



Miriam Renata Figur

Licenciada em Letras

Teachers' Emotions and Perceptions towards using Information and Communication Technologies in Teaching English as a Foreign Language

Dissertação para obtenção do grau de

Mestre em Educação

especialização em

e-Learning e Tecnologias de Informação e Comunicação na Educação

Orientador: João Correia de Freitas, Prof. Auxiliar, FCT Nova

Co-orientador: Karly Barbosa Alvarenga, Docente Associada,
Universidade Federal de Goiás, Brasil

Júri:

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UNIVERSIDADE NOVA DE LISBOA

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FACULDADE DE CIÊNCIAS E TECNOLOGIA

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To Nelci Figur, my beloved mother (*in memoriam*).

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Abstract

In a digital world where we current live, the Information and Communication Technologies (ICT) play a more and more important role in people's life. And in the educational field it is not any different: the use of ICT has been crucial in the 21st century classroom, regardless the subject taught and the COVID-19 pandemic scenario has made the ICT role in education even more relevant and indispensable. This research is focused specifically on the ICT use in English as a Foreign Language teaching practice. Moreover, the teachers' perceptions, emotions and feelings regarding using ICT in their teaching practice.

This is an exploratory study, qualitative in its nature, with some quantitative supporting data, which aims to identify what emotions and feelings are expressed by a specific group of teachers of English as a Foreign Language regarding using ICT in their teaching practice and what elements may be related to them. Data were collected in two phases, being the first one a self-reporting questionnaire, involving 21 respondents, while in the second phase 4 participants were interviewed. Findings from the qualitative analysis shown that training has a relevant impact on perceptions emotions and use of ICT and anxiety is the most frequently reported emotion by this group of teachers.

Keywords: ICT in education, English as Foreign Language teaching, teachers' emotions, training.

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Resumo

Em um mundo digital em que vivemos atualmente, as Tecnologias da Informação e Comunicação (TIC) desempenham um papel cada vez mais importante na vida das pessoas. E no campo educacional não é diferente: o uso das TIC tem sido crucial na sala de aula do século XXI, independentemente da disciplina ensinada, e o cenário da pandemia COVID-19 tornou o papel das TIC na educação ainda mais relevante e indispensável. Esta pesquisa é focada especificamente no uso das TIC no ensino de inglês como língua estrangeira e nas percepções, emoções e sentimentos dos professores em relação ao uso das TIC em sua prática docente.

Trata-se de um estudo exploratório, de natureza qualitativa, com suporte de dados quantitativos, que visa identificar quais emoções e sentimentos são expressos por um grupo específico de professores de inglês em relação ao uso das TIC em sua prática docente e quais elementos podem estar relacionados a elas.

Os dados foram coletados por meio de um questionário de autoavaliação, envolvendo 21 respondentes e, em uma fase posterior, por meio de 4 entrevistas. Os achados da análise qualitativa mostraram que a formação tem impacto relevante nas percepções e no uso de TIC e ansiedade é a emoção mais relatada por esse grupo de professores.

Palavras-chave: TIC na educação, inglês como ensino de Língua Estrangeira, emoções, sentimentos, formação de professores.

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Resumen

En un mundo digital donde vivimos actualmente, las Tecnologías de la Información y la Comunicación (TIC) desempeñan un papel cada vez más importante en la vida de las personas. Y en el ámbito educativo no es diferente: el uso de las TIC ha sido crucial en el aula del siglo XXI, independientemente de la asignatura impartida y el escenario pandémico de COVID-19 ha hecho que el papel de las TIC en la educación sea aún más relevante e indispensable. Esta investigación se centra específicamente en el uso de las TIC en inglés como práctica de enseñanza de lengua extranjera. Además, las percepciones, emociones y sentimientos de los profesores sobre el uso de las TIC en su práctica docente.

