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MENCIÓN INGLÉS**

Ecuadorian high school teachers' perceptions on ICT use in their EFL classes

TRABAJO DE TITULACIÓN

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DEDICATION

I dedicate this research to my mother Albita who is one of the best teachers that I have known. She is my best example of self-improvement and strength. Thanks mom for always being there for me. I also want to dedicate this research to my two young brothers, David and Sebastian, who with enthusiasm and motivation support me in every step of my educational career.

Silvia

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ABSTRACT

The integration of Information and Communication Technologies (ICT) in the classroom represents a new challenge of adaptation for English Foreign Language (EFL) teachers. This study was conducted to know the teachers' perceptions on ICTs use within the classroom. Twenty teachers, male and female, participated in this research. They teach in different schools in the city of Quito. In addition, the methodology applied was qualitative and quantitative, in order to obtain a complete knowledge on the topic. The instruments applied in data collection were a general survey and an interview to six teachers.

The results show that, in general, most of teachers have positive perceptions on ICT integration within the classroom. However, they also pointed to some of their own characteristics as barriers on ICTs use. These barriers are mainly related to age and lack of training. Another important result of this research was that teacher's gender does not affect the use of ICTs in a greater degree.

Keywords: Information and Communication Technology (ICT), English as a Foreign Language (EFL), teachers' characteristics, teachers' perceptions, barriers, ICT training.

RESUMEN

La integración de las Tecnologías de la Información y la Comunicación (TIC) en el aula de clases representa un nuevo reto de adaptación para los maestros de inglés como lengua extranjera. Este estudio se realizó para conocer sus percepciones respecto al uso de las TICs en el aula de clases. Veinte maestros, entre hombres y mujeres, participaron en esta investigación. Ellos pertenecen a distintos colegios de la ciudad de Quito. Además, la metodología aplicada fue cualitativa y cuantitativa, a fin de obtener un conocimiento completo respecto al tema. Los instrumentos aplicados en la recolección de datos fueron una encuesta general y una entrevista a seis maestros.

Los resultados muestran que, en general, la mayoría de los maestros tiene una percepción positiva acerca de la integración de las TICs dentro del aula de clases. Sin embargo, ellos señalaron también algunas de sus propias características como barreras en el uso de las TICs. Estas barreras se relacionan principalmente con la edad y la falta de formación. Otro resultado importante de esta investigación fue que el género de los maestros no afecta el uso de las TIC en un mayor grado.

Palabras Clave: Tecnologías de la Información y la Comunicación (TIC), Inglés como Lengua Extranjera (EFL), características de los maestros, percepciones de los maestros, barreras, formación en TIC.

INTRODUCTION

The integration of Information and Communication Technologies (ICT) within the classroom is a revolutionary innovation in the educational field. In Ecuador, the Ministry of Education designed a special program to promote digital learning in schools and high schools throughout the country. This project points out that “the availability and proper use of technology in the classroom and in educational management is essential for achieving a quality education” (Ministry of Education, 2015, p. 32). The teachers and students received this news with great expectations.

EFL teachers have always used different pedagogical resources to improve their education and to motivate their students’ learning. However, the integration of ICT within the classroom represents a new adaptation challenge for them. For this reason, it is important to know the teachers’ current opinions about technological tools. To accomplish this goal, it was necessary to carry out this research about “Ecuadorian high school teachers’ perceptions on ICT use in their EFL classes”. The information collected served by answering the following questions: Which aspects related to teachers’ characteristics are considered by most of the EFL teachers as barriers to use ICT in their classroom? Which factor regarding teachers’ characteristics does influence the most on teachers to use ICT in their classroom? How is ICT use perceived by EFL teachers in relation to their gender?

On the other hand, several scientific studies related to the topic of this research have been conducted in different parts of the world; six of them were read and analyzed in order to support this research. The most important aspects of some of these scientific studies are presented below.

Arias, Buitrago and Báez (2011) investigated the ICT impact on the professional development of EFL teachers. Their objective was to know teachers’ perceptions regarding ICT integration and use. Teachers considered the ICT as a valuable resource that they could

use by innovating their teaching practices and to enhance their students' learning. However, the lack of technological knowledge is a barrier that prevents the effective ICT use in the classroom.

The research of Hismanoglu (2012) brings a different view. He applied his study not only to show more light on EFL teachers' attitudes toward ICT integration, but also to reveal the factors obstructing the teachers' positive attitudes. Almost all of the respondents expressed their preference for face-to-face teaching, without using ICT resources. The author thinks that the lack of educational incentives causes the teachers' negative attitude regarding ICT use.

Finally, Naima (2017) explores teachers' perceptions and attitudes regarding ICT integration in EFL teaching. The results evidence that teachers considered ICT use essential in the teaching process. However, there is no correlation between teachers' perceptions and the real adoption of technological tools in the classrooms. The teachers argued that the lack of ICT training and the complexity of its use are barriers to the full integration of technological resources within the classroom.

The present research benefits academia, researchers and others interested in the subject. The Private Technical University of Loja can use this research to enrich its virtual library. Likewise, educational researchers can use the results of the study to compare data obtained in their own investigations. In the field of education, this research provides valuable conclusions and recommendations to improve the quality of education. In addition, future studies related to the topic will find a valuable source of consultation in this research.

CHAPTER I.
LITERATURE REVIEW

The 21st century society has been transformed with the new ways of technology and communication. The people of the Digital Age are using the technology in many different activities: business, entertainment, medicine, etc. The education systems have also implemented the Information and Communication Technologies (ICT) in the classrooms, especially when teaching English Foreign Language (EFL). For this reason, it is important to know the impact of ICT use within the classroom.

This chapter reviews the topics related to ICT use in EFL teaching, teachers and ICT use, and teachers' characteristics regarding ICT use. In order to support these issues, several sources have been analyzed, such as textbooks, scientific journals and web pages. Likewise, six research studies related to teachers' perceptions regarding ICT were consulted in order to analyze the methodology and the results.

ICT use in EFL teaching

Definition

The acronym ICT is becoming more and more familiar in the education world. This acronym means «Information and Communication Technologies» and its emergence has revolutionized the way of teaching and learning. Farhadi, Salehi, and Amin Embi (2013) define ICT as “a technology with the aim of connecting computers and other communication equipment to gather, produce, process, classify, manage, create, and distribute information” (p. 123). This definition gives an idea of the countless actions that can be done with the help of the technological tools. According to Kanematsu and Barry (2016), the ICT can be classified into two main categories: the hardware and software. As hardware, they mention personal computers, slide projectors, video cameras, digitizing cameras, projection equipment, etc. Examples for software refer to websites, video films, CD-ROMs and various software applications. The same authors also state that these resources have affected educational field and changed it drastically.

On the other hand, Sarkar (2015) argues that ICT resources are a varied collection of technological gear and resources which serve to communicate and teach. The same author proposes to divide ICT into two components: Information and Communication Infrastructure (ICI) and Information Technology (IT). ICI refers to physical telecommunications systems and the services that utilize those as Internet or television. In contrast to ICI, IT refers to the hardware and software of information collection, storage, processing and presentation.

Finally, Celebic and Ilija (2011) affirm that ICT use implies the transfer, distribution and use of all kinds of information. For these authors, ICT resources are a driving force for social, economic and educational changes in the 21st century. Consequently, governments must integrate technological tools in the teaching / learning process, in order to obtain an educational system capable of generating social transformations.

Importance

Actually, it is difficult to imagine a world without technology. Technology has a privileged place in all areas of the life. The ICT are technological tools that can help the human being in different ways. According to Kanematsu and Barry (2016), “since society has been affected by the digital revolution, people’s behavior in the twenty-first century has also been affected by ICT” (p. 20). The educational field has also adopted the technological changes. For example, students can use technology to improve their learning and expand their knowledge. In the same way, the teachers are benefited enormously thanks to technological resources for teaching. All educational stakeholders are interested in the benefits of technology. Consequently, the educational system has taken advantage of the technology and has implemented the ICT within the classrooms. Soussi (2015) argues that the language pedagogy, language learning, and language use have been significantly influenced by the brisk evolution of ICT use.

Additionally, Yang, Zhang and Chang (2016) argue that ICT resources are critically important for EFL teaching. According to these authors, technological resources offer an opportunity for innovation in contents, methods and pedagogy. For this reason, many educational systems have already implemented the use of ICT in the curricular model. Likewise, teachers are also required to adapt the technology because of its high pedagogical value.

English is a universal language and many countries are striving to improve its learning. Teachers and researchers are inventing and implementing every day new ways of teaching and learning of English language. The majority of this information is uploaded to the Web and shared throughout the world. Consequently, Wilkinson (2016) affirms that:

From free web resources and commercial programs that can help learners practice and develop specific language skills to ‘adaptable’ programs that can underpin and enable learning to an extent not possible even 20 years ago, teachers and learners have many possible ways to learn with ICT (p. 273).

Likewise, the ICT is important because it allows learning with pedagogical resources from other parts of the world. The technology democratizes the knowledge. An English teacher of an underdeveloped country can use the pedagogical knowledge that another English teacher of a developed country has shared on internet. On the other hand, in an educational context, ICT is important because it favors the development of cognitive skills in the students and besides it improves the communicative interaction between teachers and learners, especially through blogs, online chat or video conferences (Cabero Almenara, 2014).

