies is the most appropriate data collection instrument to elicit information in order to respond to the research questions of the study and to adjust the strengths and shortcomings of both quantitative and qualitative approaches (Creswell, Plano & Clark 2007). Besides, the specific purpose of employing complementarity techniques in this study is twofold. On the one hand, it is the most appropriate data collection strategy to answer two distinct but related research questions of the proposed study (Creswell & Plano, 2007). On the other hand, it is triangulation to obtain a deep understanding of the research topic and data accuracy through the combination of quantitative and qualitative data (Tashakkori & Teddlie, 2003).

Two data collection instruments, a quantitative and a qualitative, were used in the current study. The first instrument is a questionnaire, and the second is a semi-structured interview protocol.

##### **4.1 Data collection instruments**

For the first phase of the study, a self-reported questionnaire was developed and used to collect data from FL teachers teaching in teacher education programs at public universities in Iraqi Kurdistan. The items of the questionnaire tended to examine how/why EFL teachers perceive and determine the use of ICT in the process of teaching and what kind of conditional implementation and/or pedagogical consideration should be provided in order to overcome their difficulties and ensure that ICT use brings potential impacts to the whole process of foreign language teaching.

For the second phase of the study, also a self-reported questionnaire was developed and constructed to obtain information from the students studying in teacher education programs. The items are tended to find out the dispositions of the students regarding ICT use in the process of language learning experiences.

For the third phase of the study, the data collection instrument was selected and designed based on the sample of the study and its connection with the culture of ICT integration in the Iraqi Kurdistan region. Thus, the researcher used a semi-structured interview protocol to gain

detailed information and possible explanations that might not have been fully achieved through other methods (Hinds, 2000).

## **4.2 Participants**

The data collection of the first phase of the study was purposefully limited to full-time EFL teachers who teach in English departments in teacher education programs at public universities in Iraqi Kurdistan. For the purpose of sample selection, convenience sampling was employed to recruit the research participants. Based on this type of sampling 120 EFL teachers were selected, the rationale for their selection was that they possessed "certain key characteristics that are related to the purpose of the investigation" and they were "easily accessible" (Dörnyei & Csizér, 2012, p. 1).

The gender balance of the participant teachers is not perfect. It seems that teaching in teacher education programs is an overwhelmingly male profession, contrary to western countries where females dominated the teaching profession. The imbalance in the number of respondents might be a cultural reflection where women had less chance to prolong their education and become university teachers. As a consequence, male teachers outnumber females in the Kurdish public university in Iraqi Kurdistan at the time the study was carried out. The male participant teachers (65%) are male, while only 35% are female.

For the second phase of the study, convenience sampling was used to recruit the participants. Based on this type of sampling, 320 EFL students were selected. The rationale for their selection was that they possessed "certain key characteristics that are related to the purpose of the investigation" and they were "easily accessible" (Dörnyei & Csizér, 2012, p. 1).

The participants were second, third and fourth-year students of the department of English languages at the colleges of education or basic education. The participants study the English language at a teacher education program for four years. These students will receive a bachelor degree and will be entitled to work as teachers in primary and high schools.

The gender distribution of the participants is also not perfect. Contrary to the first phase of the study, female students outnumber males in the teacher education program. Female students are 63%, while male students consist of only 37%. A change in the gender imbalance could be regarded as a cultural change of the position of women in a society where girls nowadays have more chances to prolong their education in order to become teachers and later teach in the primary and/ or high schools. It seems that in the participant teacher education

programs, teaching is no more a male profession anymore, and females overwhelmingly dominated this field of education. As a consequence, it is expected that in the coming years teaching in Iraqi Kurdistan like many western countries will be a female profession.

In the third phase of the study, the researcher interviewed fifteen university policymakers in person at five public universities, namely: Halabja University, Sulaimani University, Raperin University, Salahadin University, and Koye University. Three of the participants held the position of vice-president for scientific affairs. Three of the participants held the position of dean of the college of basic education. Five held the position of head of English departments. Two were directors of quality assurance. And two were directors of finance units. Nine of the interviewees held doctoral degrees; two with whom I spoke earned their doctorates from Iraqi universities, four from the Kurdish universities in the Iraqi Kurdistan region, one from the U.K., two from different universities in Europe. Five of the respondents earned master's degrees; three of them studied for their master degrees in the UK and two of them at Kurdish universities. One of the respondents earned a bachelor's degree from a Kurdish university. The mean age of the participants was 42.6 years. All of the interviewees served in the office at the time of the interview for at least one academic year.

