



**Facultad de Filosofía, Letras y Ciencias de la Educación**

**Carrera de Ciencias de la Educación en Lengua y Literatura Inglesa**

**The Use of ICTs to Develop Productive Skills in the EFL/ESL Classroom**

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### **Resumen**

Esta síntesis investigativa tiene como objetivo descubrir los efectos, percepciones y efectividad de los enfoques académicos que se han reportado sobre el uso de los TICs en el aula EFL y ESL. En base a los criterios de inclusión y exclusión de este estudio, 21 artículos que usaron diferentes instrumentos y tuvieron lugar en diferentes niveles, fueron seleccionados para ser analizados. Los resultados revelan que los efectos de los TICs en las destrezas lingüísticas y no lingüísticas son positivos. Adicionalmente, los estudios analizados indican que tanto estudiantes como maestros presentan mayor cantidad de percepciones positivas que negativas con respecto al uso de las TICs dentro y fuera del aula. Los resultados de este análisis pueden servir como futura referencia para que los maestros incluyan estas herramientas en el aula EFL y ESL.

**Palabras clave:** Aula EFL. Destrezas Lingüísticas. Efectos. Implementación. Percepciones. TICs.

**Abstract**

This research synthesis aims to discover the effects, perceptions, and effectiveness of the approaches that have been reported on the use of ICTs in the EFL and ESL classroom. According to the inclusion and exclusion criteria for this study, 21 empirical studies which used different instruments and occurred at different levels, were selected to be analyzed. The findings of this research show that the effects of the use of ICTs in linguistic and non-linguistic skills are positive. In addition, the analyzed studies indicated that both students and teachers presented more positive than negative perceptions towards the use of ICTs inside and outside the classroom. The outcomes of this analysis can serve as future reference for teachers to include those tools in the EFL and ESL classroom.

**Key words:** Effects. EFL classroom. ICTs. Implementation. Perceptions. Productive skills.

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### **Dedication**

This project is wholeheartedly dedicated to my beloved family, Verito, Amira and Mati, Isa and Badí, who taught me to work hard for the things that I aspire to achieve, and who accompanied me throughout all my career. I equally dedicated this synthesis to my grandparents, Cheba and Chebo, who have actively supported me in my determination to find my potential.

## **Introduction**

The inclusion of information and communication technologies (ICTs) in the EFL/ESL teaching-learning process has brought an important number of changes in the classroom dynamics. Since the rise of the internet and the mass access to electronic devices, the educational environments have clearly changed in every part of the world. In this context, and referring to a large number of authors supporting the evidence, ICTs have become helpful tools when used appropriately. Additionally, studies have demonstrated the benefits associated with the integration of technology, as it helps to improve learning and gives the teachers and students new skills to perform in emerging knowledge-based, digital societies. Nevertheless, it does not mean that there are not any disadvantages related to these aspects. Therefore, the aim of this research review is to analyze the reported information, which is related to identifying the effects and perceptions that have been reported on the use of ICT tools to develop productive skills in the EFL/ESL classroom.

This research review has been divided into six chapters. The first chapter includes the description of the research with its background and statement of the problem, as well the research questions and its objectives. The second chapter addresses the theoretical framework, which is necessary to understand the whole context of the investigation. Chapter number three summarizes the literature review that was made in order to find the most suitable cases of study, which helped to have a broader understanding of the issue. The methodology is presented in chapter number four; this part is intended to describe the processes that were applied to carry out the research synthesis. Chapter number five works with the gathered studies in two phases, the first for a preliminary analysis of categories and a second one that was aimed to meet the objectives of the investigation. In the final chapter, conclusions and recommendations are given.

## **Chapter I**

### **1. Description of the Research**

#### **1.1. Background**

The implementation of Information and Communication Technologies in teaching and learning has opened up a whole new world of investigation into the issue of teaching effectiveness (Rahimi & Yadollahi, 2011). Although ICTs in the classroom were initially used as a way of teaching computer literacy (Blurton, 2002) after the 1980s, schools and universities started using ICTs to improve their education and administration, and to reduce costs (Blurton, 2002). However, Njenga (2013) argues that there is a notorious difference between the levels of investments in developed countries vis-a-vis the developing countries. Yet, Scrivatsava (2002) states that this difference is not automatically a disadvantage because developing countries can learn from developed countries on ICT integration.

Several academic researchers have used the phrase “information and communication technologies” since the 1980s (Melody et al, 1986). Stevenson (1997) reports that the abbreviation “ICTs” became popular after it was used in a report to the UK government in 1997, and then in the revised National Curriculum for England, Wales, and Northern Ireland in 2000. Therefore, the abbreviation “ICTs” is defined as the technologies used for accessing, gathering, manipulating, and communicating information. The technologies can include hardware (e.g., computers, smartphones); software applications; and connectivity (e.g., access to the Internet, local networking infrastructure) (Toomey, 2001). Moreover, since the 1990s, many governments have been promoting Information and Communication Technologies (ICTs) particularly to expand access to and improve the quality of education (Rahimi & Yadollahi, 2011) (Tondeur, Krug, Bill, Smulders, & Zhu, 2015). Pelgram and Law (2003) state that it is important to note

that the concept, methods, and application of the term ICTs are constantly changing. For instance, in the 1980s, computers gained popularity in education when micro-computers became cheap and available in the market. Later, near the end of the 1980s, the term was changed to IT (Information Technology). The term IT signified a shift of focus from computing technology to the capacity to store, analyze and retrieve information (Pelgram & Law, 2003). Around 1992, IT was followed by the introduction of the term ICTs when email and the World Wide Web became popular and available to the public (Pelgram & Law, 2003).

Some studies support the use of ICTs in general classrooms where all the courses are taught using this new methodology. Throughout the studies conducted by Yunus, Nordin, Salehi, Sun, and Embi (2012, 2013), the methods and strategies used with ICTs to teach productive skills in an EFL and ESL classroom resulted to be very effective. The methodologies used with ICTs in education have emerged as the result of research and discussion in the educational field. Moreover, Brassford, Brown, and Cocking (1994) state that ICTs can enhance critical thinking, information handling skills, and problem-solving capacity among learners. Similarly, Yunus, Salehi, and Chenzi (2012) claim that ICTs help to attract students' attention, facilitate their learning process, help to promote meaningful learning, and improve students' knowledge when teaching these particular skills of the English language. In other words, when referring to teaching writing and speaking, teachers should be aware that these new generations are growing up with technology next to them (Yunus, Salehi, & Chenzi, 2012). Thus, ICTs inclusion might help students to develop their productive skills and may facilitate the use of the language naturally when performing in the real world.

Therefore, based on the information presented in this section, it is possible to assume that incorporating and using new methodology (ICTs) in education will promote better learning and

understanding of the subjects, and students will be engaged and interested in things they are studying (Savvidis, 2016).

## **1.2. Statement of the Problem**

The successful integration of ICTs into the classroom requires careful planning and depends largely on how well teachers receive training (Njenga, 2013). Therefore, it is important to understand and appreciate the dynamics of such integration where ICTs in education require large capital investments (Jhurree, 2005). Mbodila, Jones, and Muhandji (2015) claim that due to financial difficulties, some governments, especially from developing countries, have as a priority the rehabilitation of school buildings and teacher welfare. Hence, ICTs for education are not considered a priority. According to Njenga (2013), there is not a system to address uniformity in the pace of ICT integration and its approaches. The reason is due to various needs and disparities in the education of developing countries. Likewise, Yelland claims that integrating ICTs in education requires the establishment of infrastructural facilities, acquisition of technologies and their periodic updating, management, and professional support services (as cited in Mbodila, Jones, & Muhandji, 2015, p.57).

Researchers have found that by using technology in the classroom, both teachers and students can develop skills essential for the 21st century, which means that this new methodology replaces outdated approaches that teachers still use in today's classrooms (Savvidis, 2016). In the Ecuadorian context, the Ministry of Education has placed considerable emphasis on the importance of ICT integration in education since 2016, as evidenced in Ministerial Resolution No. MINEDUC-ME-2016-00020-A. The vision is to facilitate ICT as a universal tool for education and training, in particular, to stimulate ICT integration in education in different regions (Faría, 2017). Although the Ecuadorian Ministry of Education emphasizes

ICT integration, there is not adequate knowledge regarding the use and benefits of ICTs in the learning process (Faría, 2017). This leads to considering that decisions about the implementation of ICTs are probably being made without considering the possible benefits ICTs offer (Faría, 2017). As well, teachers lack training and motivation when integrating ICTs into their educational curriculum (Mbodila, Jones, & Muhandji, 2015). Still, the presence of these challenges in ICTs integration might be unable to bring the English-language world to the students causing them to receive limited education with outdated approaches (Savvy, 2016; Njenga, 2013).

### **1.3. Rationale**

ICTs are entwined in almost every part of a culture because they affect how people live, work, play, and most importantly, learn (Rahimi & Yadollahi, 2011) (Mareco, 2017). There have been plenty of studies from different parts of the world about the implementation of ICTs in EFL and ESL classrooms. The development of productive skills was the main focus of these studies. In education, perceptions expressed by teachers as well as students play an important role in the educational interaction, instructional choices, and the achievement of educational objectives (Alshumaimeri, 2008). Moreover, the studies carried out by Yunus, et al. (2010, 2012, 2013, 2013a.) show perceptions towards ICTs in education. The results reveal that ICTs help students to pay more attention to their classes, and ICTs assist to make their learning process meaningful. For instance, Kasapoglu (2010) states that English students use ICTs and the Internet to learn new material related to pronunciation, vocabulary (Speaking skills), and grammar (Writing skills) to improve their language and communication skills. On the contrary, there is some debate when using ICTs to develop productive skills because there are many ways of integrating these tools into the classroom environment (Hrastinski & Keller, 2007). Therefore, the teacher has to



analyze the approach that best suits the students' needs when learning English with ICTs (Yunus, et al, 2013).