Finally, the technology creates conditions of social equality. According to Aradom Tedla (2012), “the use of ICT in schools is crucial for the development of economic and social change worldwide” (p. 199). This means that ICT use in education opens the door to

the progress and development of a society. In fact, on the Internet, an Ecuadorian student can access the same valuable information as a Chinese or American student. In other words, the ICT has universalized and democratized the information and knowledge. In conclusion, the ICT has a positive impact on society, in general, and on education, in particular.

Advantages

The benefits of ICT in teaching and learning are numerous; the technology allows improving listening, writing, reading and pronunciation. Teachers and students can take advantage of ICT to make a class more dynamic and collaborative. Several investigations bring to light many other advantages. For example, after an investigation, Weinberg (2017) concludes that with online tools students were able to improve their ability to solve assigned tasks. In addition, the ICT use helped to create a supportive and less anxious classroom atmosphere. Likewise, Audai (2014) affirms that ICT use have huge advantages in listening, reading, speaking and writing. There is no more doubt that the use of ICT has positive effects on foreign language teaching and learning; but its impact is highly dependent on the way it is used. The teachers' motivation is also very important when ICT is applied in teaching process. Additionally, Uloc Isisag (2012) mentions some advantages of ICT use within the classroom. First, ICT offers the possibility to combine and use alternately skills as texts and images, audios and video clips. Second, using ICT, lectures become more interesting and less ordinary which boosts learners' engagement. Third, ICT enables to focus on one specific aspect of the lesson as pronunciation, vocabulary, etc.

On the other hand, Talebiana, Mohammadia and Rezvanfara (2014) affirm that "ICT is considered as a mainstream in higher education" (p. 301). These authors explain the advantages of ICT inside and outside the classroom; for example: ICT use enhances group collaboration, provides direct access to many other training resources, enhances the international dimension of educational services, and determines the rate of progression in

courses. Anyway, the literature over the advantages of ICT is extensive. It is not possible to enumerate all these advantages, but the most important ones have already been identified.

Disadvantages

The pedagogy is constantly seeking to improve the learning. According to Margan Saed (2015), "Incorporating well-organized and effective computer technology into foreign language learning and teaching strategies for improving students' language proficiency has been refined by researchers and educators for many decades" (p. 65). However, although a pedagogical resource is very effective and advantageous, it will always have some disadvantages and problems. In the case of ICT, the advantages are more numerous. Nevertheless, there may be disadvantages when there is an irresponsible use of technological tools. These irresponsible uses could be done by students or teachers. The disadvantages of ICT use are set out below.

While students are skillful at managing technology, they still do not have the aptitude to choose the right content. For example, on the internet, there is abundant information related to learning in English, but not all of this information is appropriate or correct. Kryachko (2015) states that: "excessive or uncontrolled use of ICT is fraught with a number of pitfalls, ranging from a highly negative impact on students health to information overload" (p. 13).

In the same way, Tamo (2014) affirms that students are easily distracted and can use ICT for non-educational purposes. A serious disadvantage is the access to unsupported information. On the Internet, the student sometimes accesses information that is not scientifically proven. This causes confusion and does not help to progress in learning (Talebiana & others, 2014). To avoid these errors and abuses in the ICT, it is necessary for teachers to select the appropriate information. Besides, teachers should also control the time-to-use of ICT within the classroom.

Another disadvantage, though less usual, is that the role of the teacher within the classroom is replaced by ICT. Students and teachers should not abuse technological tools because these are just a learning aid. Technology should be used as a supplement to improve the quality of learning and not as a substitute for the teacher (Riddell, 2014). The responsible attitude of teachers and students is essential to use ICT to benefit the progress of education.

Teachers and ICT use

Teachers' role.

Nowadays, most teachers make use of any type of technological resource. ICT offers tools that may emulate English language of real life in the classrooms environments, and besides hence facilitates the learning of EFL in efficient ways (Naima, 2017). However, with the integration of ICT in the classroom, the teachers' role has had to be modified.

For Lunenberg, Dengerink and Korthagen (2014), the role is "a cluster of more or less stringer expectations of the behavior of a person in a certain position" (p. 6) In the English classroom a teacher has many roles with different aims. Unlike the student who only has the role of apprentice, the teacher must fulfill several roles at the same time. Mendoza (2012) lists some roles that teachers should play when they use ICT. First, the teacher should be advisor, to accompany the students in their learning process. Second, the teacher should be communicator, to design technology-supported courses. Third, the teacher should be graphic designer, as he should know the principles of the design of interactive virtual objects and screens to be able to create online materials that are effective and attractive.

The wrong idea about the teachers' role is a classroom in which everything is controlled by the teacher (Keller, 2016). Teachers' knowledge is not enough to teach effectively therefore, the educator must accept the help offered by technological tools and other resources. According to Mahdi and Al-Dera (2013), teachers need ICT resources to create a good environment for EFL teaching and learning. These author conclude that

“together good teachers and good technology are essential to provide educational improvement” (p. 58).

Teachers’ competences.

The ICT creates the possibility of a wide variety of learning practices such as exposition with multimedia resources and didactical construction with ICT tools (Howell, 2012). Even though, technology also requires monitoring and control, since not everything on the Web is appropriate for the students. According to Vekiri (2014), information on the Internet is unstructured and unfiltered; therefore, “inexperienced users can get lost or distracted while navigating their way through hypertext and may come across content that is not credible, relevant, or age and task appropriate” (p. 145). Teachers are the ones who must prevent these errors. The impact of technology within the classroom is positive when the teacher has certain competences.

The European Commission for Education and Training (2013) defines the competences as a set of knowledge, skills, values and attitudes that lead to effective human action. This Commission argues that teachers’ competences can be outlined in six broad paradigms; the teacher must be a reflective agent, a knowledgeable expert, a skillful expert, a classroom actor, a social agent, and a lifelong learner. Likewise, considering the positive impact of ICT on education, UNESCO (2011) believes that teachers must have specific skills when teaching with technological resources. Indeed, it is not enough to integrate ICT into the classroom without a “paradigmatic shift” concerning notions of technological knowledge (Dooley, 2015).

Successful ICT integration in the EFL classroom implies to acquire techno-pedagogical competences, that is, the capacity to assess the potential and limits of ICT for teaching (Lin, Zhang, & Zheng, 2016). The techno-pedagogical competences are a new way to work with the ICT within the classroom. These techniques allow the teacher to use his/her

pedagogical knowledge in the application of technological resources. Regarding this topic, Papaioannou (2014) mentions some specific competences for ICT use. First, teachers should design courses that meet the needs of the beneficiaries. Second, teachers should apply suitable teaching methodologies and teaching techniques. Third, teachers should efficiently use ICT technologies and classroom equipment.

Teachers' gender.

The teacher's gender is an essential factor that affects the ICT use in language teaching, especially in countries where gender equality is not yet full. In patriarchal societies, women are discriminated in many areas such as; politics, religion, and even technology fields. Hilbert (2011) affirms that "some claim that women are rather technophobic and that men are much better users of digital tools" (p. 10). According to this author, discrimination against women's abilities must disappear. The whole society is affected when there is gender inequality.

For example, after an investigation about teachers' gender and ICT use, Mahdi and Al-Dera (2013) concluded that there is a significant difference between male and female teachers in the ICT use in language teaching and learning. This is not only an educational problem, but also a social one, since the education of many children is in charge of female teachers.

On the other hand, the Oxford Dictionary (2017) defines gender as "either of the two sexes (male and female), especially when considered with reference to social and cultural differences rather than biological ones". This means that gender is a social construction, not a biological reality. The society determines what is to be male and female; this is known as "psychological gender". Some patriarchal societies believe that only men can manage the technology. For this reason, it can be concluded that it is psychological gender rather than biological gender which has more effect on teachers' gender and ICT use (Ursavaş & Karal, 2009).

According to the aforementioned data, it can be said that the teachers' gender and their relationship with the ICT use varies from place to place. If research is done in a country in the first world, teachers' gender will probably not affect the ICT use. In contrast, if the research is done in a country where there is gender inequality, obviously men will have more openness to ICT use. Accordingly, as Rahimi and Yadollahi (2011) observed, physiological gender differences in ICT are not found in cultures characterized by non-masculinization of the technology.

Teachers' characteristics regarding ICT use

Psychological characteristics

A teacher must have well-developed attitudes and aptitudes in order to work with ICT. The teachers' psychological characteristics are fundamental when technology is used within the classroom. For this reason, Kounenoua (2014) affirms that "teaching is not a mere matter of methods, techniques, and procedures, but also a function of teachers' personality" (p. 3537). Thus, it is important to understand psychological factors related to personality, character, security or insecurity, etc.

On the other hand, Valencia and Serna (2016) argue that teachers should develop some "psych-educational" skills as critical thinking, creative thinking, communication and collaboration. Critical thinking is the skill to use different types of reasoning in problem solving; additionally, critical thinking also helps to choose the right technological tools in the teaching process. Creative thinking is the ability to create new ideas. First of all, a teacher must be creative when he uses ICT in EFL teaching. Communication refers the teachers' ability to communicate clearly and effectively in different forms and contexts. Collaboration is related with the teachers' ability to work in a team. A collaborative teacher knows that ICT is a helpful tool and therefore has no problem using it.