The four groups of participants consisted of individuals with different majors (Engineering, English language, Chemistry, Agriculture, Physical education, Law, Media, Information technology (IT), economy, accounting and History).

All of the respondents whom I interviewed at the target universities were male. The male bias was unavoidable because the dominant part of individuals who work in university high-rank positions were men at the time of the study conducted.



## 5. Data analysis

The quantitative data analysis process of the first and second phases of the study contains two main steps. First, the hardware questionnaires were prepared and organized through assigning an identification number from 1 to 120 for the first phase of the study 1 to 320 for the second phase of study then the data was computed and moved into the Statistical Package for Social Sciences (SPSS) 17.0. The second step was conducting the data analysis, which included the following statistical techniques:

1. Cronbach Alpha was established to test the internal consistency coefficients of the constructed scales of the questionnaires and calculate their reliability. Dörnyei (2007) considered .70 and/or higher on a scale of .00 to 1.0 as a minimum acceptable range of Cronbach alpha value.
2. Descriptive statistical measures were applied to represent the mean and the standard deviation for the scales of the questionnaires (Hinkle, Wiersma, & Jurs, 2003).
3. Several statistical tests such as analysis of variance (ANOVA), independent t-tests and chi-square analyses were used to find out whether the relationship between independent variables and dependent variables are statistically significant.
4. Correlation analyses were applied in order to find out whether the relationships among the scales are statistically significant or not.
5. Multiple regression analysis with a stepwise approach was performed to predict or explain the value of dependent variables in relation to independent variables and to estimate the effect of the independent variables on the dependent variable (Ross & Morrison, 2001).

Besides, to provide a simple indication of the degree of ICT skills the participant teachers possess, an arbitrary three level (high, medium, and low) was calculated to determine the level of the means associated with each response. The arbitrary level was based on the following equation:

$$\frac{\text{the highest value of the scale} - \text{the lowest value of the scale}}{\text{number of levels}} = \frac{5-1}{3} = 1.33$$

number of levels

3

Al-harbi (2014) used a similar equation to determine the outcomes of his study. Using these intervals of 1.33, I recognize 3.67 to 5.00 as a high response level, 2.34 to 3.67 as a medium response level and any value below 2.34 as a low response level (Al-harbi, 2014).

For the third phase of the study, the researcher approached the qualitative data process as a recursive process rather than a fixed linear action. This means once I finished the interview with each participant I undertook the necessity to start the data analysis and this proceeded as an inseparable process to gather more data from the other respondents until all data had been analyzed (Gay, 1996). In light of the views of Descombe (2007), I pursued using thematic content analysis to provide sufficient detail of how I conducted the data analysis in the current study. I used thematic content analysis in order to "produce an insightful analysis that answers particular research questions" (Braun & Clarke, 2006, p.97). Besides, the reason I chose this method was its flexibility in relation to how it is used to derive the most virile bunch of data and verify if the collected data generated sufficient information to answer the research questions raised in the outline of the study.

According to Creswell & Plano (2007), the overall data analysis process can be conceptualized in the three-stage procedure: preparing and organizing the data for analysis as in transcripts, reducing the data into themes through a process of coding and "representing the data in figures, tables or in discussion." (p. 148) In the current study, the plan for the data analysis carefully followed this strategy in order to identify the tentative themes and sub-themes to discover meaning connections, relationships and develop meaningful conclusions in line to the research questions of the study (Sarantakos, 2005).

Member checking was employed to ensure the trustworthiness, credibility, and ethical compliance of the study (Merriam, 2009). This involves returning the researcher's interpretations of the data to the interviewees so that they were able to confirm the accuracy of the analysis and rectify potential misinterpretations and misrepresentations (Maxwell, 2013).

## **6. Main findings**

### **6.1 Phase 1 – The investigation of FL teachers' use of ICT**

The first phase of the study aimed at investigating the conditional implementations and pedagogical considerations of FL teachers as well as their perceptions/attitudes towards the application of ICT in the process of language teaching in teacher education programs. The rationale behind this was to get a holistic view of the feasibility and degree of ICT use in the teaching context where the study was conducted.