Plenty of research has been done in the field of approaches such as CALL, CMC, SNS, and eLearning to teach English productive skills (Yunus, Hashim, Embi, & Lubis, 2010; Thorsteinsson & Page, 2007; Arkorful & Abaidoo, 2015; Akçayir, 2017). These authors claim that by using these approaches with ICTs, students can increase motivation, independent learning, sense of responsibility, collaboration among students, and student-teacher interactions in and out of the class. Moreover, the topics taught when producing these two skills should be updated every time because the world changes constantly especially in the use of technology for teaching (Mbodila, Jones, & Muhandji, 2015; Pelgram & Law, 2003).

According to what has been presented in this section, considering the approaches and methodologies that have been used to develop productive skills with the use of ICT tools in EFL and ESL classrooms, this research synthesis becomes beneficial to assist teachers of the English language to find positive solutions to problems that this type of modern education currently experiences. Henceforth, the present work is a suitable tool since information for the analysis of the most relevant literature regarding the use of ICT tools to develop productive skills in the EFL/ESL classroom is available in several databases.

## **1.4. Research Questions**

After analyzing the relevant literature for this synthesis, the following questions have arisen.

What are the reported effects of using ICT tools to teach productive skills in the EFL/ESL classroom?

What are the commonly reported perceptions from teachers and students on the implementation of ICTs in the EFL/ESL classroom?

Which approaches have been reported as efficient to teach writing and speaking with ICTs in the ESL/EFL classroom?

## **1.5. Objectives**

### **1.5.1. General objective**

To identify the effects and perceptions that have been reported on the use of ICT tools to develop productive skills in the EFL/ESL classroom.

### **1.5.2. Specific objectives**

To examine the reported effects on the use of ICTs to teach productive skills in the EFL/ESL classroom.

To differentiate the reported teachers' and students' perceptions on the implementation of ICTs in the EFL/ESL classroom.

To analyze the approaches reported as efficient to teach productive skills with ICTs in the EFL/ESL classroom.

## **Chapter II**

### **2. Theoretical Framework**

In this chapter, important concepts related to the use of ICTs to teach productive skills are provided. The definitions are based on academic sources and expert knowledge to understand the next chapter, the literature review. This section includes definitions of Information and Communication Technology, multimedia, ESL and EFL classroom setting, productive skills, and the methodological approaches to the inclusion of ICTs in the language classroom.

#### **2.1. Definition of Information and Communication Technology**

The acronym ICT stands for “information and communication technology”, and its plural form, “technologies”, e.g., the specific devices or processes which collectively make up the “Technology” written as ICTs (Lloyd, 2005). Lloyd (2005) claims that the term ICT/s evolved from the antecedent and more narrowly defined term IT (information technology). Christensson (2010) refers to ICTs as the technologies that provide access to information through telecommunications. Likewise, Asabere and Enguah define ICTs as the tools and equipment that provide the environment with the physical infrastructure for the generation, transmission, and storing of information in all forms e.g., voice, text, data, graphics, and video (as cited in Çakici, 2016). It is important to differentiate ICT from IT, which stands for Information Technology (Julita, 2011). Livingstone states that ICTs includes technologies specific to the educational environment e.g., interactive whiteboards, or applications used across formal or informal instruction, e.g., education games and networked technologies, while IT is used in complex and bigger organizations such as government, business, industry, and concerning to several tertiary and other academic courses dealing with such areas as programming, database design and expert systems (Lloyd, 2005). For his part, Trucano (2005) explains that ICTs provide society with a

vast group of communication devices. They include the old ICTs of radio, television, telephone, and the new ICTs of computers, satellite, wireless technology, and the Internet (Çakici, 2016).

## **2.1.1. Integration of ICTs in Education**

During the last two decades, the integration of ICT into the education field has had a rapid development by obliging schools to re-think and renovate their pedagogical approaches and exploit the new technological resources that are in continuous renovation (Benini, 2014). To understand the impact of ICT in education, it is necessary to define two basic terms: education, and ICT.

First, Gelpi, et al (2019) define education as the process of facilitating learning, or the acquisition of knowledge, skills, values, beliefs, and habits in schools or school-like environments. Second, ICT is an umbrella term that includes any device that provides access to information through telecommunications (Christensson, 2010; Eng, 2005). Kumar (2009) claims that, when such technologies are used for educational purposes, to be precise, to support and improve the learning of students, and to develop learning environments, ICT is considered as a subfield of Educational Technology. According to Ciroma (2014), education is now available through ICTs where the idea is to facilitate the recognition of self-potential and latent talents of an individual, in this case, the EFL or ESL student. Thus, Barak (2006), and Lau and Sim (2008) report that the use of ICTs in education can add value to teaching by enhancing the effectiveness of learning itself and being an important motivational factor in the students' acquisition process.

## **2.2. Multimedia**

Multimedia is the combination of various digital media types such as images, sound, video, text, and they compile an integrated multi-sensory interactive application to present information to an audience (Neo, M. & Neo T., 2001). Molnar (2015) explains that using

multimedia in education results in increased productivity and retention rates because people remember 20% of what they see, 40% of what they see and hear, but about 75% of what they see and hear and do simultaneously. Additionally, Neo, M. and Neo T. (2001) report that, by using multimedia in education, it can create a learning environment. The communication of information can be done more effectively, and it can be an effective instructional medium for delivering information. This makes learners active in developing their learning process. Thus, Molnar (2015) claims that multimedia application design offers new insights into the learning process, and gives possibilities to represent information and knowledge in a new and innovative way. However, Dina and Ciornei (2013) report that technology alone, without the teachers' guide and help, will not result in higher achievement because the role of the teacher is to provide valuable feedback, offer good information, and teach students how to correctly choose the right and genuine sources of information on the Internet.

## **2.3. Social Networking Site(s)**

The growing popularity of Social Networking Sites (SNSs) for use in business, advertising, recreation, and now for educational purposes has become an international phenomenon (Weber, 2012). There are several definitions of SNSs in the literature; however, according to the most widely accepted definition of SNSs by Bartlett-Bragg (2006), these sites are a range of applications that increase group interactions and shared spaces for collaboration, social connections, and aggregates information exchanges in a web-based environment (p. 3). The most popular SNS in the world is Facebook because it has become the most frequently used SNS in educational studies with over 1.65 billion active users worldwide (Akçayir, 2017). A review of the literature on the use of SNSs in education shows that despite their continuing popularity, SNSs offer much that can enhance educational goals. For example, they can increase

motivation, independent learning, a sense of responsibility, collaboration among students, and student-teacher interactions (Akçayir, 2017).

## **2.4. Wiki Technology**

The term “Wiki” comes from the Hawaiian word “wiki” (“quick”) (Porto & Gardey, 2013). After the introduction of the Internet, in 1994, Leuf and Cunningham proposed the concept of Wiki co-editing to provide a high-speed software platform in which users can freely create, upload, and build Web content (Leuf & Cunningham, 2001). In education, with the development of CALL and the integration of Wiki technology into English courses, Lin and Yang (2011) support that Wiki technology has become an innovative means of integrating teaching and learning ICTs, and Wiki applications serve as a motivating and natural platform for the development of English skills, and the creation of a learning community among users.

## **2.5. Productive Skills**

Sreena and Ilankumaran (2018) explain that speaking and writing belong to productive skills, and they are also called active skills. Productive skills complement the receptive skills, which are listening and reading. While reading and listening are considered to be the two receptive skills in language learning and use, writing and speaking are the other two productive skills necessary to be integrated into the development of effective communication (Boonkit, 2010). As a result, when learners possess efficient productive skills, they can produce the target language by communicating their ideas either in speech or text (Sreena & Ilankumaran, 2018).

Aydoğan and Akbarov (2014) define speaking as a productive skill in the oral mode. It, like the other skills, is more complicated than it seems at first, and learners have to face speaking, considered as one of the most difficult language skills because it involves more than just pronouncing words (Rodriguez, 2012). Moreover, Zaremba, as cited in Boonkit (2010),

defines speaking as of all the four macro-English skills to be the most important skill required for communication. Boonkit (2010) considers several factors for effective English-speaking performance e.g., pronunciation, vocabulary, and collocations, and these factors help to build fluency in the speakers. Despite this, Rodriguez (2012) claims that speaking has been forced into the background of the learning process because teachers keep traditional ways of teaching English. Moreover, by keeping these traditional methods, teachers do not help learners to practice their speaking skills (Rodriguez, 2012). Therefore, Hinkel (2006) claims that the task-based teaching of second language L2 speaking skills through ICTs builds-in opportunities for online planning that result in more accurate and complex uses of the target language.

Aydoğan and Akbarov (2014) consider writing skills as the more complicated skill to develop even for native speakers of a language. It involves not just a graphic representation of speech, but the development and presentation of thoughts in a structured way. Many researchers, such as Cope, Kalantzis, Johns, Celce-Murcia, Christie, and Martin, as cited in Hinkel (2006), point out that achieving proficiency in writing requires explicit pedagogy in grammar and lexis, and it is important because one's linguistic repertoire and writing skills often determine one's social, economic, and political choices. Additionally, Hinkel (2006) argues that a lack of instruction in the second language (L2) grammar and lexis disadvantage learners in their vocational, academic, and professional careers and ultimately reduces their options.