Additionally, motivation is an important psychological characteristic. According to Garrido and Ortega (2014), the teachers' motivation to use ICT remains an issue. This problem is due to three factors: first, lack of time to get confidence and experience with technology; second, a curriculum overloaded with technological contents and requirements; and the last one, the lack of subject-specific guidance for using ICT to support learning. The lack of motivation and the curricular requirement may cause in teachers techno-anxiety (Revilla and others, 2017) and even technophobia (Rahimi and Yadollahi, 2011). Techno-anxiety is a state of mind that is characterized by a great concern and extreme insecurity when using technology. On the other hand, technophobia is an exaggerated or sickly fear of technology. Whatever the case, both are detrimental to the education system. The solution seems to be in the timely teachers' training about the ICT use.

Educational characteristics

The ICT offers very useful tools for education. According to Garton and Graves (2014), the use of digital audio and video, the Internet, and Virtual Learning Environments have put the possibilities of the adaptation and creation of a broad range of English learning materials into the hands of the learners, but also into the hands of the teachers. Additionally, Nunan (2015) states: "it is difficult to imagine developing, teaching, and evaluating courses without the aid of technology" (p. 117). This author also points out that currently ICT is a fundamental part of the classroom. A teacher cannot dispense with the technological tools; on the contrary, he should know how to use them as an invaluable educational resource. To meet this goal, it is necessary to develop educational characteristics. With regard to these characteristics, Ekrem and Recep (2014) propose that every educator should have three kinds of knowledge: content knowledge, related to the content matter; pedagogical knowledge, related to the teaching methods, and technological knowledge, related to technology use.

On the other hand, Howell (2012) believes that a digital pedagogy is necessary for effective ICT use. According to this author, placing a computer within a classroom doesn't make the EFL teaching effective; teachers need to know how to use technology and specially know how to select the right ICT resource for their students; in other words, "teachers need a digital pedagogy, which is the study of how to teach using digital technologies" (p. 5).

Professional characteristics

In the case of ICT use, adaptability and innovation are the main professional characteristics. Meador (2016) defines adaptability as the ability to handle a sudden change without making it a distraction. Nowadays, it is not possible to teach without innovating. Arias (2016) pointed out five professional competencies of the 21st century teachers. According to this author, today's teachers should be able to learn new technologies, as ICT is an innovative way of transmitting knowledge. They also should digitize the classroom. There are more and more platforms destined for this goal: Google Classroom, Google Groups or Moodle are some of them. On the platforms, students can participate in discussions, dialogues, upload tasks, or acquire additional knowledge.

On the other hand, the Department of Education and Training Western Australia (DETTWA, 2015) requires teachers to have the following professional skills: create materials for student use, access research and best practices for teaching, communicate with colleagues/other professionals, post information to a website to assist students in their learning. Some of these requirements are related to ICT use. For this reason, teachers need an innovation of their methodology by adopting the technological tools within the classroom. Lancaster (2014) believes that the innovation is an important feature of good teachers; however, some educators have no interest in innovating or changing their traditional methodology.

The innovative teachers take advantage of emerging technology tools and they use these resources in teaching/learning process (Berry, Byrd and Wieder, 2013). The integration of ICT requires teacher's role change. However, some teachers disagree with this change. According to Underwood (2014), the discontinuity between teachers and technology should disappear. The main feature of a professional teacher is the willingness to accept the changes. In the case of EFL teaching, Fernandez (2010) believes that not only the role of the EFL teacher has to change, but also the reticent attitude of many teachers towards this kind of innovation, better said, the innovation of ICT use into classrooms. For this reason, innovation and openness to technological tools are necessary.

Personal characteristics

Based on the rapid evolution of technology, it is important for EFL teachers to recognize how effectively and efficiently to integrate ICT use into the classroom (Margan Saed, 2015). The personal characteristics influence the time of implementing the technological resource to the methodology. The classification of these characteristics varies from one author to another; however, it is possible to point out the following: gender, age, ICT training, educational beliefs and teaching experience.

According to Ilomäki (2008), teachers' age is a factor influencing the use or rejection of ICT. In fact, after an investigation, this author was able to verify that older teachers have insecurity when using technology. In addition, old teachers tend to show apathy or indifference to technology resources. On the other hand, young teachers proved to have greater technological skills and security regarding digital tools. However, teachers' age is a factor that can vary from one place to another. For example, Morley (2011) concludes that age is not a barrier in the ICT use, but rather the experience teaching, motivation and training.

In the same way, teacher's training is a barrier on ICT use. Mahmud and Ismail (2010) explain that the formal ICT training is fundamental because it is not enough to have

technological equipment, but also to know how to use it. According to these authors, teachers need “specially designed training programs, in various forms of ICT courses and workshops” (p. 8). Additionally, Thomson (2015) believes that teachers do not have enough technological training or incentives to learn ICT use. In many countries there is a serious lack of training on ICT use that needs to be solved by the educational authorities.

Finally, educational belief is a personal characteristic that influences to use ICT. According to Sang (2010), educational beliefs are the tacit and unconscious teachers’ assumptions about classrooms, students’ learning, and the academic materials for teaching. The same author states that the educational beliefs can be “traditional” or “constructivist”. The teachers with traditional beliefs are conservative and prefer to teach face to face, without the help of technological resources. They tend to be reticent about ICT. On the other hand, teachers with constructivist beliefs tend to be innovative and creative. These teachers consider ICT as resources to improve and progress in the learning.

In Ecuador, the ICT adaptation within the classroom is progressive. Several public and private high schools have already integrated ICT in order to improve the quality of education, especially in the teaching of foreign languages. EFL teaching has always used various pedagogical resources for efficient learning. However, the emergence of ICT implies a significant change in the way of teaching. For this reason, it is necessary to know teachers’ perceptions on ICT use in their classrooms.

Regarding previous research, several scientific studies related to ICT use in EFL classes have been conducted in different parts of the world; six of them were read and analyzed in order to support this research. The most important aspects of these scientific studies are presented below

Al-Munawwarah (2014) conducted an investigation on teachers and the ICT use. His study was designed to know teachers’ perception towards the ICT use in English language

teaching and learning process. The methodology consisted of a qualitative design for data collection. The data collection techniques employed in this study was open-ended questionnaire and interviews; these instruments were applied to six teachers of a school of Bandung, in Indonesia. The results showed that teachers have positive perceptions related to ICT use in their classroom. In addition, it adds that ICT use can be an effective supplementary material to make the learning and teaching process more appealing for the students.

In the same way, Mollaei and Riasati (2013) carried out another important study. Their research aimed at investigating the perceptions of EFL teachers regarding ICT use in their classes and factors affecting technology implementation in Iranian Language Institutes. Unlike the previous study, these authors use a larger and varied sample: a total number of forty EFL teachers participated in the study. Additionally, there are male teachers and female teachers among the forty participants. These authors used a mixed-methodology: first, a 30-item questionnaire for all teachers, later, focus group interviews were conducted with seven of them. An important conclusion is that gender differences in teachers' attitude towards using technology in EFL teaching are almost absent in this study. According to these authors, the teachers tend to think that the quality of education depends exclusively on the teacher's quality, not the use of technologies. Nevertheless, they think that technology helps to renew the methodology making the learning environments interesting and dynamic.

On the other hand, Arias, Buitrago and Báez (2011) investigated the impact of ICT in the professional development of EFL teachers. With this objective, they conducted a study about teacher's perceptions regarding ICT use. In addition, the methods of study were interviews and participatory observation. This research was carried out with sixteen English language teachers of various public schools of Bogotá. The conclusion of the study is interesting. In general, the teachers considered the ICT as a valuable resource that they could use to improve their teaching practices and enhance their students' learning. However, the

barrier that prevents the effective use of ICT in the classroom is the lack of technological training that most teachers have.

The research of Hismanoglu (2012) brings a different view. The objective of his study is to explore EFL teachers' perceptions of ICT integration. With respect to the methodology, the author uses a questionnaire consisting of questions about the technology acceptance model. This study was conducted with the participation of eighty-five EFL teachers of distance higher education, in Turkey. Previous studies conducted in this country showed that teachers had little interest in using ICT. The research of Hismanoglu was applied not only to show more light on EFL teachers' attitudes toward ICT integration, but also to reveal the factors obstructing their positive attitudes. In fact, almost all of the respondents expressed their preference for face-to-face teaching, without using ICT resources. The author thinks that this negative attitude of teachers is caused by several factors. For example, unfortunately many higher education institutions cannot provide teachers with positive technological experiences. Therefore, the problem is not the teachers, but the educational system, which is not concerned about improving the quality of education.

Silviyanti and Yusuf (2015) conducted a study to determine whether ICT is useful in EFL teaching. With this objective, the authors also investigated the EFL teachers' perceptions about ICT use. The methodology applied is qualitative because it seeks to know the attitudes of the teachers about the technological tools. The study was conducted through a questionnaire with closed questions and interviews with fifty five EFL teachers. The authors concluded that teachers' acceptance or rejection of ICT has pedagogical implications. The EFL teachers believed that it is important to implement ICT within classrooms because the technology increases students' motivation and besides learning is enjoyable and interesting. Nonetheless, the teachers interviewed also revealed that cost and the insufficient competency in using ICT are the factors that prevent the implementation of ICT use in EFL teaching. In

conclusion, this study has revealed that the teachers are motivated to use ICT in language learning, despite facing some problems when implementing technology in the classroom. One of these problems is the little knowledge of technical aspects of ICT.