Concerning the level of teachers' ICT skills, the total mean value of ICT skill-related scale is 3.58 on a 5-point scale with a standard deviation of 0.983. Since the total mean value of ICT skills is less than 3.67, it indicates that the research participant EFL teachers had a moderate level of familiarity in using ICT tools. However, a closer examination of the findings indicate that the research participants are quite skillful with the most common tools of ICT which includes personal computer, word process, internet, email, YouTube and they are lack of knowledge or less skilful with the more complex or smart tools such as interactive whiteboard and Learning Management Systems (Moodle, Edmodo, Canvas, Wikispaces, etc.). These results support previous findings that in order to make the integration process effective the teacher should have a certain level of skills of ICT (Drossel et al., 2015; Eickelmann, 2011).

The research findings reveal that teachers' ICT skill level highlights the great disparity in using different ICT tools. The majority of (85.4%) of the participants responded that they use YouTube well or very well. Sixty-three per cent of the participants reported that they could use social networking sites (Facebook, Twitter, snapshot, Whatsup, LinkedIn) very well. More advanced technologies and smart tools such as blogs, interactive whiteboard, and Podcasts ranked the minimum mean score, and 72.8% of the participants mentioned that they could not use these functions at all.

As far as the frequency of the use of ICT tools is concerned, the statistical analysis displayed that the frequency of the use of ICT by the participant teachers is at a moderate level since the overall mean value is 3.23 with a standard deviation of .898. As far as the standard deviation is less than one, it predicts convergence in the frequency of ICT use by the participant teachers. It is noted that the top seven tools used by the participants were: Projector, personal computer, word processing, power point, email, internet and YouTube. There are also five functions that are rarely used by the participant teacher: Podcasts, language teaching software, online library catalogue, interactive whiteboard and blogs. These results support the data gained in previous studies that these functions have been observed to be used very rarely (Bennett &

Maton, 2010; Margaryan et al., 2011). The survey findings indicate that many teachers only use a limited range of ICT tools and their use stay at a personal, rather than pedagogical, level.

Focused on language teaching, the majority of the participants reported that they use ICT tools for different language teaching purposes as well as to provide their students with plenty of valuable language experiences. Teachers cited making presentations, delivering lectures, developing reading, listening, writing, speaking skills, and enhancing students' motivation and meet their individual needs as the most common uses of ICT.

One of the main purposes of the ICT use by the participants is to promote different teaching methodologies in order to meet their student needs better. It is, therefore; some of the participants (40.6%) reported that they sometimes utilize ICT to create personalized learning conditions for students. A similar percentage of respondents (40.7%) reported that they use ICT in order to generate students' interests and 38.7% of them claimed to use ICT to provide an opportunity for passive students to enhance their motivation. This is in line with the findings of Donnelly et al. (2011) study that teachers use different ICT resources in order to cover the individual needs of their students and push them to learn.

As far as English language skills are concerned, the results show that one of the important pedagogical purposes of ICT use by the participant teachers is to provide their students with a great deal of language support and variety of valuable language experiences to enhance the four language skills. In this regard, ICT is used as a supplementary tool in language teaching. The results show that the use of ICT for this purpose is at a moderate level. Seventy-percent of the respondents take benefit from ICT to enhance students' speaking skills. Almost half of the respondents (46%) usually use available ICT tool to assist the student in improve their writing skills. The teachers (48.5%) utilize ICT resources sometimes to enhance student's listening. The findings of our study highlight that the teachers pay particular attention to the four skills of language learning while they are teaching in the classroom. The research findings are in line with complaints of Ducate and Lomicka, (2009), and Akyel and Ercetin, (2009) that EFL teachers may use different ICT tools in order to influence the language skills of their students positively.

A group of teachers (40.1% and 51.3%) usually use ICT for preparing lessons and making presentations. This is not a surprising result since almost all the teachers use personal computers and projector to teach and deliver the content of their lectures. This confirms the complaint of Ofsted (2002), and Hammond (2014) that with the help of ICT tools, teachers create teaching materials and prepare their lesson plans better.