Harmer (2007) mentions that there are some situations where writing and speaking look and are done very much the same. For example, currently, although people use the written word on the Internet through social media, the users are talking to each other in real-time which seems more spoken than written discourse. However, this use of technology allows using ICT tools in the educational field because on the Internet, chat rooms, or live forums, the users swap roles

more like speakers than writers do (Harmer, 2007). To sum up, Harmer (2007) reports that with the right methodology in this kind of speech, students will learn to gather what to say, how to say, or modify texts in a written way according to certain contexts. For that reason, the purpose of using ICTs in EFL or ESL education is to promote the development and formation of language practice by connecting the learner to the target language (Xie Lixin, 1997).

## **2.6. Technology in the EFL and ESL Classroom**

This section holds that English as a Second Language (ESL) and English as a Foreign Language (EFL) classrooms are different from each other. Establishing the difference between EFL and ESL can be useful to distinguish how English is taught in different contexts using ICT tools. However, some researchers only recognize ESL research and even equate ESL with EFL without discrimination (Jiang, 1999). Therefore, some necessary distinctions should be mentioned between the ESL and EFL classrooms to comprehend the setting of the use of ICT tools.

Levin and Schrum report that in some ESL classrooms, teachers who work with ICTs use Higher Order Thinking Skills (HOTS) (as cited in Ganapathy & Wai Kit, 2017). As a result, teachers develop programs and materials based on HOTS to work in the school's computer lab, and these programs and materials are integrated into the curriculum with a learner-centered pedagogical approach. Ganapathy and Wai Kit (2017) propose that this innovative approach of using ICTs with HOTS allows teachers to learn specific technologies that are in the context of their curricular setting and needs, in this case, ESL. Therefore, teachers, whether working in ESL classrooms or not, must be equipped with HOT pedagogical skills in schools to guide the students effectively while using technology in their curriculum.



In the EFL classroom, Rahimi and Yadollahi (2011) report that EFL teachers use ICT tools to prepare activities and materials to be used in teaching the four macro skills, grammar, vocabulary, and communication skills. Likewise, Rahimi and Yadollahi (2011) and Ganapathy and Wai Kit (2017) reveal that digital portable devices such as PCs, laptops, mobiles, and the most frequent tool, the CD player have been used very effectively and frequently for instructional delivery. Furthermore, Rahimi and Yadollahi (2011) report that EFL teachers use computer-mediated communication (CMC) or software as a tool for making authentic and meaningful communication. In this way, ICTs provide learners with a variety of authentic materials that positively influence their autonomy. In this respect, for more effective teaching and learning in the EFL classroom is of vital importance to understand EFL teachers' characteristics and their relationship with ICT tools.

## **2.7. Methodological Approaches to the Inclusion of ICTs in the Language Classroom**

### **2.7.1. Computer-Assisted Language Learning.**

Levy (1997) defines computer-assisted language learning (CALL) as the search for and study of applications of the computer in language teaching and learning. CALL embraces a wide range of ICT applications and approaches to teaching and learning foreign languages, from the traditional drill-and-practice programs that characterized CALL in the 1960s and 1970s to more recent manifestations of CALL, e.g., as used in a virtual learning environment and Web-based distance learning, interactive whiteboards, CMC, and language learning in virtual worlds. Hubbard (2009) claims that as computers have come more part of our everyday lives and invaded other areas of education, the question is no longer whether to use computers but how.

Yunus, Hashim, Embi, and Lubis (2010) explain that CALL technologies can support experiential learning and practice in a variety of modes, for example, provide effective feedback

to learners, enable pair and group work, promote exploratory and global learning, enhance student achievement, provide access to authentic materials, facilitate greater interaction, individualize instruction, allow independence from a single source of information, and motivate learners. As a result, CALL researchers, developers, and practitioners have a critical role in helping the overall field of English language learning come to grips with this domain (Hubbard, 2009).

## **2.7.2. Computer-Mediated Communication.**

Computer-mediated communication (CMC) is a relatively new research area in Education (Hrastinski & Keller, 2007). However, the use of CMC learning environments opens a lot of new opportunities to change the conventional way of teaching and learning, and it has evolved especially since the Internet became widespread (Hrastinski & Keller, 2007). Thorsteinsson and Page (2007) explain that CMC is very often used in a classroom setting to facilitate students' access to information in the conventional classroom, and it includes, for example, e-mail, network communication, instant messaging, text messaging, hypertext, Internet forums, etc. The CMC environment is constructivist in which collaborative learning actions take place, and the role of the teacher usually changes from providing information to facilitating resources for learning activities. Moreover, Thorsteinsson and Page (2007) claim that CMC is a low-cost alternative for facilitating the teacher dialogue with students, and provides the teacher and the students with an electronic form of both, individual and group, learning support.

## **2.7.3. E-Learning.**

E-learning is defined as the use of ICTs in various processes of education to support and enhance learning in schools or institutions because e-learning has the prospect to transform people, knowledge, skills, and performance. E-learning includes the usage of ICTs as a

complement to traditional classrooms, online learning, or mixing the two methods (Arkorful & Abaidoo, 2015). Moreover, the development of ICTs has generated more choices for today's education. As a result, Henry claims that agendas of schools and educational institutions have recognized the introduction and expansion of a range of e-learning tools (as cited in Arkorful & Abaidoo, 2015).

#### **2.7.4. Multimodal Learning.**

According to Maguire (2005) with the development of technology, ICTs have significantly changed the way that teaching, learning, and assessment occur. Sankey and Birch (2005) claim that multimodal learning involves the use of multimedia and ICTs, and the objective is to create dynamic resources that appeal to a variety of learning styles e.g., visual, kinesthetic, and auditory. Likewise, Gilakjani, Ismail, and Ahmadi (2011) claim that a multimodal approach highlights the important use of multiple modalities in real learning environments. Therefore, when teachers situate their students' everyday life with the learning material, learners engage in the subject, and it results in a more relevant curriculum (Gilakjani, Ismail, & Ahmadi, 2011).

Furthermore, the integration of ICTs may lead to more student-centered approaches to teaching and learning, and multimodal courses allow instructional elements to be presented in multiple representations that facilitate students learning (Shah & Freedman, 2003). Moreover, Karagiorgi and Symeou (2005) argue that ICTs in multimodal learning supports a more constructivist approach due to the non-linear design of learning where students increase the control over the way they progress through their materials, and each style requires the students to do a different type of work in order to understand (Kress et al., 2001). For example, a

multimodal course can include materials such as simulations, crosswords, and hyperlinked examples; or interactive diagrams and quizzes (Gilakjani, Ismail, & Ahmadi, 2011).

Finally, the development of the theoretical framework was crucial to know which are the most relevant theories and points of view about the use of ICTs to develop productive skills in the EFL/ESL classroom. Throughout this section, several concepts were defined, and they are related to the scientific articles of the next chapter.

## Chapter III

### 3. Literature Review

The following section aims at providing an overview of the existing literature that is useful in the present research synthesis. The studies provide findings of the development of productive skills by using ICTs in the EFL/ESL classroom. The literature review has been organized as it follows: the use of ICTs in the EFL/ESL classroom, advantages, and disadvantages of using ICTs in the ESL/EFL classroom, the perceptions on the use of ICTs in the EFL or ESL teaching process, and the use of ICT tools to teach productive skills, speaking and writing.

#### 3.1. The use of ICTs in the EFL/ESL classroom

Rahimi and Yadollahi (2011) claimed that the sheer presence of technological tools in teaching and learning has opened up a whole new world of an investigation into the issues of teaching effectiveness. The studies selected to accomplish this analysis were the ones that include the effects ICTs have on productive skills as well as ICTs usage. Young (2003) supported that the use of ICTs in an EFL or ESL classroom could be beneficial for students who are willing to learn a second language (L2) or a foreign language (FL). Similarly, Siemens (2006), the author of a learning theory called connectivism, claimed that when students use ICTs to connect, students could “reflect on dialogue about, and internalize content to learn.” This connection helps students to develop and create new knowledge at any point in time (Alsalem, 2013).

The preferred methodology in the studies dealing with this category has been primarily quantitative (Rahimi & Yadollahi, 2011; Yunus, Hashim, Embi, & Lubis, 2010; Alsalem, 2013; Hwang, et al., 2014). The most common instruments used were interviews, pre and post-test, and

questionnaires. Most participants were Asian EFL learners over 18 years old, and their English level was intermediate (Yunus, Hashim, Embi, & Lubis, 2010; Alsaleem, 2013; Hwang, et al., 2014). However, one study worked with EFL teachers (Rahimi & Yadollahi, 2011). Finally, most studies were carried out in language institutes and universities (Rahimi & Yadollahi, 2011; Yunus, Hashim, Embi, & Lubis, 2010; Alsaleem, 2013; Hwang, et al., 2014).

The findings of the studies in this area indicated that there were some approaches to teaching EFL or ESL that attempt to integrate the use of ICTs in the learning process such as CALL or CMC (Yunus, Hashim, Embi, & Lubis, 2010; Rahimi & Yadollahi, 2011). The most common approach, CALL, showed that ICTs have been used in language classrooms since the introduction of computers into the world because language teachers have always been the pioneers of using modern teaching tools in their classes (Rahimi & Yadollahi, 2011). Moreover, CALL helped improve students' linguistic skills, increase their motivation, learning skills, and opportunities for communication by improving their pronunciation, and teachers consumed less time in teaching certain concepts (Yunus, Hashim, Embi, & Lubis, 2010). Therefore, teachers used ICTs for preparing teaching materials and activities used in the four macro skills, grammar, vocabulary, and communication skills (Rahimi & Yadollahi, 2011).