Finally, Naima (2017) explores teachers' perceptions and attitudes on technology integration in EFL classrooms. This study was conducted on ten teachers from the department of English at Chadli Bendjedid University. Besides, to portray teachers' opinions about the ICT use in EFL teaching, quantitative data was collected through a questionnaire. The author concludes that EFL teachers have positive attitudes towards the use of technology in their classrooms. However, while the results evidence that the teachers considered ICT use essential in EFL teaching, there is no correlation between their attitudes and their real adoption of technological tools in the classrooms. Some teachers interviewed argued that the lack of ICT training and the complexity of its use are barriers to the full integration of ICT resources in their classes. Finally, the author recommends that teachers need to receive adequate training and ongoing support to ensure an effective use of ICT.

CHAPTER II

METHOD

This chapter analyzes the characteristics of the setting and the participants in the field research. In addition, the components of the procedure are exposed. These components are related to the methodology, data collection instruments, tabulation techniques, and data analysis.

Setting and participants

This research was carried out in four public and private high schools located in the south of Quito, in the urban parishes of Chillogallo, Villaflora and Caupicho.

The population was composed of twenty EFL teachers; ten of them teach in public high schools and ten teach in private high schools. In addition, the sample considers the teachers' gender (10 male teachers and 10 female teachers). Additionally, the age of male teachers varies from 32 to 52 years old, and the age of female teachers varies from 27 to 45 years old. All teachers hold third level degrees in English Foreign Language teaching.

Regarding teachers' experience, male teachers have an average of 8 to 21 years of experience and female teachers have an average of 5 to 18 years of experience. Old teachers (40 years or older) state that they did not receive ICT training during their university studies. In contrast, young teachers have received some course of technological training but they consider that their digital knowledge is not enough. As a result, most of the teachers have not attended formal ICT use training. However, all participating teachers have some idea of what ICT is, and they claim to know and use at least a couple of technological tools in their classes.

Procedures

The literature on ICT use is varied. Several authors have written books and conducted scientific studies in this field. Because of this, in the first chapter of the research, it was necessary to investigate the information contained in textbooks and international magazines. Additionally, some webpages on the Internet were also used to clarify certain concepts and to acquire more knowledge. Accordingly, the most important information was selected in order

to identify the concept and importance of ICT, its advantages and disadvantages, as well as teachers' characteristics and teachers' perceptions regarding ICT use.

The methodology used in this research was quantitative and qualitative. The quantitative methodology served to know the teachers' perception regarding ICT in percentages. On the other hand, the qualitative methodology served to know the teachers' opinions through the personal interviews. Both methodological designs contributed equally in the collection and analysis of the data.

The instruments used to collect the information were a survey and an interview. The survey is divided into two parts corresponding to question 1 and 2 of this research. Each part contains twenty statements that must be answered using any of the following parameters: "strongly agree", "agree", "disagree" and "strongly disagree". In addition, the participants were asked to specify their gender, this in order to answer the question 3. The survey was applied to the twenty teachers (10 male and 10 female teachers). On the other hand, the interview contains eight open questions related to teachers and their relationship with ICT (use, importance, advantages, barriers, etc.). The interview was applied to six teachers (3 male and 3 female teachers).

After collecting and organizing the information, four tables were obtained. Tables 1 and 2 correspond to questions 1 and 2 of this research. The total sample in table 1 and 2 is twenty ($N = 20$). The data obtained were tabulated using the Excel program. First, the frequency f (the number of responses in each parameter) was taken in order to obtain the percentage. Afterwards, the surveys were separated by gender to give place to table 3 and 4. The tabulation of these tables was similar to tables 1 and 2, but the sample was separated into two parts as follows: male teachers ($N = 10$) and female teachers ($N = 10$).

Three steps were followed by analyzing the information. First, the highest percentages of each parameter (strongly agree, agree, disagree, strongly disagree) were identified. Second,

these statements were analyzed using the information obtained through the teachers' interviews. Third, information from the theoretical framework was used to support the analysis obtained. The same procedure was used by analyzing tables 3 y 4, but the parameters were analyzed taking teachers' gender into account (male and female teachers' perceptions).

The quantitative and qualitative analysis of the information served to know the real perceptions of Ecuadorian high school teachers regarding ICT use in their EFL classes, and it also provides valuable information by answering the following questions: Which aspects related to teachers' characteristics are considered by most of the EFL teachers as barriers to use ICT in their classroom? Which factor refers to teachers' characteristics does it influence the most on teachers to use ICT in their classroom? How is ICT use perceived by EFL teachers in relation to their gender?

CHAPTER III.
RESULTS AND DISCUSSION
DESCRIPTION, ANALYSIS AND INTERPRETATION OF RESULTS

This chapter presents the description, analysis and interpretation of results obtained through the surveys and interviews conducted with EFL teachers. Additionally, in order to know the teachers' perception regarding ICT use, it was necessary to elaborate three questions. First, which aspects related to teachers' characteristics are considered by most of the EFL teachers as barriers to use ICT in their classroom? Second, which factor regarding teachers' characteristics does influence the most on teachers to use ICT in their classroom? Third, how is ICT use perceived by EFL teachers in relation to their gender?

The statements related to each question are included in the 4 tables obtained from the tabulation of data. In addition, the most relevant percentages of these tables have been displayed and analyzed using teachers' interviews and the information obtained through the literature review the chapter one.

Which aspects related to teachers' characteristics are considered by most of the EFL teachers as barriers to use ICT in their classroom?

Table 1. Teachers' characteristics considered by EFL teachers as barriers to use ICT in their classroom.

Nº	STATEMENT	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE	NO ANSWER
		%	%	%	%	%
1	I feel insecure about my ability to use ICT as a resource to teach.	0	25	55	20	0
2	I do not think I would be able to learn how to use ICT in my classroom.	0	20	65	15	0
3	I am afraid that if I begin to use ICT, I will become dependent upon them.	0	15	65	20	0
4	I dislike working with machines that are smarter than I am.	0	5	45	50	0
5	I feel apprehensive about using ICT.	5	15	75	0	5
6	I have difficulty in understanding the technical aspects of ICT.	30	35	25	10	0

7	It scares me to think that could cause the computer to destroy a large amount of data by hitting the wrong key.	0	20	55	25	0
8	I hesitate the use of ICT for fear of making, mistakes that I cannot correct.	0	20	65	15	0
9	You have to be master to understand how to use ICT.	0	15	30	55	0
10	I have avoided ICT use because they are unfamiliar.	0	20	65	15	0
11	I have not attended some ICT training courses.	20	55	15	20	0
12	I have not attended some ICT training courses; however, I prefer not to use ICT because they somewhat intimidate me.	0	55	25	20	0
13	I am not interested in attending any ICT courses.	0	5	70	25	0
14	I do not know how to use any ICT Resources.	0	15	55	30	0
15	I do not use any ICT resource in class because I think that ICT is not necessary to teach English.	0	10	55	35	0
16	I prefer not to use ICT because my teaching experience is the most crucial factor in teaching process.	0	20	60	20	0
17	I think that age is factor that determines the ICT use in class.	25	45	15	15	0
18	In my opinion, younger teachers are more skillful to use ICT than the older ones.	5	50	30	15	0

N= 20

Author: Silvia Mercedes Samaniego Vacacela

Source: Ecuadorian high school EFL teachers

Regarding the question “Which aspects related to teachers’ characteristics are considered by most of the EFL teachers as barriers to use ICT in their classroom?” the results show that in general, EFL teachers have positive attitudes about ICT use. Nevertheless, there are some aspects of table 1 that teachers consider as barriers to ICT use in classrooms. In fact, the parameter “strongly agree” reveals that teachers strongly agree with the next statement as a barrier: *I have difficulty in understanding the technical aspects of ICT*. This teachers’ opinion shows that there is a lack of technical knowledge about ICT use. According to an interviewed teacher, “it is necessary to know how computers work, where to find the technological resources, and when to apply this knowledge about ICT”. Another teacher said: “I studied my teaching career when there was no ICT in the university education curriculum”.

It is necessary to analyze these results from educational characteristics. Ekrem and Recep (2014) argue that it is important to have technological knowledge related to ICT use within the classroom. This opinion is also shared by the EFL teachers. Additionally, Howell (2012) affirms that teachers need a digital pedagogy in order to implement technological methods and techniques. Furthermore, it is necessary to say that although teachers have the willingness to use ICT, the lack of basic knowledge about hardware and software obstructs the implementation of ICT in the class. Likewise, the lack of technological knowledge prevents the use of resources and tools on the Web. Additionally, Mahmud and Ismail (2010) explained that the formal ICT training is fundamental because having technology within the classrooms is not enough by teaching with ICT. It is necessary to know how to use these resources. In conclusion, the lack of ICT training is a barrier that affects the ICT use.

