



Information and communication technologies in the Chilean English as a foreign language classroom: A systematic review of the literature

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ABSTRACT

Information and communication technologies (ICTs) permeated Chilean schools in the late 1990s with the implementation of *Enlaces*, a national program including training and technological equipment for supplying school education. Since then, the curricular relevance of ICTs has increased in Chile. Particularly, English as a foreign language (EFL) teaching has benefited from ICTs in adding interaction and using various resources in the classroom. Such importance motivated the researchers of this study to find out what has been researched about ICT in the English classroom in a Chilean context. To attain this, a systematic review of the literature from 2006 to 2022 was conducted. Data was drawn from the electronic databases SCOPUS, EBSCO, Scielo, ERIC, Dialnet, WoS, and complemented with Google Scholar. The selected studies, 13, were analyzed using a six-dimensional framework, focusing on research purpose and focus, outcomes, design and methods, publication frequency, and limitations. Our review has established that qualitative design and methods have been the most predominant approaches, focusing mainly on exploring the implementation and integration of ICTs in the English classroom, as well as examining the effectiveness of applications, websites, and ICTs tools on the linguistic attainment of Chilean school learners. This systematic review has also identified that after 2016 publications have been steady, yet the number of empirical studies exploring the topic is still limited, which constitutes a research gap that future studies could examine. It is also expected that researchers interested in the topic could try out this review in similar EFL contexts.

Keywords

ICTs,
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Introduction

After the widespread use of technology and the Internet in the 1990s, Information and Communication Technologies (ICTs) were the major focus and challenge of Chilean education. In 1992 the program *Enlaces* emerged from a piloting project conducted by a group of Chilean researchers and the Ministry of Education (Mineduc) whose purpose was to incorporate ICTs in Chilean school education to provide equal opportunities for media literacy (Mineduc, 2022). The initiative involved an improvement in all Chilean subsidized schools in terms of infrastructure, training and pedagogical resources (Mineduc, 2022). Jaramillo (2015), who conducted a systematic review about ICTs and education in Chile, highlights the sustained

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implementation of Enlaces, reaching a consolidation and almost complete coverage of Chilean schools in 2006. Given the advance in infrastructure and training, the Ministry of Education in 2011 aimed at gauging the effectiveness of Enlaces through the application of a national test called SIMCE TIC. This test focused on evaluating high school learners' ICTs abilities (information, communication, ethics and social impact, functional use of ICTs) to solve authentic problems and school tasks in a virtual environment, using the different computer and internet tools (Mineduc, 2011). It is worth mentioning that SIMCE TIC also collected contextual data using two questionnaires for the students and parents to examine particularities that could be involved in the participants' achievement (basic, intermediate, advanced). The results of this pilot test, applied to 10.321 students, revealed that 46,2% of the participants were basic ICTs users, 50,5% displayed intermediate abilities whereas 3,3% reached an advanced level (Mineduc, 2011). The contextual data helped to visualize the social gap between private subsidized or fully private education where ICTs access and use was richer. Enlaces, therefore, concentrated on providing technological nourishment to public education, equipping schools with tablets and offering more training (Mineduc, 2022). To assess these initiatives and improvements of the pilot test, a second testing was implemented in 2013. Nevertheless, the results of the examination, administered to 11.185 students, did not reveal much progress, for basic users comprised 51,3%, intermediate users 46,9% and advanced users 1,8% (Mineduc, 2014). After 2014 and thereafter, Enlaces continued injecting resources, training and integrating ICTs in the national curriculum so as to shorten access and use gaps. In 2018, the creation of a larger governmental institution, Centro de Innovación, calls to end Enlaces' twenty-five-year implementation. Hereafter, ICTs permeated all educational levels preschool and higher education where ICTs are handled as abilities for the 21st century, being relevant in all subject areas.

ICTs in the Chilean Context

It must be noted that for the scope of this study the concept of ICTs is framed on the curricular orientations of the Chilean English curriculum. Therefore, ICTs and their use will be understood as a broad term that encompasses a variety of classroom technologies and tools including "digital boards, computers, software, web sites, applications, social media, electronic, etc" (Mineduc, 2016, p. 62). Furthermore, it is also relevant to point out that ICTs have a cross-curricular role in the current Chilean school system where every subject area must develop ICTs competencies addressing the following purposes: i) manage information, ii) create and share information, iii) use ICTs as a learning tool, and iv) use ICTs responsibly (Mineduc, 2016). By the same token, it is necessary to point out that this study is framed on school education including primary (comprising six grades) and secondary education (comprising six grades); yet, our focus on primary education covers 5th grade onwards, the moment when English is compulsory in Chile. During these years of education, the role of English language teachers in the incorporation of ICTs in the classroom is paramount as ICTs help educators to establish connections between students' interests, opportunities and curricular contents. Consequently, EFL teachers have an important bearing in using ICTs pedagogically and diversely. Table 1, below, summarizes the various classroom activities suggested by the English curriculum for English language teachers (Mineduc, 2016).