There is a huge gap between the optimistic rhetoric of ICT integration and the actual level of ICT utilization for academic purposes. The overall pedagogical uses of ICT by the participant teachers does not seem to be sufficient since the average response rate of frequency use is "sometimes". The findings of this section are in an inverse relationship with the findings of the first and second section of the questionnaire where the participants reported to have a moderate level of skills and frequency of use ICT tools. The results are in line with findings of previous studies of Liu et al., (2017), and Li and Walsh (2011) that despite the teachers had an adequate level of technology literacy and access to technology, their technology use for academic activities has been far from satisfactory.

It is also found that the participant teachers are not satisfied with the level of ICT resources in their teaching context. The outcomes disclosed that the overall access of the respondents to ICT tools is limited to the very basic ICT tools and the classrooms are not sufficiently accommodated with ICT tools.

The research findings reveal that the participant teachers face various obstacle and challenges. One of the obstacles is their access to ICT tools in their teaching environment. They also reported that lack of ICT tools in the classrooms, limited knowledge on how to make full use of ICT, lack of training on available computers and/or software, insufficient pedagogical support for teachers, student's lack of ICT use, limited understanding on how to integrate ICT into teaching, administrative support and shortage of class time made the ICT integration difficult or very difficult for them.

Concerning the attitude of the participant teachers towards the use and application, the results reveal that their attitude is positive, this conclusion is supported by the total mean value score of 4.12 with a standard deviation of 0.735. On examining the statements reflecting the attitudes of the research participants towards ICT use for teaching practices, the analysis of data identifies that under the right conditions the integration of ICT may influence the process of teaching and learning by changing the role and relationships between teachers and students. Ninety-seven per cent of the participants agree or absolutely agreed that ICT positively shifts the relationship between them and their students. This is in line with the complaints of Mokhtar and Azura (2005) that the new roles that teachers must assume are changing from "knowledge-dispensers to knowledge-guides and creators" (p. 28). The findings of our study also supports the research findings of a study carried out in Finland where it was revealed that "the use of technology changes the role of the teacher from a traditional knowledge provider rather into a

facilitator guiding the students' learning processes and engaging in joint problem-solving with the students" ("Technology changing teacher's role", 2015).

The results of the study also display that individual characteristics such as gender, age and academic title of the participants positively or negatively influence the extent of ICT use in the process of language teaching. The analysis shows that female teachers are more enthusiastic about using technology than male partners. Those who are between the age of 25-35 employ more ICT in their professional lives compare to the teachers over 55. And the lower the academic title the participants have, the more they use technology.

## **6.2 Phase 2: The investigation of students' dispositions towards the use of ICT in learning/ teaching the English language.**

The second phase of the study aimed at investigating the disposition of the students, who do their bachelor degree programs in the English language at teacher education programs in five public universities in Iraqi Kurdistan, towards the use of ICT in the process of language learning. The study also aims at finding out how much the students are satisfied with the use of ICT by their teachers in the process of classroom teaching.

The result of the study reveals that research participants have a moderate level of ICT skills since the total mean value of ICT skill-related scale is 3.42 on a 5-point scale with a standard deviation of 0.640. Based on the total mean value (3.42, i.e. it is less than 3.68), it can be stated that the respondents possess a moderate level of familiarity in using ICT tools.

Interestingly enough, the results show that the research participants claimed to possess highest skill levels in the areas of the most common tools of ICT which includes a personal computer, word process, internet, email, and YouTube. On the other hand, students reported having the lowest skill levels in complex or smart tools such as interactive whiteboard and Wikispaces. The results indicate that social networking sites have received much attention from the research participants. They (79%) reported that they use social networking sites well or very well. The findings of this study support the results of the Arab social media report (2015) in which it was found that in the Arab countries, social networking sites such as Facebook and Twitter are heavily used. Helou and Rahim (2014) also argued that social network sites attracted

the attention of the students compare to other technologies. Although blogs and podcasts are all relatively easy to use and there are many free and open source versions of these tools that may help students to improve different language skills, still the participant students reported that they do not use these functions at all. Wong and Hew (2010) found that the main reason is that students experience difficulties on how to design their blogs and use them properly.