For instance, Hwang, et al. (2014) and Alsaleem (2013) reported the effects of ICTs in the classroom through a Web-based multimedia system, one for storytelling (Hwang, et al., 2014), and the other for electronic journaling (Alsaleem, 2013). The results revealed that the storytelling system was beneficial for improving students' speaking skills by giving them more opportunities to practice, and thus, perform better and make more animated presentations. Likewise, Alsaleem (2013) revealed that the effect of WhatsApp electronic dialogue journaling on writing development was beneficial. Students improved in vocabulary and word choice. Thus,

electronic journaling was considered to be a tried-and-true method for helping students to develop their writing and voice (Alsaleem, 2013).

### **3.2. Advantages and Disadvantages of Using ICTs to Develop Productive Skills**

Educators have started to notice the new technologies and explore their effects on students' behavior and performance. Even though there is supporting evidence to suggest that these technologies have a large influence on the social development of adolescents, a more pertinent issue for classroom teachers is what advantages and disadvantages these technologies might have on the academic development of people (Eng, 2005; Fogg, 2010). Research on this particular dimension has been primarily qualitative (Yunus, Nordin, Salehi, Sun, & Embi, 2013; Yunus, Salehi, & Chenzi, 2012). The instruments were questionnaires and interviews. The majority of the participants were ESL teachers, and the studies were carried out in a high school (Yunus, Nordin, Salehi, Sun, & Embi, 2013), and university (Yunus, Salehi, & Chenzi, 2012).

The findings of the studies in this area indicate that the use of ICT was beneficial in terms of attracting students' attention, encouraging their independence and self-discovery skills like searching for educational related materials online (Yunus, et al., 2013; Yunus, Salehi, & Chenzi, 2012). For instance, the integration of ICTs enhanced outside classroom interaction and education between students and teachers (Yunus, Salehi, & Chenzi, 2012). Second, ICTs helped to broaden students' knowledge, motivation, and confidence in using ICTs while learning English (Yunus, et al., 2013). However, the studies by Yunus, et al (2013) and Yunus, Salehi, and Chenzi (2012) revealed a number of disadvantages such as problems on class control, distraction, and some programs made corrections automatically, so students might forget how to spell a single word correctly. Second, there was no guarantee that the information online was correct, so wrong information might mislead students in their language acquisition. Finally, some

teachers directed the class to a teacher-centered environment, and students learned passively. Therefore, Yunus, et al (2013) reported that it was important to set ground rules about the teacher's expectations, and the type of language that is acceptable in online environments to change these disadvantages.

### **3.3. Perceptions on the use of ICT tools**

Alshumaimeri (2008) claimed that in the educational environment, perceptions expressed by teachers as well as students play an important role in the educational interaction, instructional choices, and the achievement of educational objectives, specifically, concerning the use of innovations in the classroom.

The research design to analyze the different teachers and students' perspectives on the use of ICTs in the EFL or ESL teaching process have been primarily quantitative and qualitative (Alshumaimeri, 2008; Fithri Al-Munawwarah, 2014; Mollaei, & Riasati, 2013; Bueno & López, 2013; Cárdenas & Oyanedel, 2016), except for one (Lin, & Yang, 2011). The most common instruments used were interviews, questionnaires, surveys, and observations (Alshumaimeri, 2008; Fithri Al-Munawwarah, 2014; Mollaei, & Riasati, 2013; Bueno & López, 2013; Lin, & Yang, 2011; Cárdenas & Oyanedel, 2016). The participants were Asian and Chilean EFL teachers, (Alshumaimeri, 2008; Fithri Al-Munawwarah, 2014; Mollaei, & Riasati, 2013; Cárdenas & Oyanedel, 2016), and Asian and European EFL students (Bueno & López, 2013; Lin, & Yang, 2011). Finally, most studies were carried out in language institutes and colleges.

The findings of the studies in this area were that teachers who attended training programs had positive perceptions concerning technology in the classroom and foster positive attitudes towards using ICTs (Alshumaimeri, 2008). These training programs were an invaluable piece of the overall integration of technological tools in the classroom. It was likely that through more



training, the participants developed more confidence regarding the use of computers in the classroom, and in turn, they were more likely to report the need for an approach like CALL (Fithri Al-Munawwarah, 2014; Mollaei & Riasati, 2013).

Despite the enormous headway that computer technology has made, results regarding the absence of such consideration revealed that CALL training for EFL teachers was merely a secondary activity that had little relevance to the intellectual or emotional needs of the teachers and students (Alshumaimeri, 2008). Thus, there was still a common misconception that computers and the Internet are the only useful technologies for education (Mollaei & Riasati, 2013). In addition, most teachers commented that their role was quite different in an ICTs-oriented learning environment (Fithri Al-Munawwarah, 2014; Mollaei & Riasati, 2013; Alshumaimeri, 2008). For that reason, Mollaei and Riasati (2013) recognized that ICTs were not a substitute for effective teaching and learning.

### **3.4. The use of ICT tools to develop English writing skills**

Currently, students are using technology in their daily lives and many times a day. For that reason, teaching through technology might require new skills to provide language learners not only with content knowledge but also with emotional and technological support (Compton, 2009). As a result, English teachers should use those resources to teach and make students practice their productive skills (Bertin & Narcy-Combes, 2012; Compton 2009; Comas-Quinn, de Los Arcos, & Mardomingo, 2012).

Research has been carried out to analyze the use of ICTs to develop English writing skills (Bahce & Taslaci, 2009; Fageeh, 2011; Hwang, Chen, H., Shadiev, Huang & Chen, C., 2014; Nguyen, 2012; Yunus, Nordin, Salehi, Embi & Salehi, 2013). The preferred research design used in this section has been primarily quantitative and qualitative, except for one (Hwang, Chen, H.,

Shadiev, Huang & Chen, C., 2014). The most common instruments used were interviews, pre and post-tests, and questionnaires. The majority of the participants were Asian EFL learners (Bahce & Taslaci, 2009; Fageeh, 2011; Hwang, Chen, H., Shadiev, Huang & Chen, C., 2014; Nguyen, 2012), and Asian EFL teachers (Yunus, Nordin, Salehi, Embi & Salehi, 2013). Finally, most studies were carried out in language institutes and universities (Bahce & Taslaci, 2009; Fageeh, 2011; Nguyen, 2012;)

The findings of the studies in this area indicate that ICTs in the language classroom were at the same stage with technology itself, perceived to be revolutionary not only from a technological point of view but also from a pedagogical standpoint as well (Bahce, 2009). Similarly, ICTs provided an exciting and motivating learning environment while practicing writing skills (Fageeh, 2011). Students used more adjectives, conjunctions, vocabulary, and sentence patterns to portray a diversity of objects through observation in given contexts (Hwang, et al., 2014). On the other hand, teachers reported problems with class control, distraction, and improper use of short forms as in the short messaging system when writing. For that reason, Hwang, et al (2014) reported that having central control of the computers might help students to avoid irrelevant websites that could distract them from completing the given tasks.

### **3.5. The use of ICT tools to develop English speaking skills**

The studies conducted out by Kasapoglu, 2010; Lu, Hou, and Huang, 2010; Mathew and Alidmat, 2013; and Sun, et al, 2017 analyze the use of ICT tools to develop English speaking skills. The research design used in this category has been quantitative and qualitative (Kasapoglu, 2010; Lu, Hou, & Huang, 2010; Mathew and Alidmat, 2013), except for one (Sun, et al, 2017). The most common instruments used were pre and post-tests (Lu, Hou, & Huang, 2010; Sun, et al, 2017), questionnaires, and interviews (Kasapoglu, 2010; Lu, Hou, & Huang,

2010; Mathew & Alidmat, 2013; Sun, et al, 2017). The majority of the participants were Asian EFL and ESL learners. Finally, most studies were carried out in universities, except one that took place in an elementary school (Sun, et al, 2017).

The findings of the studies in this area indicate that students improved their English-speaking skills in all three dimensions: accuracy, fluency, and pronunciation (Kasapoglu, 2010). Moreover, it appeared that using ICTs in this way can be an effective mean of engaging young students, reducing their anxiety, and making English learning fun (Mathew & Alidmat, 2013; Sun, et al., 2017. Similar relevant information was collected from the studies conducted by Lu, Hou, and Huang, (2010); and Mathew, and Alidmat, (2013). They both analyzed English audio-visual speaking classes (EAVSC). The results revealed that students felt that audio-visual materials were useful when teachers presented and explained certain difficult language terms on the whiteboards. Additionally, students pointed out that audio-visual material helped in improving pronunciation skills and conversational skills. According to Lu, Hou, and Huang (2010), the use of ICTs with EAVSC helped to eliminate the possible shyness or embarrassment that often occurs in a real-life context.

To conclude, this section allowed to know what are the different studies that have been carried out regarding the use of ICTs to develop productive skills in the EFL or ESL classroom. Through this review, it was possible to explore the key findings of the studies concerning the use of ICTs in the educational field and their perceptions. Moreover, this section was useful to validate through scientific studies the theories proposed in the theoretical framework. Finally, this literature review constitutes the basis for developing analysis and making interpretations of the information in chapter 5.

## Chapter IV

### 4. Methodology

Norris and Ortega (2006) define a research synthesis as a bibliographic revision that is exploratory and descriptive. The main goal of this research was to discover the different perceptions about the use of ICT to develop productive skills in the EFL and ESL classroom. In addition, empirical studies were searched in online databases such as Science Direct, JSTOR, USQ, Wiley Online Library, IGI Global, and Scholar Google. Additionally, published studies were collected from different journals such as *The JALT CALL Journal*, *Mediterranean Journal of Social Science*, *Journal of Educational and Social Research*, *Turkish Online Journal of Distance Education*, *Participatory Educational Research (PER)*, *Journal of Language and Literature*, *English Review: Journal of English Education*, *International Journal of Higher Education*, *International Journal of Applied Linguistics & English Literature*, and *Procedia Social and Behavioral Sciences*.