Este es un estudio exploratorio, cualitativo en su naturaleza, con algunos datos cuantitativos de apoyo, que tiene como objetivo identificar qué emociones y sentimientos expresa un grupo específico de profesores de inglés como lengua extranjera sobre el uso de las TIC en su práctica docente y qué elementos pueden estar relacionados con las TIC. Los datos se recopilaron en dos fases, siendo la primera un cuestionario de autorreporte, en el que participaron 21 profesores, mientras que en la segunda fase se entrevistó a 4 profesores. Los resultados del análisis cualitativo mostraron que la formación tiene un impacto relevante en las emociones perceptivas y sentimientos. El uso de las TIC y la ansiedad es la emoción reportada con mayor frecuencia por este grupo de profesores.

Palabras clave: TIC en la educación, inglés como enseñanza de lengua extranjera, emociones y sentimientos de los profesores, formación.

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Contents

Acknowledgments	v
Abstract.....	vii
Resumo	ix
Resumen	xi
List of Figures	xv
List of Tables	xvii
1. Introduction	1
1.1. Contextualization.....	1
1.2. Research Questions and Objectives.....	2
1.3. Dissertation Structure.....	3
2. Literature review.....	5
2.1. Information and Communication Technologies in Education (ICT): an Overview	5
2.2. ICT in EFL Teaching Context: Teachers’ Perceptions	7
2.3. The Impact of COVID-19 Pandemic.....	11
2.4. The Role of Emotions in the Teaching and Learning Processes	12
3. Methodology.....	21
3.1. Methodological Approach	21
3.1.1. The Nature of this Research.....	21
3.1.2. Research design: an Exploratory Study.....	22
3.2. Participants and procedures.....	23
3.3. Instruments.....	24
3.3.1. Questionnaire	24
3.3.2. Interviews	26
4. The Research Corpus: Data Collection, Results and Discussion	29
4.1. Quantitative Data	29
4.2. Qualitative Data	31
4.2.1. Qualitative data pre-analysis: organising and coding	31
4.2.2. Presenting qualitative data	34
5. Discussion and Conclusions.....	61
5.1. Constraints and Recommendations.....	65
References	67

Appendixes	71
Appendix A. Online Questionnaire	73
Appendix B. Presential Semi-structured Interview guide.....	83
Appendix C. TES – The Teacher Emotion Scales	85
Appendix D. Interview Transcriptions	87
Appendix E. Initial themes.....	105
Appendix F. Coding-frame	111
Appendix G. CD-ROM	119

List of Figures

Figure 2.1: Global monitoring of school closures by COVID-19 (Source: UNESCO, 2020, retrieved from https://en.unesco.org/covid19/educationresponse)	12
Figure 2.2: Neurological relationship between cognition and emotion	17
Figure 4.1: Extract from interview transcription	32
Figure 4.2: Starting the coding process	32
Figure 4.3: Grouping meanings by colour	33
Figure 4.4: Visual model of coding Process in Qualitative Research (Creswell, 2014)	34

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List of Tables

Table 3.1: Sample demographic profile (n=21).....	23
Table 3.2: Sample professional profile	23
Table 3.3: Interviews details	27
Table 4.1: Number of students per class	29
Table 4.2: ICT-related in-service training.....	30
Table 4.3: Technological environment.....	30
Table 4.4: Relative (%) frequencies for TES questions (n = 21).....	31
Table 4.5: Frequency of ICT use in teaching practice	35
Table 4.6: Types of ICT used in teaching practice	36
Table 4.7: What teachers use ICT for	37
Table 4.8: ICT use impact on teaching practice	39
Table 4.9: Access to ICT	40
Table 4.10: Why using ICT in teaching practice	41
Table 4.11: Impacts of the COVID-19 pandemic ICT use and perceptions	43
Table 4.12: Types of training.....	45
Table 4.13: Perceptions of receiving training	45
Table 4.14: Lack of ICT-related training	47
Table 4.15: Impact of lack of training	48
Table 4.16: Positive Emotions.....	50
Table 4.17: Anxiety	52
Table 4.18: Anger	54
Table 4.19: Emotions related to ICT use during COVID-19 pandemic	56
Table 4.20: Perception of emotions impact on teaching-learning process	58