Table 1. Suggested ICT Activities - English Curriculum

1. Webquests
2. Presentations using digital aid PPT/Prezi
3. Blogs
4. Recording audio and correcting punctuation using smartphones
5. Chats
6. Wikis
7. Posting or sharing information on digital spaces
8. Audiovisual aids (videos and images)
9. Online dictionaries
10. Importance of plagiarism/reference sources
11. Podcasts
12. Online literary and non-literary texts
13. E-reading
14. Websites
15. Word processor
16. Interacting with native speakers
17. Using concordancing programs

*Source: Adapted from Programas de Estudio, Mineduc (2016)

All these potential activities for enhancing the EFL classroom are believed to have an important role for developing skills and attitudes toward information (Mineduc, 2021). In the latest curricular update of 2021, ICTs are described under the umbrella of 21st century skills, known as the abilities to thrive in life (Binkley et al., 2012). Under this lens, ICT use is conceived as embracing digital literacy skills that promote “collaboration, communication, creation and innovation” (Mineduc, 2021, p.24). The newest curricular revision expresses that ICT use for English language teaching is directly connected to the incorporation of multimodality; in other words, the different modalities used in combination such as sound, image and animation to express something (Anderson et al, 2006). This enriched modality is intended to be more authentic for the students as they use ICTs to solve everyday problems, and allows them to spark their imagination (Mineduc, 2021). The latest orientations also highlight that ICT use can be exploited in English language teachers as they can use learners’ native knowledge and skills in technology to facilitate English language learning (Mineduc, 2021).

Considering this curricular relevance of ICTs for English language teaching and learning as well as the initiatives of Enlaces and the current Centro de Innovación, this study aims at providing educators and the research community with a synthesis and analysis of what has been researched about ICTs in the Chilean EFL classroom from 2006 to 2022. The range of years is marked by the consolidation of the program Enlaces in 2006.

To conduct our synthesis and systematic analysis, the following subsequent review questions are posed:

- 1) What is the research purpose and focus of those studies?
- 2) What are the outcomes of those studies?
- 3) What research design and methods are used in those studies?
- 4) What is the publication frequency of those studies?
- 5) What limitations, encountered in those studies, should future studies consider?

Methodology

Based on a method to synthesize data drawn from primary research, this study has conducted a systematic review to answer the research questions introduced above. Systematic reviews can be defined as “a review of existing research using explicit, accountable rigorous research methods” (Gough et al. 2017, p.4). As part of a scientific and rigorous process, specifically applied to an educational field, we adhered to the systematic review protocol and stages from Newman and Gough (2020), which are further explained in the following subsections.

- 1) Developing a research question
- 2) Designing a conceptual framework
- 3) Constructing a selection criteria
- 4) Developing a search strategy
- 5) Selecting studies using selection criteria
- 6) Coding studies
- 7) Assessing the quality of studies
- 8) Synthesizing
- 9) Reporting findings

Developing a Research Question

The research question was elaborated by a research team of three preservice teachers and one mentor professor who grouped to conduct this systematic review. The topic emerged from examining the national curriculum for school education where ICTs gained our attention for the important role they pose for the English as a foreign language (EFL) classroom. Additionally, after dealing with a prolonged period of remote learning as a result of the pandemic Covid-19, it was also of greater interest to know how ICTs were researched in a classroom context. We conducted a preliminary search to determine whether other studies have synthesized the contribution of ICTs to the English classroom. From this exercise, a research gap emerged since no similar studies had been conducted at the moment of carrying out this study. Therefore, we set out to investigate what was researched about ICTs in the EFL classroom of Chilean schools between 2006 and 2022. Given that the question is broad, we elaborated subsequent questions aiming at the purpose, focus, outcomes, design and methods, research trends and limitations of the studies which were treated as the leading dimensions of this systematic review.

Conceptual Framework

Our conceptual framework emerged from the revision of the history of ICTs and ICTs research in Chile, and the Chilean school curriculum. The researchers started looking into the different actions of Enlaces that began in 1992 and the investigations related to those initiatives to start identifying key terms. Subsequently, we focused on ICT research specifically carried out in Chilean EFL contexts. Furthermore, the English school curriculum was also examined to understand how ICTs were addressed in the EFL classroom. As a result, we learnt that the framing terms that would mark our study were: ICT implementation, ICT integration, ICT tools and ICT strategies, being all under the umbrella of an EFL Chilean context.

Inclusion and Exclusion Criteria

Following Newman and Gough's (2020) recommendations for systematic reviews, an inclusion and exclusion criteria was established prior to the search strategy. Consequently, and by examining other systematic reviews (Crompton & Burke, 2018; Jaramillo, 2015; Macaro et al. 2012, 2018; Mahbub & Hadina, 2021), we established a list of parameters for our own study. Table 2 describes how the inclusion and exclusion criteria were arranged.