The parameter “agree” reveals high percentages in two topics: teacher’s training and teacher’s age as a barrier on ICT use. The statements that correspond to these topics are: *I have difficulty in understanding the technical aspects of ICT; I have not attended some ICT training courses; I have not attended some ICT training courses; however, I prefer not to use*

ICT because they somewhat intimidate me; I think that age is factor that determines the ICT use in class; In my opinion, younger teachers are more skillful to use ICT than the older ones.

The 55% of teachers claim that they have not received any formal training courses on ICT use. In the interview, a teacher argues that: “the Government should provide ICT training, since most teachers cannot afford a particular course”. This opinion agrees with the recommendations of Arias, Buitrago and Báez (2011), who suggest ICT training programs to improve the quality of education. Regarding the previous opinion, Thomson (2015) believes that teachers do not have enough incentives to learn ICT use. Additionally, lack of training is directly related to other barriers such as insecurity or apprehension regarding ICT use (Garrido and Ortega, 2014).

On the other hand, most teachers believe that age is a barrier to ICT use. In effect, 45% of teachers think that age is a factor that determines the ICT use in class. Likewise, another 50% of teachers agree that young teachers take better advantage of technology. The perceptions of age have to do with the personal characteristics. Yadollahi (2015) affirms that teachers’ age has relation with techno-anxiety. The old teachers have greater apprehension and insecurity when they use ICT. On the other hand, the investigation of Ilomäki (2008) showed that young teachers have greater technological skills and greater security regarding ICT use. Nonetheless, two teachers interviewed affirm that age is not a determining factor; the attitude is more important in these cases. Consequently, the real problem would be the lack of motivation among teachers (Garrido and Ortega, 2014).

The parameters “disagree” and “strongly disagree” show that most of teachers do not consider the statements of table 1 as barriers. With respect to the parameter “disagree”, teachers disagree on the following statement: *I feel insecure about my ability to use ICT as a resource to teach; I am afraid that if I begin to use ICT, I will become dependent upon them. I feel apprehensive about using ICT. I hesitate the use of ICT for fear of making mistakes that I*

cannot correct; I am not interested in attending any ICT courses; I do not know how to use any ICT resources; I do not use any ICT resource in class because I think that ICT is not necessary to teach English; I prefer not to use ICT because my teaching experience is the most crucial factor in teaching process.

Insecurity is not a barrier to use ICT resources. Some teachers interviewed say they are not afraid of using technology, although they recognize that they have limited knowledge about how to use a computer or the Web. According to Lancaster (2014), the teachers must be prepared to innovate their methodology using ICT resources. For this reason, the insecurities or fears of the teacher must disappear when using technological tools. Additionally, the adaptability is a very important teachers' professional characteristic. Meador (2016) defines adaptability as the teachers' ability to handle a sudden change without making it a distraction by teaching. This definition agrees with the teachers' opinions, which affirm that ICT integration does not imply losing their role within the classroom.

On the other hand, teachers understand the enormous importance of ICT in the EFL teaching. A teacher mentioned that "the teaching of English has improved thanks to the implementation of resources such as YouTube videos and grammar exercises online"; another teacher said that "the future teaching will be shared by the teacher and the technology in the same proportion". There are few teachers who think that the teaching experience is sufficient for effective teaching. One of them explains that "technology removes the role of the teacher in the classroom". However, this is a misconception of the teacher's role in the classroom. Fernandez (2010) believes that not only the role of the EFL teachers will have to change, but also the reticent attitude of many of our teachers towards ICT innovation.

Finally, it is necessary to highlight the desire of many teachers for receiving training courses in ICT use. Indeed, 70% of teachers disagree with the statement *I am not interested in attending any ICT courses*. Consequently, the teachers want to receive training courses in the

ICT field. The Ministry of Education provides information and short courses, but these are not enough. A teacher states that “the current textbooks come with a section dedicated to ICT, but we do not know how to implement this information to classes”. For this reason, several teachers affirm to have paid particular courses of computation, especially the teachers of private schools, because they have the classrooms equipped with technological tools. This data contrasts with the teachers of the public schools. In Ecuador, public education still has many shortcomings. For example, the Ministry of Education asks teachers to teach with ICT resources; however, there are no projectors, computers, or Internet inside the classroom. Nevertheless, teachers are willing to learn in order to «digitize the classroom» to improve their students’ learning (Arias, 2016).

Regarding the parameter “strongly disagree”, the table 1 shows high percentages in these statements: *I dislike working with machines that are smarter than I am; you have to be master to understand how to use ICT*. Most of teachers think that technology is not a substitute for the educator, but rather ICT is a teaching aid tool. An interviewed teacher believes that “technology does not make us smarter; we should intelligently use the technology”. Likewise, another teacher warns of the danger of ICT abusing: “Students sometimes believe that the Internet is smarter than the teacher and that this tool can teach better”. This is a disadvantage of ICT because excessive or uncontrolled use of ICT is detrimental to students’ attention and learning (Kryachko, 2015). On the other hand, several teachers agree that it is not necessary to be a master in the use of ICT. According to them, it is enough to have a basic and efficient training. This is a constructivist educational belief. Teachers with constructivist beliefs tend to be innovative. These teachers consider ICT to be resources to improve and progress in learning (Sang, 2010).

Which factor regarding to teachers' characteristics does influence the most on teachers to use ICT in their classroom?

Table 2. Teachers' characteristics that influence the most on teachers to use ICT in their classroom.

Nº	STATEMENT	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DESAGREE	NO ANSWER
		%	%	%	%	%
1	The challenge of learning about ICT use is exciting.	10	75	15	0	0
2	I am confident that I can learn technological skills.	25	65	10	0	0
3	I feel motivated to use ICT in my class.	10	75	15	0	0
4	Learning to use ICT is like learning any new skills - the more you practice, the better you become.	25	55	20	0	0
5	I am sure that with time and practice I will be as comfortable working with ICT.	25	60	15	0	0
6	I feel that I will be able to keep up with the advances happening in the ICT field.	15	60	25	0	0
7	If given the opportunity, I would like to learn about ICT use.	40	55	5	0	0
8	I think that ICT are necessary tools in educational setting.	25	60	15	0	0
9	I like to use ICT because they help me to innovate my teaching methodology.	50	35	15	0	0
10	ICT help me to motivate my students to learn English.	45	40	15	0	0
11	If I had any technical problem with ICT during my class, I would continue doing the planned activities.	75	25	0	0	0
12	When I have technical problem with ICT, I do not feel frustrated.	75	25	0	0	0
13	Age is not an obstacle to	20	10	25	45	0

	learn about and use ICT in my classes.					
14	I know a lot about ICT use because I have attended some ICT training courses.	10	20	50	20	0
15	I have learned to use ICT resources by myself.	50	5	25	20	0
16	I think ICT has a positive impact on teaching process.	30	55	15	0	0
17	ICT use has more advantages than disadvantages in EFL teaching.	30	60	10	0	0

N= 20

Author: Silvia Mercedes Samaniego Vacacela

Source: Ecuadorian high school EFL teachers

According to the data in table 2, most teachers consider ICT use as a key tool in the EFL teaching. The parameter “strongly agree” evidence that the teachers strongly agree on the following statements: *If given the opportunity, I would like to learn about ICT use; I like to use ICT because they help me to innovate my teaching methodology; ICT help me to motivate my students to learn English; If I had any technical problem with ICT during my class, I would continue doing the planned activities; When I have technical problem with ICT, I do not feel frustrated; I have learned to use ICT resources by myself.* These results reveal that the professional characteristics influence in a large extent the use of ICT within the classroom.

First of all, 40% of teachers want to learn how to use ICT through a training course. These data confirm the results analyzed in table 1. Besides, the addition of this 40% to 55% of the parameter “agree” gives as a result 95%; consequently, if given the opportunity, 95% of teachers would like to learn about ICT use. Additionally, the teachers understand the importance of ICT within classrooms. For them, ICT greatly assists the teacher’s methodology and the student’s motivation. A teacher said, “My students and I enjoy using technology, because it helps us create a good learning environment”; another teacher adds “I use technological resources such as CDs, videos on YouTube, and online exercises”. These

opinions reflect the influence of educational and personal characteristics. It is difficult to imagine EFL developing, teaching and evaluating courses without the aid of ICT (Nunan, 2015). The ICT offers very useful tools for education. According to Garton and Graves (2014), the ICT has put the possibilities for creating of a broad range of English learning materials into the teachers' hands. Teachers also take into account the student's opinion at the time of using ICT. A teacher says that "students bring new ideas to use these tools during class".

On the other hand, 75% of teachers state not to be frustrated if a technological resource fails in the middle of the class. They believe that it is not prudent to totally depend on ICT in the classroom because these tools could suddenly have some technical breakdown. If ICT fails, it is necessary to be a creative teacher. For Valencia and others (2016), creative thinking is a fundamental teachers' educational feature. If a technology tool fails in classes, a creative teacher can quickly improvise other resources when teaching.

Finally, 50% of teachers claim to have learned ICT for themselves. There are two reasons that have inspired this self-learning decision. First, the positive impact of ICT on learning and teaching creates the need to seek basic technological knowledge (Naima, 2017). Second, the educational curriculum requires teachers to work with ICT within the classroom and therefore teachers seek to obtain digital knowledge by their own means. However, this is a contradiction, since the government does not offer the sufficient training or necessary incentives in relation to ICT use (Thomson, 2015).