In order to collect information from relevant studies about the use of ICT to develop productive skills in the EFL and ESL classroom, the inclusion criteria taken into account for this review were the following:

- The studies must be published in peer-reviewed journals and official online databases. Therefore, results were analyzed with reliable information.
- The articles must be empirical studies so that one can get a better idea of the effect of a particular approach when using ICTs in the ESL/EFL classroom.
- The studies must be published over the last 20 years to analyze how the teaching of productive skills has been carried out during these years using ICTs.

- The research method of the studies must be quantitative, qualitative, and mixed methods.  
There was not any restriction related to the design of the studies since the results obtained helped to answer the research questions with reliable information regardless of the type of design used (Yunus, et al, 2010, 2012, 2013; Alshumaimeri, 2008; Bueno-Alastuey & López Pérez, 2013).
- The studies must contain analyses carried out in EFL or ESL classrooms to have a wider view of the perceptions about teaching productive skills with the use of ICT tools since the implementation of ICTs in teaching and learning has opened up a whole new world of the investigation into the issue of teaching effectiveness (Rahimi & Yadollahi, 2011).  
Consequently, there would be a high availability of studies conducted in these contexts.
- The studies must be applied at different levels of education to obtain substantial information that would provide a vision of the use of ICTs in the EFL/ESL classroom.

The exclusion criteria that were considered for this review were the following:

- The studies were not empirical, and published or appeared in non-academic sources.
- The studies were published more than 20 years ago.
- The studies whose participants did not belong to EFL or ESL classrooms.
- The studies analyzed languages other than English.

Furthermore, keywords and terms used for the search of articles were the following: (a) ICTs in EFL/ESL learning, (b) perceptions about ICT tools in the classroom, (c) teaching English productive skills with ICTs, (d) teaching with ICTs, (e) language teaching with ICT tools, (f) perceptions about ICT in the ESL/EFL classroom.

## **Chapter V**

### **5. Analysis**

This chapter seeks to answer the research questions and meet the objectives of this research synthesis. According to the research that was carried out by applying an information filtering with the key themes that were presented in the last chapter, a total of 21 studies were collected, and the categories came from a preliminary analysis. To start from a broader point of view, each of the studies was analyzed according to the categories presented in Appendix 2.

For the presentation of this chapter, it was decided to complete the analysis in two sections. The first referring to the design of the studies and a second one which goes attempts to answer the investigation questions that were established for this project. To complete this part, it is important to understand that the content analysis is developed from a quantitative approach as all of the information was categorized and divided according to how it was presented in each of the papers.

After completing the preliminary analysis, and following the methodologies applied by Adulkareem & Chouthaiwale (2018); Ahmadi (2018); Ali-Sabiri (2020); Hashemi & Na Kew (2021), the studies were organized in the following categories: research method of the studies, their geographical location, participants' level, data collection instrument and year of publication (Appendix 2). Consequently, each of the papers was revised to categorize the results that they presented into three categories: the effects and effectiveness of the approaches used to teach with ICTs, teachers and students' perceptions on the use of ICTs to develop productive skills, and the approaches that had been reported as efficient to teach productive skills with ICTs; this last categorization was established to meet the objectives of the present investigation work.

### 5.1. Design of the studies.

After critically reading the 21 papers, the variables that were taken for the analysis are divided in the following:

- *Research Method:* Quantitative, qualitative or mixed.
- *Data collection instrument:* Pre-test and post-test, questionnaire, interview, survey, online discussion board.
- *Participants' level:* Beginners, intermediate, advanced.
- *Publication year of the studies:* 2007 to 2012 and 2013 to 2017.
- *Geographical location:* Asia, Africa, Europe and Latin America.

All of this categorization was developed to understand the basis of the studies' design before getting to the final analysis. The results are presented in Table 1. In this chart, each category has been divided into variables related to them.

**Table 1:** Preliminary category analysis.

Category	Variable	N	%
<b>Research Method</b>	Quantitative	10	47,62%
	Qualitative	6	28,57%
	Mixed	5	23,81%
<b>Data collection instrument</b>	Pre-test and post-test	7	33,33%
	Questionnaire	11	52,38%
	Interview	8	38,10%
	Survey	4	19,05%
	Online discussion board	3	14,29%
<b>Participants' level</b>	Beginners	2	9,52%

	Intermediate	9	42,86%
	Advanced	10	47,62%
<b>Publication year of the studies</b>	2007 - 2012	9	42,86%
	2013 - 2017	12	57,14%
<b>Geographical location</b>	Asia	17	80,95%
	Africa	2	9,52%
	Europe	1	4,76%
	Latin America	1	4,76%

*\*Percentages are obtained according to the total number of studies (N=21)*

The categories that have been presented in table 1 are analyzed in the following part:

### 5.1.1. Research methods of the studies

The research methodologies conventionally used by experts are the qualitative and quantitative methods (Nimehchisalem, 2018). Even though both methodologies offer reliable and useful data, table 1 indicates that researchers preferred to use qualitative methods to study the impact of ICTs on EFL and ESL learning since it was used in 10 studies. The explanation for this preferred methodology may be associated with the small groups of learners that participated in the studies, and this factor is usually considered the norm in qualitative methods of research (Rahman, 2016).

It is necessary to understand that the methodologies that these investigations have used might have been chosen to respond according to the studies' main goals. This could mean that the researchers decided to go for qualitative approaches due to aspects such as the population' characteristics and the design of the English programs. In addition, the reason for the prevalence



of the use of qualitative methods over quantitative ones may be attributed to the fact that qualitative methods allowed the experts to investigate real and complex phenomena in their natural contexts, through a critical analysis of the data collection instruments and the obtained results (Nimehchisalem, 2018).

These characteristics are important since studies that used this method followed a well-designed procedure to nullify research bias when applying their research instruments. However, when combined with quantitative measures, a qualitative study can give a better understanding of ICTs related issues with clear guidelines and statistical analysis aimed at identifying effective use of ICTs. Consequently, these studies can be replicated in further research at a different location and classroom setting (EFL/ESL), and the obtained results will be valid and reliable (Rahimi & Yadollahi, 2011).

### **5.1.2. Data Collection Instruments**

Table 1 shows the research instruments used for the collection of data employed in the majority of the studies for this synthesis, and they were questionnaires, interviews, and pre-and post-tests. According to Yunus, et. al. (2010, 2012, 2013a, 2013b) the implementation of questionnaires and interviews proved helpful in finding the students' learning behaviors, perceptions (students and teachers), and attitudes towards the system and the learning activities in the implementation of ICTs. Moreover, as reported on the studies, researchers indicated the necessity to apply a pre-test and post-test in order to compare the effects that ICTs brought into the EFL/ESL classroom (Alsaleem, 2013; Fageeh, 2011; Hwang, et al., 2014; Lu, Hou, & Huang, 2010; Mathew & Alidmat, 2013; Rahimi & Yadollahi, 2011). As a result, these instruments, either from a qualitative or quantitative method, allowed the researchers to elicit

teachers and students' perceptions, and, with the obtained outcomes, teachers can take actions with the purpose of improving the learning process with the use of ICTs in their curriculum (Mollaei & Riasati, 2013; Yunus, et. al., 2010, 2012, 2013, 2013<sup>a</sup>).

### **5.2.3. Participants' Level**

The studies have analyzed the effects of incorporating ICTs in the teaching – learning process for three levels: beginners, intermediate and advanced. Over 90% of these investigations focused on intermediate and advanced learners; in this context, it was noticed that their teachers were relatively young and they showed more preparation in the use of ICTs in the classroom.

According to this last aspect, age becomes a determining factor for teachers to include this type of strategies as it is clear that the current curricular programs in higher education tend to prepare the new teachers to apply these methodologies in the teaching – learning process (Rahimi and Yadollahi, 2011).

Other aspect to be noticed is that authors like Yunus, Hashim, Embi, & Lubis, (2010) claimed that, for all levels' learners, there should not be any problem when using the different ICTs to develop productive skills because these technologies come with different stages and degrees of difficulty. Furthermore, in the research carried out by Azmi (2017), the researcher analyzed several empirical studies from different educational levels such as schools, high schools, colleges, and universities. These studies reported that the use of ICTs in the English language classroom enhances independent learning skills according to the level of difficulty, even if ICTs are used in the different educational levels.

**5.1.4. Publication Year of the Studies**

Rahimi and Yadollahi (2011) reported that the use of technological tools in teaching and learning opened a whole new world of investigation into the issues of teaching effectiveness with ICTs. Table 1 shows the literature produced over the period 2007-2017 which was divided into two periods of time. As Azmi (2017) reported, it was not until 1994, and particularly with the emergence of the Internet, that serious consideration of incorporating ICTs in language teaching became a big concern to educators and researchers. Moreover, the second period had 12 studies that were published in the last five years providing modern and current information about the use of ICTs in the EFL or ESL context. This result proposes that the use of ICTs has received importance in the research field since ICTs have been used in language classrooms after the introduction of computers and internet as language teachers have always been the pioneers of using modern teaching tools in their classes (Rahimi & Yadollahi, 2011). Furthermore, it may be assumed that the use of ICTs in education could gain more relevance in the upcoming years since the use of ICTs has become popular in the educational setting, and not only to develop English productive skills (Alsaleem, 2013; Bueno & López, 2013; Yunus et. al., 2010, 2012).