Table 2. Inclusion and Exclusion Criteria

The studies were included if...	The studies were excluded if...
They were published between 2006 and 2022	They were duplicates
They were from Chile	They were theses/dissertations
They were empirical and published as a peer-reviewed articles in the journals	They were in published in books
They were researched in the English classroom	They were from international contexts
They were based on EFL	They were published before 2006
They had school (primary and secondary) education as aim	They were based on ESL
They had school (primary and secondary) education as context	They were based on EAP
	They were based on ESP
	They had tertiary education as context

Search Strategy

To ensure accuracy and reliability, we tested different search strategies. We started by unpacking the concept of ICT addressed in the English curriculum, and we used ERIC thesaurus to have all the possible elements embedded in the concept (i.e. ICT, technology, software, tools, media, smartphone, etc). These terms allowed us to create a search string and use it in the different databases selected for this study. It is worth noting that the extended search string was not used in all the databases given that it was not compatible. Therefore, in some databases we just employed the main terms (See Table 3).

We conducted two parallel electronic searches for English and Spanish in electronic databases including SCOPUS, EBSCO, Scielo, ERIC, Dialnet and WoS. We conducted both electronic and manual searches using three major concepts and their possible variations as described in Table 3.

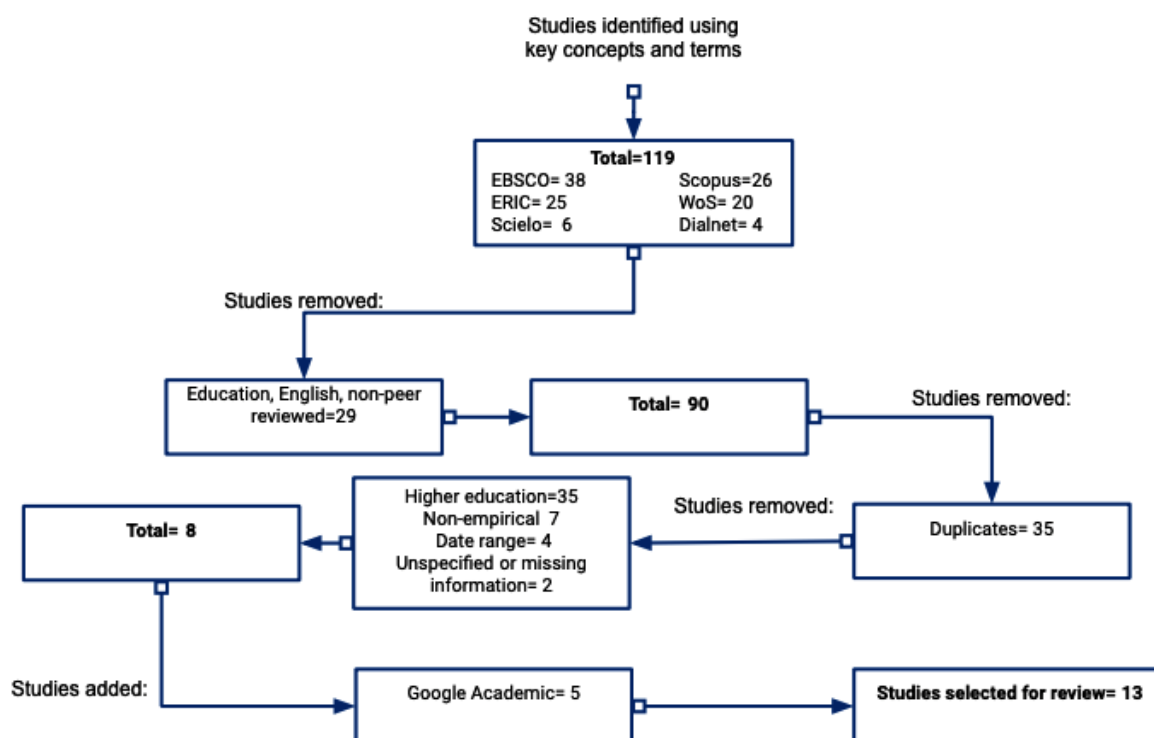
Table 3. Search Strategy Sample Using Key Concepts and Terms

English search		Spanish search	
Concepts	Search terms	Topic	Search terms
ICT	ICT* OR technology OR software OR tool* OR media OR smartphone OR internet OR podcast OR computer OR video OR ONLINE OR digital OR platform OR digital OR apps	TIC	TIC* O tecnología O herramienta* O medios de comunicación O teléfonos inteligentes O internet O computador O plataforma digital O aplicaciones
English	AND English OR EFL OR English classroom	Inglés	Inglés O Inglés como lengua extranjera O clase de inglés
Chile	AND Chile OR Chilean	Chile	Chile O chileno/a

Studies Selection

For reporting the process of the studies selected for the review, a tailored diagram following the transition from the identification of the studies to the selected studies was used. As seen in Figure 1, our initial search started in 119 studies. These 119 were filtered by peer-reviewed, English and education, resulting in 90 studies. Those 90 studies were downloaded to a matrix consisting of an Excel spreadsheet to identify the duplicates, 35, that were also removed. After this process, the researchers removed the studies focusing on exclusion and inclusion criteria elements. It deserves to be noted that at this stage, the titles, abstracts, and full texts, were read multiple times to ensure an accurate selection. 47 studies were removed as they did not match the established inclusion/exclusion criteria, resulting in 8 studies. The whole process was repeated many times to guarantee a rigorous process. Although Google Scholar was not considered as a main search source, it was used to complement the search and ensure that relevant articles were not dismissed. A total of 5 articles meeting the selection criteria were identified in Google Scholar and were added to the 8 studies of the first stage, leading us to a total of 13 studies selected for the systematic review.