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1. Introduction

1.1. Contextualization

We live in a digital world. There may be different ways to define it or even the levels of applicability and agreement, regarding one's cultural, social and economic situation. But the digitisation is undeniable. We are facing a digital transformation which has been accelerated with the rapid advance of new technologies like artificial intelligence, robotics, cloud computing and blockchain. According to the Communication from the Commission to the European Parliament on the Digital Education Action Plan (2018), it is a matter of the greatest importance investing in one's digital skills throughout life owing to the fact that like previous major technological advances, digitisation affects how people live, interact, study and work. Some jobs will disappear, others will be replaced, new jobs will be created, many jobs and industries will be transformed, and new activities will emerge.

Facing the context stated above, we also have to consider that the use of Information and Communication Technologies (ICT) in education is an unstoppable event. Among the different educational areas impacted by the use of ICT one of which is teacher development, since new skills and tools must be effectively integrated in teaching and learning processes. More and more teachers and researchers have become interested in the influence of new technologies on learning and, more specifically, in the use of information and communication technologies (ICT) in foreign-language teaching (Ghasemi and Hashemi, 2011). According to Chamorro & Rey (2013),

Over the past few decades, information and communication technologies have been integrated into the language teaching and learning scenario with relatively great success. Accordingly, teachers' role in this process is fundamental in order to make this integration really relevant for students' learning. (p. 51)

By incorporating and using ICT in their practice, as it happens to any other teachers, teachers of English as a Foreign Language (EFL) are under constant need of adaptation to new tools, learning and improving skills, besides the pressures that are intrinsic to teaching. Those particularities lead teachers to several emotional experiences regarding their role, in general, but also specifically regarding using ICT.

We cannot neglect the fact that ICT has never had a greater role in education than currently, as we have been facing the COVID-19 pandemic. So, in the course of this study's development the pandemic became a factor to not be left aside.

Although the role of emotions has been neglected by science, in the past decades it has changed. Especially neuroscience has been shedding light on the relevance of emotions in the field of education. As stated by Frenzel et al. (2016), "this type of research is particularly important and timely because teachers' emotions are proving to be highly relevant not only for their own wellbeing but also for the functioning of classrooms." (p.35).

This research is a master's dissertation thesis presented as the conclusion work of the Master of Education course at Department of Applied Social Sciences, Nova School of Sciences and Technology. It was outlined as an exploratory study with a qualitative methodological approach with some numerical data provided.

1.2. Research Questions and Objectives

The present study intended to answer the following questions:

- a) what emotions and feelings does a group of EFL teachers express regarding using ICT in their teaching practice?
- b) what elements are related to those teachers' emotions and feelings?

Thus, our main goal is to identify what emotions and feelings are expressed by a specific group of EFL teachers regarding using ICT in their teaching practice and what factors may relate to them.

More specifically, our objectives are:

- to know the participants' technological environment in their professional context;
- to understand how the participants' access to ICT impact on their perceptions and use of ICT;
- to identify this group of EFL teachers' emotions and feelings regarding ICT use;
- to identify what elements are related to these teacher's emotions and feelings regarding ICT use;
- to perceive how these teachers' emotions and feelings impact on their attitude towards using ICT;
- to perceive how aware these teachers are about their emotions and feelings impact on the teaching and learning process.

1.3. Dissertation Structure

This dissertation is organized in five Chapters. In Chapter 1, we find the Introduction, which sets the context and the general panorama of the research identifying the research question, the main aim and objectives of this study, the methodological approach and the dissertation organisation. The review of literature is built in Chapter 2, which presents a panorama of Information and Communication Technologies (ICT) use in education, and more specifically in English as a Foreign Language (EFL) teaching practice and an overview of the teacher's perceptions regarding using ICT. In the same chapter, we also present the neuroscience concept of emotions and how emotions are connected to the teaching and learning processes. Then, in Chapter 3 we present in detail this research methodological approach, which, as stated above, is an exploratory study, qualitative in nature. In Chapter 4 is where the results, data analysis, and discussion are presented, followed by the conclusions and recommendations, in Chapter 5, which is also the last chapter.