Concerning the frequency use of ICT tools, the statistical analysis show that the overall mean value of frequency of ICT use is 3.26 and a standard deviation of .751. The results predict disparity in the frequency of ICT use by the students, for example, social networking sites are the top used ICT elements by the participant Kurdish students in the teacher education programs compare to advanced ICT elements such as Podcasts, interactive whiteboard and blogs which may have more academic benefits. Understanding why students use social networking sites is important for the academic community as emerging these tools may positively or negatively influence the academic achievement of students (Campus Quad, 2014). Cheng (2012) argues that social networking sites may "facilitate collaborative discussion, exchange of opinions, and critical thinking" (p.2). Valenzuela, Park and Kee's study (2009) indicated that college students use social networking sites daily.

As far as English language skills concerned, the results of the study disclosed that the majority of the research participants take benefit from different ICT tools in order to enrich their learning experiences and improve the four language skills.

More than half of the students (53%) reported that they usually get benefit from ICT resources to enhance their listening skill. The result of our study is in line with a bulk of literature review regarding the use of a wide range of technological resources such as podcast, online dictionaries, audiobooks, and MP3 recordings may offer them opportunities to improve listening skills (Karakaş & Sariçoban, 2012).

Three-quarters of the research participants (77.5%) mentioned that they usually utilize ICT resources to improve their speaking skill. The result of the study is in line with the arguments of Vannestal (2009) who believes that students can use a wide variety of educational tools to improve their speaking performance. The self-report of the research participants of the current study are also in accordance with the findings of Jung (2006) who carried out a study about the frequency of ICT use for general and English learning purposes by Chinese university students. Forty-six per cent of the participants agreed over the advantages of using ICT to improve speaking skill. Fifty-seven per cent of the participants reported that with the help of using ICT, they might improve their reading skill. Research shows that the availability of a wide

range of ICT resources through the Internet is a wonderful feature for English language learners where they may find ample opportunities to improve their reading comprehension experiences (Fälth, L., et al., 2013, Engenes, (2011). The findings also support the results of Meihami and Varmaghani (2013) study where they compared the reading skill between the experimental and the control group and it was found that technology use promotes the reading comprehension skill of the EFL students.

Almost half of the participants agreed that the use of ICT helps them to improve their writing skill. It is not surprising to find English language students take benefit from ICT tools for improving writing skill. One of the most well-known of ICT tools which change the nature of the writing process is the Microsoft Word software program. The editing features of the word processor makes the writing process easier and increases the quality of writing because it allows the students to correct errors, check punctuation, grammar, and make frequent revisions of their writings.

The results of the current study suggest that the majority of the participant students have a positive attitude towards the use of ICT and its relationship with their foreign language learning. Although the majority of the students agreed that teachers' use of ICT in the classroom language teaching had increased their interest in the subject matter, they rated the use of ICT by their teachers very low and their attitude towards how their teachers ICT use in classroom teaching is highly negative.

The results of independent t-test show that there is significant between male and female on several cases relating to the frequency use of ICT for learning activities. The frequency use of ICT by female students is higher than male students in providing an opportunity for self-study, listen to music, search for information and educational materials, prepare lesson assignments, reading newspapers and magazines online. On the other hand, the frequency use of ICT by male students is more in playing games, watching movies online, instant messaging, learning vocabularies and translating (look up words or phrases online).



### **6.3 Phase 3 – The role of policymakers in integrating and implementing ICT in teacher education programs**

The third phase of the study aimed to gain in-depth experience about how policymakers at Kurdish universities influence the process of ICT integration and what short and long term plans they have to succeed in the process. The study also seeks to find out how the policymakers evaluate the process of ICT integration and what they have done to enhance the challenges the related individuals might face when they attempt to use technology in the process of teaching/ learning.

In view of the findings derived from interview transcripts, almost all the policymakers reported positive perceptions towards the use of technology in teaching, learning and administration practices. The data obtained from the analysis discloses that the research participants pursue various approaches in order to bring a wide range of digital resources to initiate ICT based activities. The arguments arose during the interviews with the interviewees confirm the complaint of Jim Knight, the British minister for schools and learners that "technology in learning is no longer optional" (BECTA, 2008) but how to integrate it is what should be concentrated.