Additionally, on the parameter "agree", there are high percentages in three topics: teacher's motivation, ICT training, and methodology. The following statements reflect teacher's motivation: *The challenge of learning about ICT use is exciting; I feel motivated to use ICT in my class.* After, the following statements reflect the importance of ICT training: *Learning to use ICT is like learning any new skills-the more you practice, the better you*

become; I am sure that with time and practice I will be as comfortable working with ICT; I feel that I will be able to keep up with the advances happening in the ICT field. Finally, the following statements reflect methodology as a factor that promotes the ICT use: I think that ICT are necessary tools in educational setting; ICT help me to motivate my students to learn English; I think ICT has a positive impact on teaching process; ICT use has more advantages than disadvantages in EFL teaching.

First, the data show that motivation is the psychological characteristic that influences the most on teachers to use ICT in their classroom. This is a feature that all teachers should have to teach effectively (Garrido and Ortega, 2014). One of the respondents argues that “ICT tools are stimulating”. Kounenoua and others (2014) state: “teaching is not a mere matter of methods, techniques, and procedures, but also a function of teachers’ personality” (p. 353); for this reason, it is important to take into account the teachers’ motivation as a constructivist educational belief (Sang, 2010). According to surveys and interviews, most teachers have constructivist educational beliefs and this is reflected in their enthusiasm for ICT integration within the classroom.

Second, the factor “ICT training” has already been analyzed before, but it is necessary to point out that the results of table 2 confirm again to teacher’s training as a fundamental factor that promotes or inhibits ICT use (Mahmud and Ismail, 2010). Indeed, a teacher with ICT training has technological skills and better applies the technology within the classroom. For this reason, 55% of the teachers surveyed agree to attend a training course in ICT use.

Third, the results show that ICT are highly valued by the teachers because these tools can be adapted to the methodology and motivate the student’s learning. In addition, according to the analysis of the approaches, the educational characteristics of the teachers are important when using ICT. A teacher states that “ICT helps teaching and learning more than any other pedagogical resource”. Yang, Zhang and Chang (2016) state that the ICT resources are

critically important for education, because they offer an opportunity for innovation in contents, methodology and pedagogy. On the other hand, the majority of teachers believe that ICT have more advantages than disadvantages. A teacher states: “technology allows sending tasks to the house that can be discussed in forums or social networks”. With regard to ICT advantages, Uloc Isisag (2012) states the ICT allow combining and using alternately skills as texts and images, audios and video clips. The teachers agree with these benefits.

With respect to the parameter “disagree”, 50% of the teachers disagree with the statement *I know a lot about ICT use because I have attended some ICT training courses*. In fact, most teachers have not attended a formal training course about ICT use. Although teachers have a positive perception of the use of ICT, it is difficult to work with technology without adequate technological knowledge. A teacher states: “It is important to know how ICT can be used during class”. Consequently, successful ICT integration in the EFL classroom implies acquiring techno-pedagogical knowledge and digital competences in order to learn the potential and limits of technologies for EFL teaching (Lin, Zhang and Zheng, 2016).

In the statement “strongly disagree”, 45% of teachers strongly disagree with the statement *age is not an obstacle to learn about and use ICT in my classes*. This statement confirms the same result as Table 1. The age of the teacher is a personal characteristic that affects ICT use (Ilomäki, 2008). This is even some younger teachers’ opinion. An old teacher affirms that “it is impossible to learn how to use ICT for a 50-year-old teacher”. However, this is a factor that can vary from one place to another. For this reason, another teacher said that “age is not important, but the attitude”. This is also Morley’s opinion (2011), for whom age is not a fact in the ICT use, but rather the teaching experience, motivation and training. Surely, age as a factor that inhibits the use of ICT will disappear in the future, with the new generations of teachers.

How is ICT use perceived by EFL teachers in relation to their gender?

Table 3. Teachers' perceptions by gender in relation to the aspects that they consider as barriers to use ICT in their classroom.

Nº	STATEMENT	STRONGLY AGREE		AGREE		DISAGREE		STRONGLY DESAGREE		NO ANSWER	
		%		%		%		%		%	
		M	F	M	F	M	F	M	F	M	F
1	I feel insecure about my ability to use ICT as a resource to teach.	0	0	20	30	60	50	20	20	0	0
2	I do not think I would be able to learn how to use ICT in my classroom.	0	0	20	20	70	60	10	20	0	0
3	I am afraid that if I begin to use ICT I will become dependent upon them.	0	0	10	20	6	70	30	10	0	0
4	I dislike working with machines that are smarter than I am.	0	0	10	0	50	40	40	60	0	0
5	I feel apprehensive about using ICT.	0	10	20	10	70	80	0	0	10	0
6	I have difficulty in understanding the technical aspects of ICT.	20	40	40	30	20	30	20	0	0	0
7	It scares me to think that could cause the computer to destroy a large amount of data by hitting the wrong key.	0	0	20	20	60	50	20	30	0	0
8	I hesitate the use of ICT for fear of making mistakes that I cannot correct.	0	0	20	20	60	70	20	10	0	0
9	You have to be master to understand how to use ICT.	0	0	10	20	40	20	50	60	0	0
10	I have avoided ICT use because they are unfamiliar.	0	0	20	20	70	60	10	20	0	0
11	I have not attended some ICT training courses.	10	10	50	60	20	10	20	20	0	0
12	I have not attended some ICT training courses; however, I prefer not to use ICT because they somewhat intimidate	0	0	60	50	20	30	20	20	0	0

	me.										
13	I am not interested in attending any ICT courses.	0	0	10	0	80	60	10	40	0	0
14	I do not know how to use any ICT resources.	0	0	10	20	70	40	20	40	0	0
15	I do not use any ICT resource in class because I think that ICT is not necessary to teach English.	0	0	10	10	60	50	30	40	0	0
16	I prefer not to use ICT because my teaching experience is the most crucial factor in teaching process.	0	0	20	20	50	70	30	10	0	0
17	I think that age is factor that determines the ICT use in class.	20	30	40	50	20	10	20	10	0	0
18	In my opinion, younger teachers are more skillful to use ICT than the older ones.	10	0	60	40	20	40	10	20	0	0

N= 20

Author: Silvia Mercedes Samaniego Vacacela

Source: Ecuadorian high school EFL teachers

In regard to question “How is ICT use perceived by EFL teachers in relation to their gender?”, both genders have similar opinions about the aspects that they consider as barriers to use ICT in their classroom. Male teachers do not present high percentages in the parameter “strongly agree”; however, some observations need to be made. For example, two male teachers (20%) strongly agree with the following statement: *I think that age is a factor that determines the ICT use in class*. This view is justified by an old teacher as well: “some old teachers teach without technology and the results are the same”. Consequently, the few teachers who are not interested in learning ICT use have more than twenty years of experience and exceed forty five years of age.

On the other hand, in this same parameter, 40% of female teachers strongly agree with the parameter *I have difficulty in understanding the technical aspects of ICT*. This percentage

reveals a cultural problem. In our country there is still gender inequality and this is reflected, among other things, in technological learning. Some people believe that only men are able to learn the technical aspects of a thing. For example, only men understand mechanics or computers issues. Women were excluded from the use of technology for many years. A female teacher says, "Male teachers understand better about ICT use because they had more access to technology. That has changed recently". Paradoxically, although the technical aspects of ICT are more difficult to understand for female teachers, they feel very motivated when they use ICT in their EFL classes.

With respect to the parameter "agree", the male teachers and the female teachers show high percentages in the same statements: *I have not attended some ICT training courses; however, I prefer not to use ICT because they somewhat intimidate me; I think that age is factor a that determines the ICT use in class; In my opinion, younger teachers are more skillful to use ICT than the older ones.* Male and female teachers have a shared opinion in this parameter. From these results, two factors can be analyzed: the lack of training and teacher' age as barriers to the implementation of ICT within the classroom. First, 50% of male teachers and 60% of female teachers have not attended formal course of ICT training. However, this is not to say that they do not use ICT within their classrooms; but rather, the data reveal that teachers have learned to use ICT personally or with their students help. A female teacher says, "I ask the collaboration of my students to find new content for learning on the Internet". The results show that the lack of training in ICT use equally affects both genders. For this reason, it is important to design digital training programs to encourage the ICT use.

On the other hand, the factor "age" is considered a barrier to the ICT use. Both genders have similar opinions and reflect similar percentages. Indeed, 40% of male teachers and 50% of female state that teachers' age is a factor that prevents the ICT use in classroom. However, women teachers are more optimistic and think that the most important thing to learn

ICT is the attitude. In conclusion, age as a barrier could disappear if there was adequate training and ongoing support to ensure an effective use of ICT (Naima, 2017).