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2. Literature review

2.1. Information and Communication Technologies in Education (ICT): an Overview

A transformation process has been occurring in the past few decades in the Education field regarding the integration of information and communication technologies (ICT) in daily school activities. In the present days, the use of ICT in the classroom is part of teaching and learning processes and this fact has been impacting different educational areas. Livingstone (2012) points out that

recent years have seen a steady embedding of digital and networked technologies in the classroom, with widespread use of interactive whiteboards, virtual learning environments, educational computer games, and increasing reliance on internet application including email and e-learning for both classroom and independent study.

As stated by Pelgrum (2001), many governments have, in the late 1990s, developed plans to intensify their investments regarding ICT in education. The quick rise of the Internet and world wide web (WWW) have led to the adoption of objectives to equip all schools with access to these facilities in a relatively short period of time. Therefore, this subject has been a critical issue to be considered by all segments of society, according Martin et al.(1996) point out (as cited by Little, 1997):

The impact of information technology has already been noted in educational institutions, governments, corporations, the marketplace, and society as a whole. This impact has global proportions. Information about such impact is often taught in introductory courses as well as in advanced courses in computer-related programs. It should be a part of the education of students at all levels. It can be included in all courses and all subjects at all levels, as it crosses all disciplinary boundaries. (p. 103)

There isn't a single definition of ICT. In short, all devices, such as tools, networking components, applications and systems which allow people and institutions/organizations to interact in the digital world are taken under the Information and Communication Technologies umbrella. It may be described as a different set of technological tools and resources that used to communicate, create, spread and manage information (Alkamel & Chouthaiwale (2018). According to Ghasemi & Hashemi (2011), ICT can be defined as

a diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information. These technologies include computers, the Internet, broadcasting technologies (radio and television), and telephony. In recent years there has been a groundswell of interest in how computers and the Internet can best be harnessed to improve the efficiency and effectiveness of education at all levels and in both formal and non-formal settings. (p. 3099)

Çakıcı (2016) gathers definitions from different authors to answer this question: What does ICT mean? Following Çakıcı (2016) framework, Asabere and Enguah (2012, as cited by Çakıcı, 2016, p. 74) defined ICT as the tools, facilities, processes, and equipment that provide the required environment with the physical infrastructure and the services for the generation, transmission, processing, storing and disseminating of information in all forms including voice, text, data, graphics and video. Some examples of ICTs; IWBs, computers, computer assisted language learning (CALL) software, office applications (word, PowerPoint, drawing tools etc.), the Internet – websites and downloadable software, commercial course book CD-ROMs, DVD players, mobile phones, electronic dictionaries, digital cameras and videos, DAT recorders, document cameras, data projectors.

ICT includes technologies specific to the school environment (e.g. interactive whiteboards) or applications used across formal or informal boundaries (e.g. education games) and networked technologies (Livingstone, 2012). According to Hennessy, Ruthven & Brindley (2005) the term ICT encompasses the range of hardware (desktop and portable computers, projection technology, calculators, data logging and digital recording equipment), software applications (generic software, multimedia resources), means of telecommunication and information systems (Intranet, Internet).

According to Cox (2007), many published studies have also shown as expected that teachers' pedagogies have a large impact on students' uses of ICT and thereby on any changes in their learning. Cox and Webb (2004), (as cited by Cox 2007, p, 65) identified a range of activities in their literature review which related to teachers' ideas, beliefs and actions about ICT in teaching, which include: teachers' beliefs about how students learn; the types of ICT resources teachers choose to use; their knowledge about their own subject and the potential for ICT to enhance their pupils' learning; and their abilities to integrate ICT into their whole curriculum programme. According to those studies, when teachers used their knowledge of both the subject and the way students understood the subject their use of ICT had a more direct effect on students' attainment. This occurred more reliably when students were challenged to think and question their own understanding, albeit through students using topic focused ICT software on their own or in pairs or through a whole class presentation.