Figure 1. Diagram of Studies Selected for Review



Coding and Assessing the Quality of Studies

For coding the characteristics of the studies selected, the research team of this review developed a matrix on an Excel spreadsheet. A six-dimensional framework was used to draw on the details of the studies that were likely to answer our research questions. We constructed this analysis framework based on Crompton and Burke's (2018) systematic review. This framework facilitated the creation of research questions and dimensions, which, in this study, were made up of six: research purpose, focus, outcomes, design and methods, publication frequency, and limitations. It is worth noting that each dimension was coded with the emergent themes or subcategories which are explained in the results section.

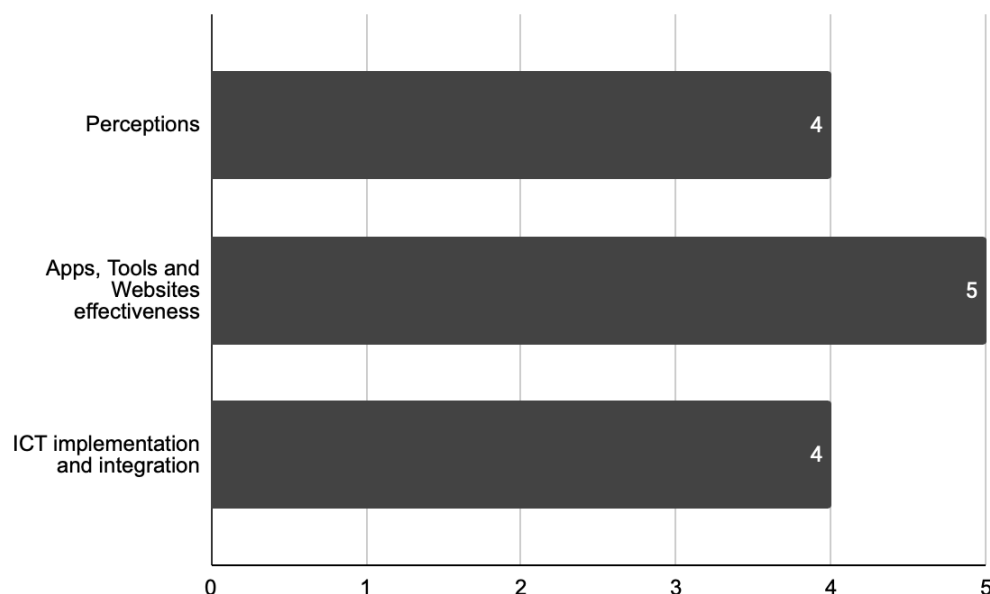
In terms of the quality of the studies selected for the review, and considering that the quality is shaped to a great extent by the research aim and question, in our study the quality was determined by selecting scientific studies published in peer-reviewed journals, using studies that directly related to our research aim and selecting studies that have used appropriate research methods relevant to our study.

Results

Based on the final steps of the research protocol learnt from Newman and Gough (2020), the section below provides a synthesis and analysis of the studies that were reviewed. Likewise, the main findings are described in relation to each subsequent research question, and therefore, dimension.