In regard to the parameter “disagree”, male teachers disagree with the following statements: *I feel insecure about my ability to use ICT as a resource to teach; I do not think I would be able to learn how to use ICT in my classroom; I am afraid that if I begin to use ICT, I will become dependent upon them; I feel apprehensive about using ICT; It scares me to think that could cause the computer to destroy a large amount of data by hitting the wrong key; I hesitate the use of ICT for fear of making mistakes that I cannot correct; I am not interested in attending any ICT courses; I do not know how to use any ICT resources.; I do not use any ICT resource in class because I think that ICT is not necessary to teach English; I prefer not to use ICT because my teaching experience is the most crucial factor in teaching process.* The results reveal that male teachers do not consider insecurity, apprehension or lack of interest as barriers to the ICT use. Additionally, 70% of male teachers disagree with the statement *I do not use any ICT resource in class because I think that ICT is not necessary to teach English*, because they know how to use some kind of ICT resource. Male teachers also believe that teaching experience is not the most crucial factor in teaching process. Additionally, these teachers are aware that the 21st century teacher needs to digitize the classroom and integrate ICT resources to his/her methodology (Arias, 2016).

On the other hand, the female teachers disagree on the following statements: *I feel insecure about my ability to use ICT as a resource to teach; I do not think I would be able to learn how to use ICT in my classroom; I am afraid that if I begin to use ICT I will become dependent upon them; I feel apprehensive about using ICT; I hesitate the use of ICT for fear of making mistakes that I cannot correct; I have avoided ICT use because they are unfamiliar; I am not interested in attending any ICT courses; I do not use any ICT resource in class because I think that ICT is not necessary to teach English; I prefer not to use ICT because my*

teaching experience is the most crucial factor in teaching process. The results show that most of female teachers have security and confidence when using ICT. An interviewed educator affirms that “technological tools have modified the methodology and thanks to them teaching is easier”. Besides, the female teachers want to continue learning more about the ICT use because nowadays it is impossible to imagine learning and evaluating courses without the integration of technological tools within classroom (Nunan, 2015).

Finally, in the statements of the parameter “strongly disagree”, the male teachers strongly disagree with *I dislike working with machines that are smarter than I Am; you have to be master to understand how to use ICT.* The results show that teachers understand the limits of ICT use within the classroom. Machines are smart and offer valuable help, but their misuse or uncontrolled use may harm the student (Kryachko, 2015). They also believe that ICT use only requires basic knowledge. A teacher says “If you have the bases, you could learn the rest with practice”. However, they still believe that training is important because even the most basic knowledge requires the help of professionals in the ICT field (Ilomäki, 2008).

On the other hand, the female teachers strongly disagree in the following statements: *I dislike working with machines that are smarter than I Am; you have to be master to understand how to use ICT; I am not interested in attending any ICT courses; I do not know how to use any ICT resources; I do not use any ICT resource in class because I think that ICT is not necessary to teach English.* Female teachers are more optimistic in the ICT use. They do not believe that technology can replace the teachers’ role within the classroom because these resources are just tools of support (Riddell, 2014). In addition, although female teachers cannot fully use ICT, they have learned to use at least one or more resources such as videos, audios, online exercises, etc.

Table 4. Teachers' characteristics that influence the most on teachers to use ICT in their classroom.

N°	STATEMENT	STRONGLY AGREE		AGREE		DISAGREE		STRONGLY DESAGREE		NO ANSWER	
		%		%		%		%		%	
		M	F	M	F	M	F	M	F	M	F
1	The challenge of learning about ICT use is exciting.	0	20	90	60	10	20	0	0	0	0
2	I am confident that I can learn technological skills.	20	30	70	60	10	10	0	0	0	0
3	I feel motivated to use ICT in my class.	0	20	90	60	10	20	0	0	0	0
4	Learning to use ICT is like learning any new skills - the more you practice, the better you become.	20	30	60	50	20	20	0	0	0	0
5	I am sure that with time and practice I will be as comfortable working with ICT.	20	30	60	60	20	10	0	0	0	0
6	I feel that I will be able to keep up with the advances happening in the ICT field.	10	20	60	60	30	20	0	0	0	0
7	If given the opportunity, I would like to learn about use ICT.	30	50	70	40	0	10	0	0	0	0
8	I think that ICT are necessary tools in educational setting.	20	30	60	60	20	10	0	0	0	0
9	I like to use ICT because they help me to innovate my teaching methodology.	40	60	40	30	20	10	0	0	0	0
10	ICT help me to motivate my students to learn English.	30	60	50	30	20	10	0	0	0	0
11	If I had any technical problem with ICT during my class, I would continue doing the planned activities.	70	80	30	20	0	0	0	0	0	0
12	When I have technical problem with ICT, I do not	70	80	30	20	0	0	0	0	0	0

	feel frustrated.										
13	Age is not an obstacle to learn about and use ICT in my classes.	20	20	20	0	20	30	40	50	0	0
14	I know a lot about ICT use because I have attended some ICT training courses.	10	10	10	30	60	40	20	20	0	0
15	I have learned to use ICT resources by myself.	40	60	0	10	30	20	30	10	0	0
16	I think ICT has a positive impact on teaching process.	20	40	60	50	20	10	0	0	0	0
17	ICT use has more advantages than disadvantages in EFL teaching.	20	40	70	50	10	10	0	0	0	0

N= 20

Author: Silvia Mercedes Samaniego Vacacela

Source: Ecuadorian high school EFL teachers

In general, both male and female teachers have similar opinions about characteristics that influence the most on teachers to use ICT in their classroom. However, there are slight differences that need to be analyzed. In the parameter “strongly agree”, the male teachers have marked mainly these statements: *I like to use ICT because they help me to innovate my teaching methodology; If I had any technical problem with ICT during my class, I would continue doing the planned activities; When I have technical problem with ICT, I do not feel frustrated; I have learned to use ICT resources by myself.* According to the data, most of teachers are sure of their ability to use ICT within the classroom. This is not to say that they fully manage the technology. For some teachers, there are technical aspects that are still difficult to understand. A male teacher believes that “technology is a very important pedagogical help”. Likewise, the teachers agree with Soussi’s opinion (2015). This author states that language pedagogy, language learning, and language use have been significantly modified by the ICT use. However, they are aware that the development of the class cannot

depend entirely on technology. Therefore, if ICT fails in the middle of the class, male teachers continue without any problem.

On the other hand, male teachers strongly agree with the following statements: *If given the opportunity, I would like to learn about use ICT; I like to use ICT because they help me to innovate my teaching methodology; ICT help me to motivate my students to learn English; If I had any technical problem with ICT during my class, I would continue doing the planned activities; When I have technical problem with ICT, I do not feel frustrated; I have learned to use ICT resources by myself; I think ICT has a positive impact on the teaching process; ICT use has more advantages than disadvantages in EFL teaching.* In this parameter, the female teachers' opinion is not very different from the male teachers' opinion. Both genders share the idea that ICT use helps to develop EFL teaching and learning. A male teacher says "the advantages of ICT should be better disseminated among the teachers". Talebiana, Mohammadia and Rezvanfara (2014) explain that ICT have advantages inside and outside the classroom. For example, ICT use enhances group collaboration, provides direct access to many other training resources and enhances the international dimension of educational services. According to the results, most of teachers agree with these advantages. Finally, it is necessary to underline that the psychological and educational characteristics have more influence on female teachers.

With respect to the parameter "agree", the male teachers agree with the following statements: *The challenge of learning about ICT use is exciting; I am confident that I can learn technological skills; I feel motivated to use ICT in my class; Learning to use ICT is like learning any new skills—the more you practice, the better you become; I am sure that with time and practice I will be as comfortable working with ICT; If given the opportunity, I would like to learn about use ICT; I think that ICT are necessary tools in educational setting; ICT help me to motivate my students to learn English; I think ICT has a positive impact on*

teaching process; ICT use has more advantages than disadvantages in EFL teaching. The results can be analyzed from the perspective of educational characteristics. Indeed, these data reveal that, for male teachers, the implementation of ICT has a positive impact. A young male teacher says: “The advantages of ICT are many, for example, ICT makes the class less boring and allows communicating with students outside the school to clarify doubts”. Ekrem and Recep (2014) propose that every educator should have technological knowledge to improve his methodology and motivate the students’ learning. This opinion is also shared by the male teachers. Finally, it is clear that for male teachers the personal characteristics are more important at the time of valuing ICT use.

On the other hand, the female teachers agree with these statements: *The challenge of learning about ICT use is exciting; I am confident that I can learn technological skills; I feel motivated to use ICT in my class; Learning to use ICT is like learning any new skills - the more you practice, the better you become; I am sure that with time and practice I will be as comfortable working with ICT; I feel that I will be able to keep up with the advances happening in the ICT field; If given the opportunity, I would like to learn about ICT use; I think that ICT are necessary tools in educational setting.* According to these results, female teachers’ opinions reflect the psychological and personal characteristics. For these female teachers, the innovation and motivation are factors that stimulate the ICT use in their EFL teaching. A female teacher says “ICT helps the best learning of my students, so I feel motivated to use these tools”. Howell (2012) believes that a digital pedagogy is necessary for effective ICT use. According to this author, placing a computer within the classroom does not make the EFL teaching effective, teachers need to understand how to use technology and specially know how to select the right ICT resource for the teaching. Teachers share this view and have opted for personal training, although some of them confess that it is not easy to

understand the technical aspects of ICT use. In any case, teachers are very motivated by technological tools and want to continue learning ICT use.