**5.1.5. Geographical location**

According to the results presented in Table 1, 17 of the investigations have been performed in countries that are located in the Asian territory. In this aspect, it is important to notice that this is related to the historical context that connects Asian countries with the British empire. Historically, the English dispersal in South-East Asia, in which most of the studies have been carried out, started in the late 18<sup>th</sup> century (Chang, 2011); so, the language became a significant part of these countries' inheritance and culture. In this same regard, Kirkpatrick (2000), clearly mentions that in this region "English plays a major role in the region as a lingua

franca of the political elite and the Association of Southeast Asian Nations. It is also used as a lingua franca between professionals and the business community”. In this context, this represents a difference in the purpose for learning this language in comparison to other parts of the world. It is also noted that, in the context of ICT tools integration, these countries have excelled with their methodologies and strategies applied in every educational level (Alsaleem, 2013; Fithri, 2014; Hwan et al. 2016; Yunus et al., 2013); including the fact that the Ministries of Education expects ICT to be widely deployed in the EFL/ESL classroom, to keep improving their learners and teachers’ skills. On the other hand, the Latin American and African regions have been determined as the ones with the lowest rates of ICT integration, due to factors as the lack of providers and the inadequate pieces of equipment that are provided to the educational institutions (Cárdenas & Oyanedel, 2016; Njenga, 2013).

## 5.2. Data analysis

There were three objectives established for this project, therefore this analysis aimed to organize the results of each case of study so they could answer the research questions proposed in chapter 1. As it was mentioned previously, the information was classified into three categories:

- *Reported effects on the use of ICTs to teach productive skills*

This category refers to how the studies have approached the effects on the use of ICTs to teach productive skills. In this context, this part aims to understand how ICTs have helped to improve writing and speaking skills in the sample population for each research, by analyzing the results that are presented in all of them.

- *Teachers’ and students’ perceptions on the implementation of ICTs.*

This second category aims to analyze how teachers and students perceive the use of ICT in the different English programs they were studying. It is important to note that through a series of data collection instruments, it was possible to determine if these two groups actually felt whether the incorporation of ICT had benefits in their teaching – learning process.

- *Approaches reported as efficient to teach productive skills.*

As it was described in chapter two, there were four approaches that were revised in order to analyze if the inclusion of ICT was efficient when it comes to teach productive skills. These four approaches: Computer-Assisted Language Learning, Computer-Mediated Communication, e-Learning and Multimodal Learning were analyzed to establish if they were included in the experimental studies and the reported effects.

The synthesis of this analysis is presented in the following parts:

### 5.2.1. Reported effects on the use of ICTs to teach productive skills.

As productive skills are the ones referred to as speaking and writing, these two are the variables that have been chosen to classify the cases of study. These results are presented in Table 2.

**Table 2:** Effects on the use of ICTs

Author	Productive Skills	N	%
Alsaleem (2013); Bahce (2009); Fageeh (2011); Hwan et al. (2016); Mathew & Alidmat (2013); Mollaei & Riasati, (2013); Tondeur, Krug, Bill, Smulders, & Zhu (2015); Yunus, Salehi, & Chenzi (2012); Yunus et al. (2013a).	Writing	9	47%

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Alshumaimeri (2008); Bueno & López (2013); Cárdenas & Oyanedel (2016); Fithri (2014); Kasapoglu (2011); Lu, Hou & Huang (2010); Rahimi & Yadollahi (2011); Sun et al. (2017); Yunus et. al (2010); Yunus et al. (2013b)	Speaking	10	53%
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Table 2 presents the two productive skills that have been addressed by 19 of the 21 studies. Two of these investigations were not analyzed as they did not focus on either one of the productive skills regarding writing or speaking.

For this category, it is important to notice that the number of studies is almost equally divided into the two productive skills, which shows that the researchers have worked on developing strategies that would help the students and teachers to gain confidence and to improve their English skills as a whole (Njenga, 2013; Sun, et al., 2017). Although these authors have concluded that the effects on the use of ICTs have been beneficial for both students and teachers, other factors intervene at the moment of including these resources in the classroom, especially the ones related to economic aspects. Njenga (2013) clearly stated that in a country like Kenya, the availability of equipment was deficient and inadequate to support full integration of ICTs tools; this aspect led to keeping traditional methodologies, thus having learners and teachers performing with a low level of confidence.

According to the integration of ICTs to improve writing skills, the main strategies that were included were the ones related to the use of the internet in the classroom. Tools like blog writing, social media sharing, EFL books with technological aids, web-based multimedia systems, and wikis (Hwan et al., 2016; Mathew & Alidmat, 2013; Mollaei & Riasati, 2013; Tondeur et al., 2015; Yunus, Salehi, & Chenzi, 2012; Yunus et al. 2013a) were considered as

highly effective to enhance the student into the creative process of writing, besides providing them with the appropriate strategies to use these instruments for more than just communicating between peers.

In the aspect of speaking, the Asian cases of study addressed the fact that this is a fundamental skill to be developed with the students, as their aim is that they are able to communicate as if they were native speakers (Chang, 2011). Studies like the one carried out by Sun et al. (2017) emphasized the fact that, through the use of ICTs, students were able to improve the three dimensions of their English-speaking skills: pronunciation, fluency, and accuracy over the course of one semester, besides being able to gain confidence in their speech. Yunus et al. (2010) point out the fact that the level of practice is fundamental to motivate the students; however, it has to go hand in hand with the English level of the learners, so it allows them to enjoy every part of the process.

It is important to mention that the productive skills and the methodologies that were applied in these studies aim to provide students with a complete process as they learn English. Besides these studies, authors such as Golkova & Hubackova (2014) highlight the fact that productive skills are the basis for an effective communication as they involve producing language rather than receiving it, as it is with the passive skills. In this context, focusing English programs in developing productive skills has been proven to have a crucial role in language learning and teaching.

Even though the findings of all of these studies have proved that the effects of incorporating ICTs tools are beneficial to improve productive skills, the possible negative aspects regarding inappropriate usage of certain instruments such as social media became a

matter of concern at the moment of implementing some methodologies, therefore teachers should exert more specific control over the activities that students are performing during classes (Yunus, Salehi, & Chenzi, 2012; Yunus et al., 2013a).

### 5.2.2. Teachers' and students' perceptions on the implementation of ICTs

For this second category, results were divided in order to establish if there were differences between teachers' and students' perceptions towards the use of ICTs. This synthesis is presented in table 3.

**Table 3:** Students and teachers' perceptions on the implementation of ICTs

Author	Perceptions	N	%
Bahce (2009); Bueno & López (2013); Fageeh (2011); Hwan et al. (2016); Mathew & Alidmat (2013); Njenga (2013), Yan & Chen (2007) Yunus, Salehi, & Chenzi (2012); Yunus et al. (2013a); Yunus et al. (2013b)	Students'	10	59%
Alshumaimeri (2008); Cárdenas & Oyanedel (2016); Fithri (2014); Mollaei & Riasati (2013); Rahimi & Yadollanhi (2011); Yunus et al. (2013a); Yunus et al. (2013b)	Teachers'	7	41%

17 of the 21 studies were considered for this category, as they specifically focused on collecting students' and teachers' perceptions over the implementation of ICTs. This category aimed to analyze students' and teachers' perceptions in order to understand how the ICT integration had impacted these two groups of interest.



Referring to students' perceptions, nine of the ten studies stated the multiple benefits that learners perceived at the moment of incorporating ICTs in their learning process. Some of the advantages they recalled were summarized in the following aspects: improvements in vocabulary, increased positive attitude towards writing or speaking activities with the perception of usefulness for productive skills; additionally, participants are fully aware of the importance and effectiveness of the implementation of ICT into the classroom (Asaleem, 2013; Bahce & Taslaci, 2009; Cárdenas & Oyanedel, 2016). When it came to developing writing skills, the use of tools as social media posting or weblog represented increased interest and motivation as the learners became more autonomous, as well as they helped to build confidence towards the writing process (Bahce & Taslaci, 2009; Fithri, 2014; Yunus, Salehi & Chen, 2012); furthermore, it is important to notice that some aspects influence the students' perceptions over the use of ICTs; these are related the access they have to the technological resources and pieces of equipment, in addition to the readiness or enthusiasm they perceive from their teachers (Mollaei & Riasati, 2013; Njenga, 2013).

For the teachers, authors like Yunus, Salehi, & Chenzi (2012); Yunus et al. (2013a), and Yunus et al. (2013b) have specifically recalled the usefulness of ICT inclusion through the use of social media; however, there are disadvantages regarded this tool, especially the difficulties that teachers face with the class control and maintaining students' attention during the activities. Most studies reveal that teachers have successfully incorporated ICTs in their teaching procedures, mostly using them to develop listening, speaking, vocabulary, pronunciation, reading, grammar, and writing (Rahimi & Yadollahi, 2011).

This last author concludes that age plays a key role on the perception that students and teachers have regarding the implementation of ICTs in the classroom. As it was mentioned in the

studies' design analysis, as the teacher's age increases, the less experience they tend to have with the use of these tools in the teaching – learning process and it can represent a limiting factor for the effectiveness of a program. The learner's perceptions depend on the confidence they feel from the teachers, so a greater mastery of the applied techniques would allow them to improve their productive skills as they feel motivated in each part of the process. On the contrary, young teachers have received proper training in the use of technology in the classroom; in this case, their perspective is favorable upon the inclusion of this tools with learners.

It can be expressed, according to the results that these 17 studies have collected, that the inclusion of ICTs in the classroom to teach productive skills becomes a helpful tool, which is acknowledged by students and teachers. Despite this fact, there was one study developed by Njenga (2013), that worked with these two groups in the country of Kenya; this research concluded that both learners and teachers did not feel confident with the use of ICTs, as their equipment was not adequate to support full ICT integration, therefore, they maintained yet the traditional methods for the teaching-learning process.

Despite teacher's age and access to technological resources, aspects like the pedagogical methodology, approaches and tools they use along with the learning progress evaluation instruments and the motivation they show to the students must be considered as leading factors to be included in the EFL teaching – learning process of productive skills.