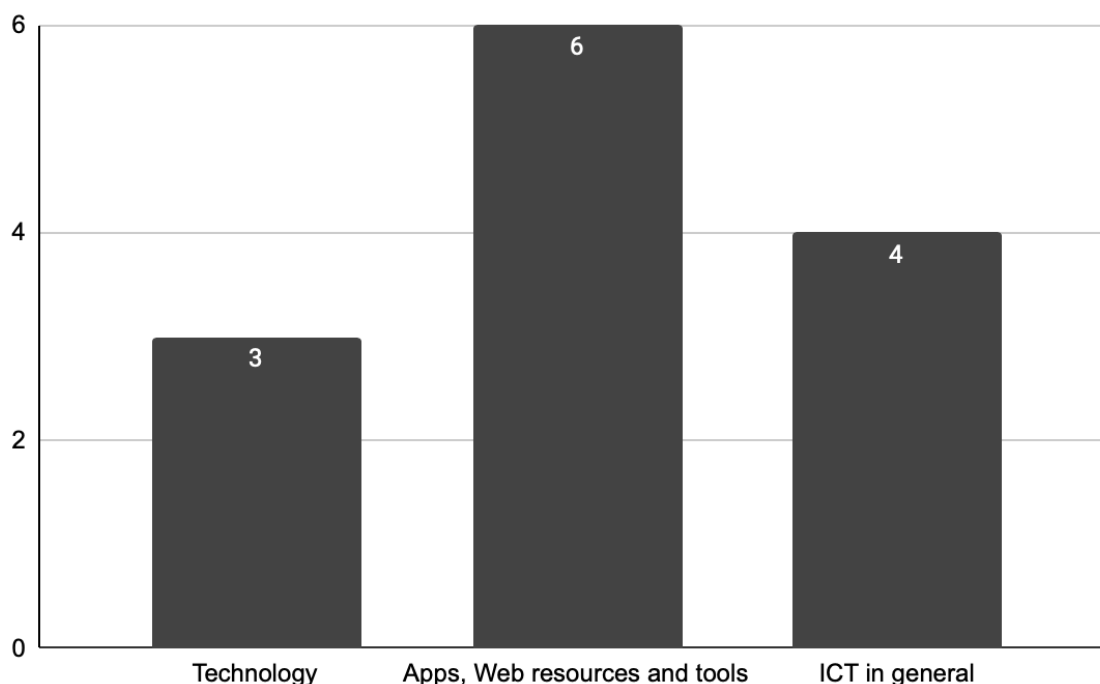
Research Purpose

To report the research purpose of the 13 studies that were examined, we grouped the studies that contributed to the same purpose. These purposes resulted into three main areas as seen in Figure 2. Therefore, and in relation to our first subsequent research question, it can be stated that the research purpose of studies exploring ICTs in the Chilean EFL classroom has been placed on i) Perceptions, ii) Effectiveness, iii) Implementation and integration. The first area, Perceptions, makes 4 out of 13 studies which is divided into 2 studies exploring students' perceptions of ICTs (e.g. Lizasoain, et al., 2018) and other 2 studies focusing on teachers and students' perceptions of ICTs in the EFL classroom (e.g. Larenas, 2011). The Effectiveness ICTs is another area that comprises a total of 5 studies delving into Apps, ICT tools and Website resources (e.g. Quiroz et al., 2021). Finally, it was found out that 4 out of the 13 studies had the purpose of investigating ICTs implementation and/or integration for English language teaching and learning (see Figure 2) such as in the studies presented by Bentes et al. (2017) and Ortiz et al. (2017).

Figure 2. Research Purpose

Focus

Considering that the concept of ICTs is broad and may imply different classroom technologies and tools, this section is connected with the section, yet this one unpacks the specific focus of the studies comprising our review. Regarding the subsequent question related to this dimension, it was found out that the 13 studies of our review have focused on i) Technology, ii) Applications, Web resources and ICT tools, and iii) ICTs in general. As portrayed in Figure 3, studies focusing on investigating technology, in a broad sense, comprise 3. These have explored how technology, from the perceptions of teachers and students, has been used in the English classroom (e.g. Diaz, et al., 2011; Diaz & Bruce, 2011) and what the role of technology was classroom during Covid-19 (e.g. Morrison & Sepúlveda, 2021). In relation to the second category, which also makes most of the data, we were able to identify more specific ICT resources, resulting in Apps and Web resources and ICT tools. Thus, 4 studies that have focused on the impact of Apps and Web resources such as Kahoot! (e.g. Quiroz et al., 2021), Smartphone recording apps (e.g. Cisterna & Pardo, 2019), Windows Movie Maker (e.g. Otárola, et al. 2020), and Virtual English Corner (e.g. Gonzalez & Parra, 2018) on learners' linguistic skills. We are also able to determine that 2 out of the 13 studies focused on the use (e.g. Lizasoain, et al., 2018) and evaluation (e.g. Lizasoain, et al., 2016) of the ICT tool 'It is my Turn' for English language teaching and learning in rural school contexts. The last identified category comprises 4 out of the 13 studies, which yields investigations focusing ICT and their general implementation the English classroom as described in the investigations of Ortiz and Aravena (2017) and Bentes et al. (2017), as well as ICTs implicit theories (e.g. Cárdenas & Oyanedel, 2016), and the challenges and opportunities of online teaching during Covid-19 (e.g. Sepúlveda & Morrison).