University authorities assumed that investing in certain forms of ICT tools have substantial implications in converting the conservative paradigms of education into a neo-liberal model of education where the teachers assist students in obtaining lifelong-learning skills they need to cope with rapid changes in the 21<sup>st</sup> century.

As far as the decision-making process is concerned, the research participants were asked whether their institutions pursue a more or less comprehensive and transparent model of decision-making which may guide the prerequisite conditions of ICT to be integrated effectively into teacher education programs. The study findings revealed that there is very little agreement among policymakers regarding the type of decision-making style (bottom-up or top-down). The interviewees who held high rank position such as dean, and vice-president for scientific affairs reported that in an ideal situation the process of decision making development in the universities should be bottom-up while the respondents who held lower ranking position such as head of departments and director of the quality assurance mentioned that the decision making follows top-down model. The interviewees suggested that cultivating more channels of effective communication is significant to foster the engagement of faculty members at multiple levels of the decision-making process.

In this phase of the study, policymakers revealed lack of an educational policy document as a significant factor which hinders ICT integration in the teacher education programs. The research participants reported that the integration of ICT into teacher education programs had not been guided by a written and detailed educational policy document where the objectives, mission, vision, finance, and strategies of the integration of ICT in their institutions are provided and prioritized.

As it is noticed from the analysis of the transcripts, teacher education programs in public universities have not yet figured out how to formulate specific objectives and sound policies and combine them "into sets of documents, guidelines, advice, targets and indicators" to facilitate ICT use (Dale et al., 2004, p.459). Deficiency of an educational policy document to facilitate the uniform integration of ICT has a seriously detrimental effect on the teachers' attitudes and the level of ICT use in teaching practices. To bridge the gaps, the interviewees believed that the availability of good quality written educational policy which guides the policymakers at different ICT integration process is vital to "move from technology push (i.e. actions that are driven by the necessity to make the technology available and usable) to "demand-pull" (i.e. actions that are driven by users' needs and pedagogical opportunities)" (Bottino, 2003, p.45).

In this phase of the study, the researcher sought to find out how the policymakers view and evaluate the actual level of the current situation of ICT integration at their universities and what kind of performance measurement framework is used to rate the degree of success or failure of ICT in teaching and learning practices. All the research participants state that teacher education programs do not review and measure the degree of ICT use. The main reason is the lack of a policy document that requires the teacher education programs to measure how far the objectives of ICT integration is achieved. In order to indicate the degree of success of ICT and how much these technologies influence the process of teaching and learning, the interviewees suggested several approaches that might be valuable for reviewing and evaluating the current status of ICT and helpful for future planning and implementation of ICT use in teacher education programs. The policymakers underline the importance of developing a solid and detailed performance measurement framework which entails a range of standardized measures to determine the current status of ICT uses and reinforce continuous improvement of ICT use and avoid existing problems and provide extra-input to allow dramatic changes in teaching and learning practices.

Although the policymakers believed in the importance of ICT integration to increase the quality of education at their institutions, it is somewhat surprising how little effort these

individuals put in to provide right and possible conditions to realize the potential of the ICT for knowledge dissemination.

The research findings emerged from the analysis of the transcripts display that teacher education programs within Kurdish public universities failed to provide ongoing pedagogical as well as technical ICT-training courses for teachers. To minimize the current obstacles of the situation of ICT integration and to reap the benefits that ICT integration promises, the interviewees proposed several suggestions which might lead to a better situation of technology adoption in the process of teaching and learning experiences. They believe that teacher education programs need to provide a wide range of adequate ICT hardware and software programs, technical staff support, on-going technological and pedagogical trainings.

With regard to financing, findings show that the annual budget of the selected public institutions is highly dependent on government. The interviewees reported that the high dependency on a limited governmental budget does not necessarily reflect the demands of teacher education programs to provide necessary preconditions for an effective ICT implementation and catch up with rapid changes in the process of ICT integration.

Although policymakers have been searching for different financial resources in order to cover the budget deficit, they were not successful because of the inadequate rules and regulations of the Ministry of Finance. The interviewees reported that lack of financial resources negatively influences the process of ICT process; for instance, the universities cannot provide excellent quality of hardware and software programs and pedagogical training which will have forceful impacts on the process of ICT implementation.