### **5.2.3. Approaches reported as efficient to teach productive skills**

Table 4 shows the results for this final category. The approaches were taken from the previous review in chapter II.

**Table 4:** Approaches to teaching productive skills.

Author	Approach	N	%
Alshumaimeri (2008); Bahce & Taslaci (2009); Fageeh (2011); Hwan et al. (2016); Mollaeri & Riasati (2013); Sun et al. (2017)	Computer-Assisted Language Learning	6	33%
Alsaleem (2013); Rahimi & Yadollahi (2011); Yang & Chen (2007); Yunus, Melor & Salehi (2010); Yunus et al. (2013a); Yunus et al. (2013b)	Computer-Mediated communication	6	33%
Bueno & López (2013); Cárdenas & Oyanedel (2016)	e-Learning	2	11%
Hwan et al. (2016); Kasapoglu (2011); Lu, Hou & Huang (2010); Mathew & Alidmat (2013); Yang & Chen (2007); Yunus et al. (2010)	Multimodal Learning	6	33%

*\*Some of the studies applied more than one approach.*

18 studies have been considered for this part of the analysis since they focused on one or two of the approaches to incorporate ICTs in the classroom to teach and learn productive skills. The other three studies did not specify the approach that was applied to collect the information.

It is interesting how three of the approaches are equally developed in the group of studies, referring to Computer-Assisted Language Learning (CALL), Computer-Mediated Communication (CMC), and Multimodal Learning. Although some of the approaches were not explicitly mentioned in each case, by analyzing the tools and objectives that each study included, specific relationships were established in order to determine the approach.

According to authors such as Alshumaimeri (2008); Bahce & Taslaci (2009); Fageeh (2011); Hwan et al. (2016); Mollaeri & Riasati (2013); Sun et al. (2017), the implementation of computer-assisted language learning (CALL) has proven to be an efficient approach to integrate the use of ICTs in the ESL/EFL classroom. Some of the benefits related to this method were the increase in the positive attitudes towards the use of ICT for the teachers, in addition to the confidence gained those students felt when they worked with these tools (Alshumaimeri, 2008; Bahce & Taslaci, 2009). Web blogging was mentioned as the most meaningful resource when it came to developing writing skills, since this tool allowed learners to promote their autonomy by providing them with freedom for self-expression, besides motivating them to learn and create active interaction through social exchanges (Fageeh, 2011; Hwan et al., 2016).

CMC or computer-mediated communication, which is an approach that aims to facilitate students' access to information in the conventional classroom, has been applied in the studies developed by Alsaleem (2013); Rahimi & Yadollahi (2011); Yang & Chen (2007); Yunus, Melor & Salehi (2010); Yunus et al. (2013a); Yunus et al. (2013b). The last three pieces of research focused on using social media as a tool to improve productive skills, writing, and speaking. One of the main advantages that these studies presented was how these approaches helped learners to broaden their knowledge, increase their motivation and build confidence in learning ESL writing and speaking. This also encouraged them to acquire meaningful learning and be positive about the potential of the Internet.

In the case of e-learning, which is an approach that aims to provide flexibility and personalization in the learning process, Bueno & López (2013); Cárdenas & Oyanedel (2016) agree that learners perceived ICT as useful for language learning and for the development of all skills areas of language in a high proportion. It is of great interest to notice that these authors are

Hispanic and have developed their investigation in Chile and Spain, this is an aspect that leads to associate how e-learning has had a major integration in the Latin American and European contexts. Additionally, these two studies have focused on the implementation of blended learning, which combines e-learning with face-to-face classes, and their results show that students feel that the integration of ICT increased the perception of usefulness for productive skills.

Multimodal learning aims to combine mechanisms so the learning process is different and manages to adapt to each being. This approach integrates visual, audio, and kinesthetic elements so the student is provided with authentic learning. In this context, Hwan et al. (2016); Kasapoglu (2011); Lu, Hou & Huang (2010); Mathew & Alidmat (2013); Yang & Chen (2007); Yunus et al. (2010) have developed their studies by incorporating multimedia material and had, as their results, that students could get more practice for their productive skills, besides being motivated through the whole process.

## **Chapter VI**

### **6. Conclusions and recommendations**

#### **6.1. Conclusions**

The objective of this research review was to identify the effects and perceptions that have been reported on the use of ICT tools to develop productive skills in the EFL/ESL classroom, which was carried out through the analysis of 21 published studies on the topic. After completing the synthesis, the following conclusions can be established:

The authors of the studies that were chosen for this project reported multiple positive effects regarding the integration of ICT to improve productive skills with different type of ESL/EFL students. The main effects can be summarized in the following: a confidence boost when it came to writing and speaking and effective improvement of the productive skills; in addition to the incorporation of new methods, tools and strategies that help to manage the EFL/ESL classroom. According to the studies, both teachers and students were able to handle a more effective understanding thus gaining more and better knowledge during the learning process.

According to the studies that were revised for this research review, the perceptions that have been collected from students and teachers clearly showed that both of these groups felt highly confident with the implementation of ICTs in the ESL/EFL classrooms. This is due to the fact that these tools have provided a wide range of activities that have made them feel more confident while they were working on their productive skills. Learners and teachers were motivated to practice and improve their English skills as a whole through the use of ICTs. Nevertheless, there were some investigations which showed that not everything was perfect, as some of the strategies might have become a distracting element for the students, and created a

stressful environment for the teachers; this is related to the use of social media. Although these last tools are set under the aim of helping students develop their communication skills, an unreadiness and mis-preparation of the teachers could turn this aspect into a negative methodology. In this context, what matters most is that teachers are highly prepared in the topic, besides having students who are conscious of their learning process and willing to actively work along with their educational program.

There are four approaches that have widely been applied regarding the incorporation of ICTs in the EFL/ESL classroom. These approaches have similar characteristics when it comes to the use of technological resources to improve productive skills. According to the studies that were reviewed for this project, learners feel that these instruments help them to become highly effective with the use of English skills. They have also helped them to achieve their learning goals by giving them confidence at the moment of speaking and writing. In addition, the authors have clearly expressed that these approaches have been proved to have multiple benefits for both students and teachers. CALL, CMS, e-Learning and Multimodal learning include a variety of tools and strategies that have been implemented since the introduction of the internet and technology in the classroom; consequently, they have been studied and applied in a variety of educational environments with several positive impacts, especially by introducing an adaptable mechanism to keep improving productive skills.

Even though ICT integration has proven to be an effective strategy to improve productive skills, there are some factors that may be taken into consideration when it comes to implementing a program in educational institutions. One the studies that focused on the largest population; Njenga (2013), stated that, due to the limited technological resources access, the implementation of ICT may appear as an obstacle for the students and teachers. If there are not

enough economical support for these approaches, educational centers tend to maintain their traditional approaches and strategies when it comes to EFL/ESL teaching – learning process. Besides this aspect, the teachers' readiness and motivation also become fundamental components into this methodology, as they help to provide deeper understanding and to keep improving the learning methods.

The present study can be taken as a base for further investigation regarding the topic of ICTs integration in the EFL/ESL classroom, especially if investigators aim to develop more research in local contexts. It is important to understand the value that ICTs implementation brings to the current educational reality; besides thinking about the ways in which it can be continually improved so it adapts to the needs that each part of the society has.

## **6.2. Recommendations**

According to the results of this study, the following recommendations can be established:

One of the main recommendations to have in consideration for this study is that future reviews include the context of the COVID-19 pandemic and its effects on education regarding the integration of ICTs. This is since the teaching-learning process had to adapt to online education completely. In this context, students and teachers were only able to have classes through virtual classrooms, therefore ICTs use became a fundamental tool to continue with the educational process.

A second recommendation is related to the fact that there is not much scientific production regarding the topic of ICT integration in the Latin American context, or the Ecuadorian one. For the reasons that were explained in chapter V, the research has concentrated around Asian countries, as EFL/ESL learning is considered a part of their culture. Latin America



has faced several issues with its pedagogical methods and programs. Although the English language has become a mandatory part of the national educational curriculum, some aspects must be considered if the institutions are willing to plan, develop and evaluate an ICT integration project effectively, especially the ones related to technological resources access, internet connection availability and the appropriate training for teachers and students in the topic.

Finally, it is important to understand the necessity to keep developing research that focuses on studying aspects such as the effectiveness of the ICT integration in the ESL/EFL classroom, the perspectives that every member of the educational community have regarding ICT implementation, the advantages and disadvantages of using one approach over another for including ICTs, and the problems that this methodology may face according to the context in which it is implemented. These last aspects are proposed to improve ESL/EFL learning and keep establishing effective methodologies that are able to adapt to the current society needs.