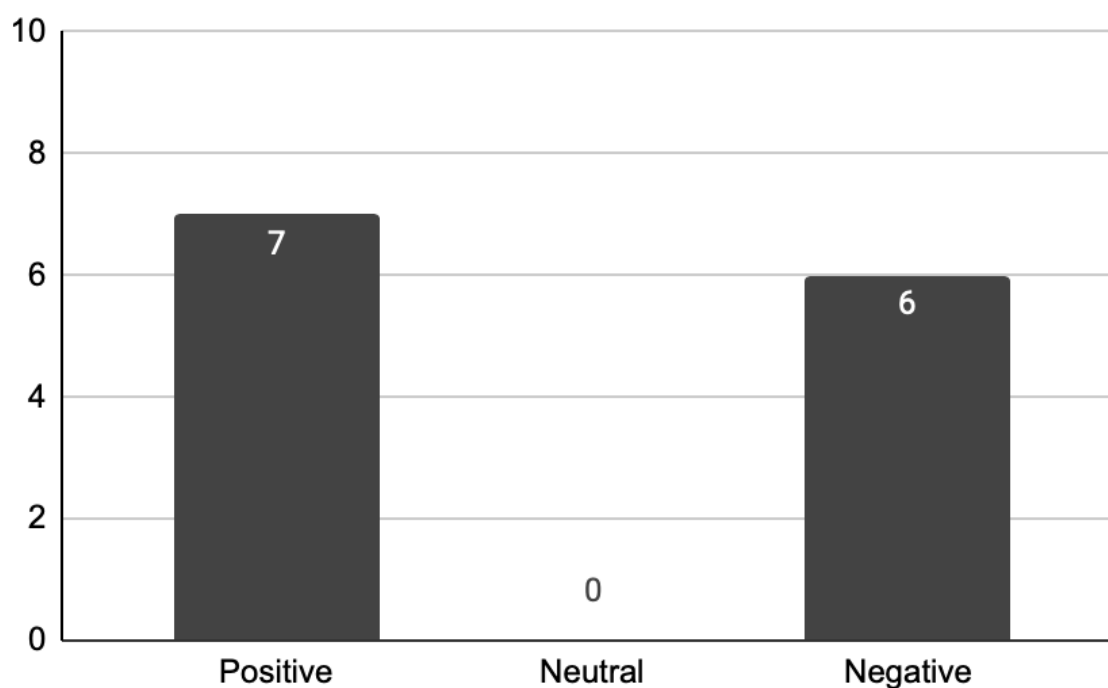
Figure 3. ICT Focus

Research Outcomes

This dimension sought to determine the overall results of the studies that we reviewed. The analysis consisted of grouping the studies into three simple constructs positive, neutral, and negative. Therefore, as shown in Figure 3, the 13 studies exploring ICTs in the EFL classroom yielded polarized results, basically grouped into positive and negative. From this standpoint, it must be highlighted that ‘positive’ was appraised as a benefit for both student and teacher participants. It can be seen that 7 out of the 13 studies are embedded in the positive construct. A case in point is the study conducted by Quiroz, et al. (2021), in which students’ vocabulary knowledge was enhanced by the use of the application Kahoot!. Students’ motivation was boosted as they were familiar with the platform. The enjoyment in the use of softwares and online tools for learning is also connected to the immediate feedback that technology can provide which diminishes doubts and boredom in learners (Chen et al., 2018). The 7 positive studies also refer to the English learning improvement and/or perceptions of the participants in which digital acquaintance and literacy was crucial. Said process is fostered by students’ ability and confidence to use the numerous platforms they are familiar with, being social media a paramount learning support as seen in Cisterna and Pardo’s study (2019). This positive domain also accounts for the role of ICTs in boosting the different styles of learning of the students participants as evidenced in the study conducted by Otárola et al. (2020) where learners were motivated to engage in writing activities after trying tools to write digital stories. These positive results also permeated teachers who showed satisfaction towards a variety of methodologies in the exploration and use of e-based learning, app-based learning, web-based learning which supply them with new strategies to plan and deliver effective lessons in the EFL classroom as seen in the studies by Diaz, et al. (2011) and Otárola et al. (2020).

Regarding the negative results which comprised 6 out of 13, it could be established that there are two main areas triggering these results. The first one is teachers' ICT competencies. ICT training has been one of the main targets initiated with the implementation of Enlaces (CIDE et al.,2004), yet some studies reveal that the training seems not to provoke significant changes because the expected ICT operation ability is lower than the governmental threshold established by the Minister of Education. Another recurrent area is the limited pedagogical knowledge and use of ICTs possessed by teachers and learners. The studies depict a necessity of improvements in the pedagogical implementation of ICTs in the classroom. In the analysis of these 6 studies resulted in negative, it could be seen that in some cases, as in Ortíz and Aravena's (2017) study, teachers possess proficient ICTs knowledge; yet, the educators do not go beyond ICTs as repositories of information such as in Cárdenas and Oyanedel's study (2016).