Although the policymakers recognized the potential value of ICTs to change the traditional teaching methodologies into a more contemporary, responsive learning system, the analysis of the transcripts reveal that policymakers have a relatively little experience and knowledge on the quantity and quality of systematic integration of ICT in teacher education programs. Even though policymakers positively perceive the integration of technology in teaching context and they invested significant amount of time and energy in providing different kinds of ICT resources, the results show that teacher education programs are lagged in almost every aspect of a systematic ICT integration. The interview analysis reveals that the process of ICT integration is stronger in rhetoric than in practice.

## **7. Contribution to literature**

There is little evidence of any research being undertaken into integrating ICT into foreign language teaching in teacher education programs in Iraqi Kurdistan's public universities. Consequently, the present study is potential of considerable importance and a valuable contribution to the literature in a number of different ways on the use of ICT in the Kurdish tertiary environment for a number of reasons:

1. it is considered to be the first study on the issue of ICT in Iraqi Kurdistan, and it can bridge the gap in the Kurdish research context by providing a deep description of integrating ICT in teacher education programs.
2. it compares the perspectives of students, teachers and university officials on ICT use in teacher education programs in Kurdish public universities
3. it can help the university officials to map and gain a deeper understanding of the contextual factors that facilitate or impede the teachers and the students when they attempt to use ICT.
4. further, the results of the study will enrich and provide the university officials as well as teachers to have a holistic view on the current of ICT landscape both pedagogically as well as technically in Kurdish educational environment.

## **8. Pedagogical and theoretical implications**

Although there is a common consensus among teachers, students and policymakers towards the integration of ICT into education in order to increase the quality of teaching and learning practices, the overall results of the study indicate that the process of ICT application in teaching English as a foreign language in Kurdish context is very problematic and it is lagged behind from all the perspectives. Based on the findings of the study the following guidelines will be helpful to be considered in order to improve the current status of ICT integration in teacher education programs at public universities in Iraqi Kurdistan:

1. Policymakers need to formulate a detailed policy document where the goals, mission, vision, and finance are well described in order to integrate ICT in the teacher education programs step by step.
2. As far as integrating ICT into the educational process is a multifaceted and complex process, university officials need to follow a comprehensive and

transparent model of decision-making where many channels of effective communication are cultivated in order to foster the engagement of faculty members at multiple levels of the decision-making the process.

3. Universities need to develop a detailed performance measurement framework which includes a range of standardized measures to review and rate the degree of success and/or failure of ICT, reinforce continuous improvement of ICT use and provide extra-input to minimize existing problems of the integration process.
4. Teacher education programs need to offer their teachers ongoing technical/ pedagogical trainings, workshops, and seminars. The training services should focus on the technical aspects as well as the pedagogical practices where the teachers receive adequate skills and sufficient knowledge on how to use ICT in the process of teaching in a sound pedagogical way.
5. Policymakers within the universities need to make extraordinary efforts in order to obtain a kind of autonomy from the poor rules and regulations of the Ministry of Finance that do not match the needs of their institutions.

## **9. Limitations and suggestions for further research**

One of the limitations of the study is related to the type of data collection which was highly dependent on interview and self-reported surveys and the study entirely based on what the participants reported. The threats here is whether consciously or not, the participating teachers may have over-reported their use of ICT in teaching practices, students may have underestimated the use of ICT by their teachers and policymakers may have ended up over-reporting their engagement in the process of ICT integration and describe the current situation of ICT in teacher education programs.

To address this problem, more research is needed to be carried out using different data collections techniques such as classroom observations and field trips to elicit specific information from primary sources in the department of English languages in teacher education programs.

I also intended to collect data from foreign experts on the topic of ICT from four well-known universities around the world where ICT is properly integrated as well as fifteen EFL

teachers from teacher education programs for the qualitative part of the current study but due to time and financial consideration I could not do so.

All in all, despite the above limitations, the current research is a valuable contribution to language pedagogy in Iraqi Kurdistan in particular and to our existing knowledge in language pedagogy more generally because this research is an attempt to describe the context of the current situation of ICT use in EFL as well as figure out the majority of the obstacles the teachers and students face when they attempt to integrate or use ICT in the process of English language teaching and learning. The study also comes out with practical and useful suggestions to solve these problems and improve the current situation.

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