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## Appendix 1

### List of primary studies for the analysis

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## **Appendix 2**

### **Preliminary analysis of the cases of study**



No.	Author	Date of publication	Title of the article	Research approach	Data collection instruments	Participants' English level	Geographical location	Main results
1	Alsalem, Basma	2013	The effect of "Whatsapp" electronic dialogue journaling on improving writing Vocabulary Word Choice and Voice of EFL Undergraduate Saudi Students	Quantitative, quasi-experimental study	Pretest-posttest design	Sample of 30 EFL undergraduate female students	Saudi Arabia	Results indicate a significant difference between the overall writing scores of the pretest and posttest of the students that journaled. In addition, examination of individual item scores reveals that there are statistically significant improvements in vocabulary word choice and voice as two critically important writing factors.
2	Alshumaimeri, Yousif	2008	Perceptions and Attitudes Toward Using CALL in English Classrooms among Saudi Secondary EFL Teachers	Descriptive quantitative study	Survey	183 EFL teachers	Saudi Arabia	Results indicated a positive correlation between a teacher's attendance during training, both for computer as well as CALL, and a positive attitude toward the use of IT approaches to learning in the Saudi classroom.
3	Bahce, Aysel & Taslaci, Nazmi	2009	Learners' perception of blended writing class: Blog and face-to-face.	Qualitative approach	Skills based program. Students reflections.	55 intermediate level EFL learners in the preparatory school.	Turkey	The findings indicated that blended writing class had changed students' perception of writing lessons positively. Therefore, this kind of classes may help students develop a positive attitude towards writing by providing meaningful writing opportunities.
4	Bueno, M. & López, M	2013	Evaluation of a blended learning language course: students' perceptions of appropriateness for the development of skills and language areas.	Noncomparis on quantitative study	Compulsory ELF for Specific Purpose course. Surveys.	B1 level students	Spain	Students perceived ICT as useful for language learning and for the development of all skills and areas of language in a high proportion. More integration of ICT into courses increased the perception of usefulness for productive skills.
5	Cárdenas, Mónica & Oyanedel, Marianna	2016	Teachers' implicit theories and use of ICTs in the language classroom	Qualitative and exploratory case study	Semi-structured interviews and a self-assessment skill survey.	Nine experienced university instructors	Chile	Participants are fully aware of the importance and effectiveness of the implementation of ICTs in their classes; however, they seem unable to exploit them beyond the role of a repository, a provider of authentic input and, in fewer instances, as a tool to increase meaningful interaction.

6	Fageeh, Abdulaziz	2011	EFL learners' use of blogging for developing writing skills and enhancing attitudes towards English learning: An exploratory study	Experimental research method and a descriptive research design. Quantitative approach.	Observation Questionnaires Students' blogs Writing assessment	25 fourth-year students of the English Department	Saudi Arabia	The findings indicated that the students perceived Weblog as a tool for the development of their English, in terms of their writing proficiency and attitudes towards writing. The students also viewed Weblog as giving an opportunity and freedom for self-expression in English, writing for both a local and global audience, creating active, interactive social exchanges in blogs, and maintaining an interactive relationship with a real time readership.
7	Fithri, Sophia	2014	Teachers' perceptions on the use of ICT in Indonesian EFL learning context	Qualitative research	Open-ended questionnaire and interview session	EFL teachers	Indonesia	There were three benefits of using ICT in English teaching and learning process; namely, helping the teachers to conduct interesting and enjoyable learning activities, promoting learner autonomy, and motivating the students to learn.
8	Hwan et al.	2016	Effects of storytelling to facilitate EFL speaking using Web-based multimedia system	Quasi-experimental design. Quantitative approach.	Pretest-posttest design	59 students from two six-grade classes.	Taiwan	Students who used the system for creating stories significantly outperformed students who did not use it on the post-test. Speaking performance and the number of animation representations significantly correlated with learning achievement. Only the speaking performance on individual storytelling was found as the significant predictor of learning achievement. Most students expressed positive perceptions and attitude toward the system and learning activities.
9	Kasapoglu, Pinar	2011	Using Educational Technology Tools to Improve Language and Communication Skills of ESL Students	Qualitative case of study.	Individual interview method	6 ESL university students	Turkey	Students are using technological tools in their daily lives for many purposes, especially for their education. It is also seen that using educational technology tools will help both to the students and to the teachers to be more successful, efficient and practical people in their lives.

10	Lu, Zhihong; Hou, Leijuan & Huang, Xiaohui	2010	A research on a student-centred teaching model in an ICT-based English audio-video speaking class	Quantitative longitudinal cases of study	Questionnaire, pre-test and post-test	130 college students	China	Analysis of correlated data shows that this specific teaching model in general is both plausible and effective in improving students' communicative language abilities, especially in their speaking abilities.
11	Mathew, Nalliveetil & Alidmat, Ali	2013	A Study on the Usefulness of Audio-Visual Aids in EFL Classroom: Implications for Effective Instruction	A combination of quantitative and qualitative method	Questionnaire, pre-test and post-test	15 undergraduate students	Saudi Arabia	Findings of the study give insights on EFL students' approach to using technological aids. EFL textbooks with technological aids are often viewed to be an inspiration and to provide motivation in classroom instruction.
12	Mollaei, Fateme & Riasati, Mohammad	2013	Teachers' Perceptions of Using Technology in Teaching EFL	Mixed methodology: Quantitative and Qualitative	Interview Questionnaire	40 undergraduate and graduate EFL teachers	Iran	Most teachers perceive that teachers' readiness or enthusiasm for technology implementation helps students improve language skills. They consider computer-assisted classrooms as learner-oriented learning environments where students' self-directed and independent learning increases.
13	Njenga, Gatama	2013	Extent Of Information Communication Technology's Integration In The Teaching And Learning Process In Secondary Schools In Nyeri South District, Kenya.	Quantitative and qualitative	Survey: Questionnaires and observation schedule	4760 students, 680 teachers and 34 principals	Kenya	Most schools in Nyeri South District had access to computers and related peripherals, but, the equipments were inadequate to support full integration of ICT. Most students and teachers had low level of confidence in the performance of some essential tasks requiring ICT; the findings further revealed that the extent of ICT integration in both teaching and learning is low as most teachers and students still use traditional methods of teaching and learning in the schools.

14	Rahimi, Mehrak & Yadollahi, Samaneh	2011	ICT Use in EFL Classes: A Focus on EFL Teachers' Characteristics.	Quantitative	Questionnaire	248 Iranian EFL teachers	Iran	EFL teachers used technology mostly in teaching listening followed by speaking, vocabulary, pronunciation, reading, grammar, and writing. An inverse correlation between ICT use, age, and years of teaching experience. PC ownership and computer experience in terms of home computer use and internet use were related to successful ICT use in teaching procedures.
15	Sun, Zhong; Lin, Chin-His; You Jiaxin; Shen, Hai jiao; Qui, Song & Luo, Limign	2017	Improving the English-speaking skills of young learners through mobile social networking	Quasi-experimental design. Quantitative approach.	Pre-test, post-test Interviews	37 first-grade students	China	The results of data analysis indicate that the control and experimental groups both improved their English-speaking skills in all three dimensions – accuracy, fluency, and pronunciation – over the course of one semester. The system created an environment that encouraged children to practice their English-speaking skills. It also helped to reduce anxiety and enabled them to <u>practice in an authentic context.</u>
16	Tondeur, Jo; Krug, Don; Bill, Mike; Smulders, Maaïke & Zhu, Chang	2015	Integrating ICT in Kenyan secondary schools: an exploratory case study of a professional development programme.	Mixed methodology: Quantitative and Qualitative	Questionnaires, document analysis, focus groups	Four secondary schools. All levels.	Kenya	The involvement of all stakeholders was crucial for the ownership of ICT integration in education. Consequently, the process of effective technology incorporation should not be facilitated as a stand-alone event. Rather, professional development programmes should be part of a cycle of inquiry that supports teachers' learning, to try out and receive feedback.

17	Yang, Shu Ching & Chen, Yi-Jun	2007	Technology-enhanced language learning: A case study.	Qualitative and quantitative analysis	Questionnaires, interviews and document analysis	44 10th-grade male students and their teacher.	Taiwan	Most students liked and approved of English learning via the Internet, but differed in their opinions regarding its benefits to English learning. Most learners were positive about the potential of the Internet and believe that it can promote and enhance language learning by blending synchronous and asynchronous communications tools, given appropriate design and proper functioning.
18	Yunus, Melor; Hashim, Harwati; Embi, Mohamed; Lubis, Maimun	2010	The utilization of ICT in the teaching and learning of English: 'Tell Me More'	Mixed method research	Questionnaire and semi-structured interview	85 semester one students from a polytechnic and 4 English language lecturers	Malaysia	Students get enough practice with the listening, speaking and pronunciation as compared to other skills. The students in this study were motivated probably due to the fact they were tested based on their level. The students reported that they enjoy the listening, speaking and reading activities more than they <u>understand the activities</u> .
19	Yunus, Melor; Salehi, Hadi & Chen, Chenzi	2012	Integrating social networking tools into ESL writing classroom: Strengths and weaknesses.	Qualitative	Open-ended questionnaire	15 third-year TESL students in a state university	Malaysia	The findings revealed that integrating social networking services in ESL writing classroom could help to broaden students' knowledge, increase their motivation and build confidence in learning ESL writing. The students' difficulties for concentrating on the materials when they use computer, lack of enough equipment as well as access to internet, and teachers' insufficient time to interact with the students were regarded as the main disadvantages of integrating social networking tools into ESL writing classes.

20	Yunus, Melor; Nordin, Norazah; Salehi, Hadi; Sun, Choo Hi; Embi, Mohamed Amin	2013	Pros and cons of using ICT in teaching ESL reading and writing	Qualitative research	Interview	23 secondary school English teachers	Malaysia	Attracting students' attention, facilitating students' learning process, helping to improve students' vocabulary knowledge and promoting meaningful learning were regarded as the most important advantages of using ICT in teaching ESL reading and writing. Moreover, disadvantages found included the difficulty in classroom control and students' distraction as well as their tendency to use short forms in writing tasks.
21	Yunus, Melor Md; Nordin, Norazah; Salehi, Hadi; Embi, Mohamed Amin; Salehi, Zeinab	2013	The use of information and communication technology (ICT) in teaching ESL writing skills.	Qualitative research	Interview	33 English teachers	Malaysia	The use of ICT in the teaching of ESL writing was very low. Advantages of using ICT were reported to be attracting students' attention, facilitating students' learning process, helping to improve students' vocabulary and promoting meaningful learning. Disadvantages found included the difficult class control, distraction and the students' tendency to use short forms in their writing. It was also revealed that teachers are generally weak in managing problems and planning activities involving the use of ICT in the teaching of ESL writing.