Figure 4. Research Outcomes



Research Design and Methods

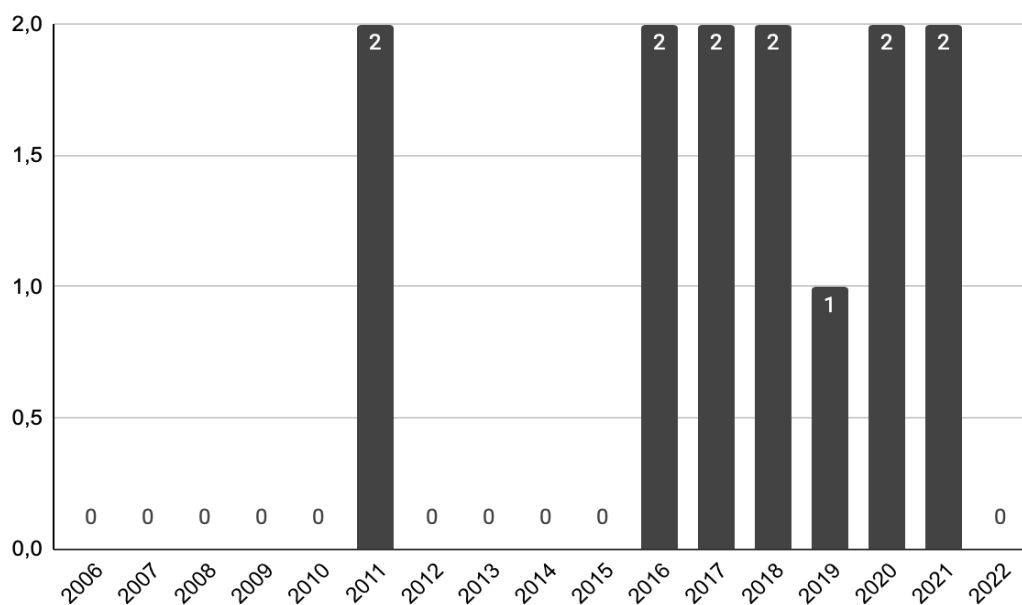
Given that some of the selected studies reported more than one research method, it was decided to arrange this dimension in terms of the frequency of research design and methods declared in the records. Table 4 shows a list of 13 elements of research design and methods found in the studies we reviewed. The list allowed us to determine that most of the studies exploring ICTs in the EFL classroom have employed qualitative research designs. On the other hand, the most frequently used methods have been case studies and interviews, and a second majority have employed questionnaires, observations, pre and post-tests, and surveys. The least used designs have been quantitative, quasi-experimental and action research whereas the least used methods have been documental analysis, and performance test.

Table 4. Research Design and Methods

Research design and methods	Frequency
Case study	6
Questionnaires	3
Observations	3
Pre and post test	3
Documental analysis (lesson plans)	1
Mixed-methods	2
Action research	1
Performance test	1
Quasi-experimental	1
Qualitative	4
Interview	6
Quantitative	1
Survey	3

Publication Frequency

Figure 5, below, illustrates the years of our revision from 2006 to 2022, making a total of a seventeen-year duration. It can be appreciated that from 2006 to 2010 no studies exploring ICT in the EFL classroom were identified. At this point, it is necessary to emphasize that by 2006 the program Enlaces was already consolidated in Chilean school education. Therefore, during a four-year period ICT research, contextualized to English language teaching and learning was rather scarce. Our results indicate that in 2011 there were two publications although followed by a non-publishing period of four years, from 2012 to 2015. In 2016 onward a change in the frequency of publications is seen, yielding two publications per year from 2016 to 2021 with the exception of 2019 that presented a drop. It was worth noting that we did not find any publications at the moment of conducting the review in 2022. Although there were periods without investigation, implying a lack of attention to our research topic ICTs in the EFL classroom, our results reveal that for the past seven years there has been a steady interest in investigating ICTs in the context of English language teaching and learning.

Figure 5. ICT Studies Published Per Year

Limitations

Crompton and Burke's (2018) analysis framework did not include the dimension of limitations. We decided to incorporate limitations in the research question and analysis as it is essential for conducting high-quality research that can contribute to the advancement of knowledge of ICT contextualized to EFL education. A total of 11 limitations emerged from coding the 13 studies that we reviewed. Since some studies presented more than one limitation, this dimension was arranged in terms of the repetition or frequency of the issues. In this sense, it can be appreciated that the most frequent limitation has been ICTs use and literacy, repeated 7 times. The studies that encountered these constraints reveal, for instance, that educators lacked ICT training and/or competences which hindered the further integration and use of ICTs in the EFL classroom (e.g. Cárdenas & Oyanedel, 2016; Morrison & Sepulveda, 2021). Additionally, there were studies in which educators' knowledge and use of ICTs was described as optimum, yet when it came to use them, teachers opted for using the traditional tools, word processors, as repositories of information only (e.g. Ortiz & Aravena, 2017). A number of studies also found out that learners, and in one case teachers, did not invest time in using ICTs for learning or communication purposes outside the classroom as exposed by Diaz et al. (2011) but for recreational ones (e.g. Diaz, et al., 2011). Another limitation that was repeated 4 times is *Access to resources*. In this category, for example, we observed studies that were hindered by connectivity difficulties as seen in Sepulveda and Morrison's study (2020), where stable internet connection and laptop accessibility were poor. What is more, the authors explained that the outdated technological equipment of the research site did not allow the use of basic software such as Microsoft Teams and Zoom. The rest of the limitations, including two articles that did not report limitations, have not been repeated or shared by the articles that we examined.

Table 5. Limitations

Limitations	Frequency
Methodological	1
Access to resources	4
Large/small sample size	1
Issues with the research sample participants	1
Linguistic skills issues	1
ICTs use and literacy	7
Educational policies	1
ICT school leadership and management	1
No limitations found	2
Teachers' training	1
ICT scope	1

It is worth pointing out that our systematic review encountered some limitations. In particular, the limited number of studies exploring ICT might have not been sufficient to provide a more grounded synthesis. A possible explanation of the reduced number of studies might also respond to the scope of our review. We decided to focus on what has been studied just in the English school classroom of school education. This delimitation at the same time leads us to a dichotomy since ICTs have been present in Chilean school education for thirty years, where the English classroom is not the exception. Furthermore, the English curriculum places a great emphasis on ICTs to facilitate the learning process, and provides varied suggestions to their integration, yet current empirical knowledge is still scarce in the field.