With regard to the parameter “disagree”, both male and female teachers coincide in the statement: *I know a lot about ICT use because I have attended some ICT training courses.*

Indeed, 60% of male teachers have not attended any training courses on ICT use. Several young male teachers received a training course on ICT use during their university studies, but then they have not returned to attend any course of this type. On the other hand, 40% of female teachers have not attended a training course on ICT use (this is not to say that the remaining 60% have received training courses). Some female teachers have learned ICT use through experience, with the help of friends and family. A teacher explains “training courses are very costly and do not have accessible schedules”. Consequently, time and money are the main barriers that prevent to attend training course on ICT use.

Nevertheless, the previous data can be expanded and analyzed a little more. The results show that only 6 of the 20 teachers are trained on ICT use. Additionally, female teachers have a clear disadvantage in relation to male teachers in technological training. Therefore, teacher’ training is a barrier on ICT use. Mahmud and Ismail (2010) explain that the formal ICT training is fundamental for EFL teachers and the educative system must project training programs, in various forms of ICT courses and workshops. However, this inequality could disappear in the future as teachers show more interest in ICT use.

Finally, with respect to the parameter “strongly disagree”, 40% of male teachers strongly disagree with the statement: *age is not an obstacle to learn about and use ICT in my classes.* According to this data, age is directly related to use or inhibition on ICT use. A male teacher says: “young teachers manage technology better that old teachers because they have studied their teaching career in the computers and the Internet time”. Young teachers have greater confidence in ICT and take better advantage of these tools; instead, old teachers tend

to hesitate to use ICT for their lack of experience in managing technology (Ilomäki, 2008). Additionally, 50% of female teachers present similar opinions in the same statement. However, female teachers are more optimistic when it comes to commenting on the relationship between teachers' age and ICT use. One of them says that "age is not important but the attitude". Age as a barrier has to do with the psychological and personal characteristics of the teacher. Personal motivation and ICT training are necessary to eradicate the apprehension of old teachers towards these new technologies (Naima, 2017).

CONCLUSIONS

EFL teachers consider lack of training as barrier on ICT use. Most of EFL teachers that participated in this research believe that ICT has a positive impact on education; however, they have difficulty to understand the ICT technical aspects because of their lack of training in the technological field. Additionally, teachers consider that technological training is fundamental to improve ICT use within the classroom.

Likewise, the teachers' age is another barrier on the ICT use. Consequently, old teachers have insecurity and even techno-anxiety when they use technological tools such as computers or Internet. In contrast, young teachers know better ICT tools, and they take advantage of these resources to make the class more dynamic and improve their students' learning.

Few teachers claim their insecurity and unfamiliarity as barriers to use ICT. These barriers are directly related to the lack of training and the teachers' age. However, most of teachers disagree with the barriers described in this research. For them, technology is an invaluable methodological tool; therefore, it is necessary to lose the fear and insecurity to ICT use.

With regard to gender perceptions, the results show that there are not significant differences in the male and female teachers' opinions regarding ICT use. Many male teachers have confidence and security when working with technological tools because they have been trained on ICT use. In fact, more male teachers than female teachers have received training courses in the technological field. However, women feel more motivated when they use technological resources to teach within the classrooms.

Finally, the results show that EFL teachers' perceptions regarding ICT use are related to training, aptitudes, years of experience and personal motivations. Additionally, these aspects are related to the teachers' psychological, educational, professional and personal

characteristics. Consequently, all of these characteristics influence equally when ICT is used in teaching/learning process.

RECOMMENDATIONS

The teachers' difficulty to understand the technical aspects of technological tools is a barrier that prevents the ICT use. Therefore, it is recommended to implement training courses in the ICT field. The government must provide these courses in free and continuous way. The teachers' training on ICT use is very important for improving the quality of education. Trained teachers in the technology field are better qualified for EFL teaching in the 21st century.

ICT training is also essential for providing security and motivation to old teachers. The teachers' age has been considered as a barrier in ICT use. However, age should not be an impediment to learn technological resources. Therefore, it is recommended to take into account the population of old teachers to provide them with technical support on ICT use.

Although EFL teachers have positive perceptions regarding ICT use, it is necessary to continue integrating ICT into educational programs. The adequate and technological infrastructure is important to motivate teachers on ICT use. Educational authorities should also provide incentives for EFL teachers to learn and use technological tools in their teaching.

EFL teachers agree that ICT improves methodology inside the classroom. Additionally, ICT also offers ample possibilities for learning outside the classroom. Both teachers and students should receive training in the use of the web to implement online discussion, forums and virtual environments for learning. In addition, teachers could have their own online pages to upload additional information and practice exercises.

Likewise, it is necessary to continue working for gender equality, especially in the field of education. According to results, female teachers have less ICT training than male teachers; for this reason, female teachers tend to be apprehensive when they use the ICT tools. Therefore, the education system must provide equitable training courses for both genders.

Finally, EFL teachers should know the psychological, professional, educational and personal characteristics that an educator must have by using ICT. The information about these characteristics will help teachers improve their self-knowledge as educators, professionals and human beings. Consequently, the teachers' self-knowledge will serve to improve the perception regarding ICT and its enormous importance in the educational field.

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ANNEXES

ANNEX 1



UNIVERSIDAD TÉCNICA PARTICULAR DE LOJA La Universidad Católica de Loja

MODALIDAD ABIERTA Y DISTANCIA TITULACIÓN DE INGLÉS TEACHERS' SURVEY

Gender: M () F ()
Years of EFL teaching experience: ()
Age: ()

1. For each statement, decide whether you disagree or agree with the statement using the following five-point scales ranging from strongly disagree to strongly agree.

Nº	STATEMENT	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DESAGREE	NO ANSWER
1	I feel insecure about my ability to use ICT as a resource to teach.					
2	I do not think I would be able to learn how to use ICT in my classroom.					
3	I am afraid that if I begin to use ICT, I will become dependent upon them.					
4	I dislike working with machines that are smarter than I am.					
5	I feel apprehensive about using ICT.					
6	I have difficulty in understanding the technical aspects of ICT.					

7	It scares me to think that could cause the computer to destroy a large amount of data by hitting the wrong key.					
8	I hesitate the use of ICT for fear of making, mistakes that I cannot correct.					
9	You have to be master to understand how to use ICT.					
10	I have avoided ICT use because they are unfamiliar.					
11	I have not attended some ICT training courses.					
12	I have not attended some ICT training courses; however, I prefer not to use ICT because they somewhat intimidate me.					
13	I am not interested in attending any ICT courses.					
14	I do not how to use any ICT Resources.					
15	I do not use any ICT resource in class because I think that ICT is not necessary to teach English.					
16	I prefer not to use ICT because my teaching experience is the most crucial factor in teaching process.					
17	I think that age is factor that determines the ICT use in class.					
18	In my opinion, younger teachers are more skillful to use ICT than the older ones.					

2. For each statement, decide whether you disagree or agree with the statement using the following five-point scale ranging from strongly disagree to strongly agree.

Nº	STATEMENT	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DESAGREE	NO ANSWER
1	The challenge of learning about ICT use is exciting.					
2	I am confident that I can learn technological skills.					
3	I feel motivated to use ICT in my class.					
4	Learning to use ICT is like learning any new skills - the more you practice, the better you become.					
5	I am sure that with time and practice I will be as comfortable working with ICT.					
6	I feel that I will be able to keep up with the advances happening in the ICT field.					
7	If given the opportunity, I would like to learn about use ICT.					
8	I think that ICT are necessary tools in educational setting.					
9	I like to use ICT because they help me to innovate my teaching methodology.					
10	ICT help me to motivate my students to learn English.					
11	If I had any technical problem with ICT during my class, I would continue doing the planned activities.					
12	When I have technical problem with ICT, I do not feel frustrated.					
13	Age is not an obstacle to learn about and use ICT in my classes.					
14	I know a lot about ICT use because I have					

	attended some ICT training courses.					
15	I have learned to use ICT resources by myself.					
16	I think ICT has a positive impact on teaching process.					
17	ICT use has more advantages than disadvantages in EFL teaching.					

Thanks for your collaboration

ANNEX 2



UNIVERSIDAD TÉCNICA PARTICULAR DE LOJA La Universidad Católica de Loja

MODALIDAD ABIERTA Y DISTANCIA TITULACIÓN DE INGLÉS TEACHERS' INTERVIEW

Gender: M () F ()
Years of EFL teaching experience: ()

1. Do you think the use of ICT is important to teach English?

YES () NO ()

Why?

2. Do you use ICT in your English classes?

YES () NO ()

Why?

3. If your answer was affirmative in the previous question, how do you feel (afraid, nervous, relaxed, confident, etc.) when you use ICT? Why?

4. Do you consider that factors such as psychological, personal, etc., which are related to your characteristics as a teacher, are barriers to use ICT in your classes? (If it is necessary, use some of the statements in the teachers' survey to explain these factors)

YES () NO ()

Why?

5. Do you consider that factors such as psychological, personal, etc., which are related to your characteristics as a teacher, have a positive influence on you to use ICT in your classes? (If it is necessary, use some of the statements in the teachers' survey to explain these factors)

YES () NO ()

Why?

6. Is there any advantage to use ICT in EFL teaching?

YES () NO ()

Why?

7. Is there any disadvantage to use ICT in EFL teaching?

YES () NO ()

Why?

8. According to your opinion, who uses more frequently ICT in EFL classes, male or female teachers?

Male () Female ()

Why?