Another limitation, though to a lesser extent, was the lack of clear methodological and contextual details found in the reviewed studies. For instance, some studies failed in declaring their research designs and implementation levels (e.g. school, university). It must be highlighted that because of this reason, during the inclusion and exclusion process, a number of studies had to be dismissed since the educational level was not mentioned.

Discussion

This systematic review has synthesized and analyzed 13 studies arranged into a six-dimensional analysis framework, including research purpose, focus, outcomes, research design and methods, publication frequency and limitations. At this point, it is worth reminding that the reduced number of studies retrieved for revision is due to the specific context and field of our systematic review which is based on a Chilean context regarding EFL education in school settings. Based on our research questions and findings, we would like to discuss the most salient aspects of our systematic review. The first dimension that deserves observation is the one of *research outcomes* since our results yield polarized results ranging in positive and negative outcomes. We did not anticipate that almost 50% of the studies would address challenges and limitations in the use of ICTs in the EFL classroom, including technical difficulties, lack of training, and the need for adaptation to different contexts which are elements that constitute the 'negative outcome' category. Another striking result has to do with the limitations of the 13 studies, being ICT literacy and use, and access to ICTs among the most frequent problems. We can conclude that these limitations are directly related to the negative outcomes since ICTs have the potential

to benefit English language teaching and learning in Chilean EFL classrooms, but their successful integration and implementation requires careful planning, training, and adaptation to local contexts. Moreover, and probably the most significant finding is the lack of publications conducted on ICTs in the field of English language teaching; our synthesis revealed that in seventeen years there has just been 13 publications relevant to the discussed topic. Prior to this systematic review, we thought that the past three years would be considerably marked by investigations on ICTs in facilitating English language learning. Nonetheless, our synthesis shows that after 2016 publications have just been steady, and surprisingly in 2022, after the global pandemic Covid-19 no publications exploring ICTs were found. Therefore, it is worth asking what influenced the interest towards ICTs after 2016 and whether that influence has been maintained or increased up to today. It is hoped that further research can tap on these concerns.

Conclusions

To conclude, our work shows that the studies exploring ICTs in a school context have yielded mostly positive and negative outcomes. The in-depth examination of the reviewed studies allowed to establish that the negative outcomes are the result of inefficient ICT training and/or poor ICT knowledge of the educators which obstacles their integration in the EFL classroom. Nonetheless, our analysis falls short to explain the reasons behind the lack of knowledge and competencies to use ICTs in favor of English language teaching and learning. We believe this area may require further exploration since the Chilean government's efforts have been mainly directed to target educators' training for the past two decades. Regarding the research purpose of the 13 studies researching ICTs, it was possible to conclude that most of these studies have focused on exploring the effectiveness of Apps, ICT tools and Website of ICTs in the EFL classroom and, to a lesser extent, ICTs implementation and integration. In terms of research design and methods, this systematic review revealed that research conducted on ICTs between 2006 to 2022 have been mostly qualitative where case studies and interviews have been the most frequently used methods. As far as ICT focus is concerned, a great number of the reviewed studies have explored the implementation and integration of ICTs, from a general perspective, as well as examining the efficacy of apps and Web resources on the improvement of learners' linguistic skills. Furthermore, the frequency of publications, it was possible to visualize the scarcity of publications on ICTs, contextualized to a school EFL context, within a period of seventeen years. Not even the unexpected scenario caused by Covid-19, reported a significant increase in the number of publications considering the fact that Covid-19 obliged the educational community to use virtual environments and display ICTs skills for a period of three semesters, in the best case scenarios. Likewise, our revision of the limitations of the studies allowed us to find two major hindering factors. On the one hand, teachers' knowledge and training on ICT use was not optimal, and when it was, educators failed in integrating ICTs in their lessons. On the other hand, some of the reviewed studies were limited by the technological equipment and internet access to integrate the ICTs in the English curriculum.

Although our systematic review corpus was not sufficiently large, the revision of 13 studies allowed a more in-depth examination. In this process, we detected some clear research gaps that future research and educational communities may further explore. Thus, it can be stated that more research should be conducted on what is occurring in the school classroom regarding the use, implementation, and perceptions of ICT in teaching and learning the English

language. It is also worth investigating whether the forceful change to distant learning had any impact on improving students' learning and linguistic skills. Another area that future research may examine is the integration and relevance of ICTs in teachers' education since apart from the standards for preservice teachers that regulate the inclusion of ICT in the curriculum of preservice teachers, research has failed in providing empirical evidence on the ICT competencies of teacher candidates.

Disclosure Statement

No potential conflict of interest was reported by the authors.

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