2.2. ICT in EFL Teaching Context: Teachers' Perceptions

Since the late 1950's Computer Assisted Language Learning (CALL) has provided the language teachers with valuable technological tool (Santos, Beato & Aragão, 2012). In the last few decades, computational technology became more and more accessible and essential in different areas of work and knowledge. It has not been different in the field of education. The use of ICT is applied to all fields of knowledge and computers play a very important role in the teaching and learning process. For the present study, as already stated, we are interested in the use of ICT in teaching English as a foreign language, and in this regard, we must mention Computer Assisted Language Learning (CALL). This acronym CALL (Computer Assisted Language Learning) seems to have been first used at the beginning of 1980s and its first occurrence can be traced to a symposium paper by Davies & Steel (1981).

According to Chapelle (2010),

The expression 'computer-assisted language learning' (CALL) refers to a variety of technology uses for language learning including CD-ROMs containing interactive multimedia and other language exercises, electronic reference materials such as online dictionaries and grammar checkers, and electronic communication in the target language through email, blogs, and wikis. These varied technologies used by language learners have spread over the past several years across many language classrooms and beyond. (p. 66)

Moreover, Chiramel (2018) points out that by the end of 1980s an alternative term to CALL emerged, namely TELL (Technology Enhanced Language Learning) as is evident from what Brown (1988) affirms (cited in Chiramel, 2018):

Learning a foreign language can enrich the education of every pupil socially and intellectually and be vocationally relevant. The new technology should form an integral part of a modern language department's overall teaching strategy. By these means, to coin a communicative-sounding acronym, TELL (Technology Assisted Language Learning) can help produce telling results in language performance both in school and in the wider world. It [TELL] therefore has a place in every modern language department. (p. 44)

Thinking particularly about a computer-based learning environment, Michael Hannafin and Susan Land (1997, cited in Barr, 2003: 69), suggest that there are four main elements to create a CALL environment. They are: tools, resources, people and design. In such an environment, computer technology is used to provide access to learning resources, through the Web, for example. In addition, the computer is used as a tool (as a means of presenting and distributing information).

Amaral & Meurers (2011), claim that traditional CALL systems provide only limited exercise types, and learners need more individualized feedback. "There thus is a clear need for linguistic modelling to improve the ability of CALL systems to handle more complex exercise types, and to provide detailed individualized feedback" (p.3). Thus, CALL has been improved to ICALL - Intelligent Computer-Assisted Language Learning. Research in Intelligent Computer-Assisted Language Learning (ICALL) has explored techniques and tools from Natural Language Processing (NLP) for this purpose. According to Garrett (1995), the field of intelligent computer-assisted language learning (ICALL) is still young, and

beyond the potential of ICALL itself, there are still many extremely complex issues about its integration into the academic reality of language teaching and the theoretical framework of second language acquisition. (p. 345)

Thinking of ICT in nowadays educational scenario could drive us to several paths and certainly we could make many interesting pit stops along the way. However, I would like to take a walk on the use of ICT in English as a Foreign Language (EFL) field. And my pit stop will be on teacher's perceptions of using ICT in their teaching practice. More specifically, I am interested in their emotions and feelings regarding ICT use.

Without a doubt, ICT is a valuable and an innovative teaching tool enhancing EFL learning. The rapid growth of ICT has naturally influenced every aspects of the language teaching process. Using technology has positive effects on teaching and learning English. Technology can be applied to teaching practices to enhance and facilitate foreign language learning. (Çakici, 2016, p. 75)

The ICT use adds value and brings quality to the EFL classroom. The sheer presence of technological tools in teaching and learning has opened up a whole new world of investigation into the issue of teaching effectiveness (Rahimi & Yadollahi, 2011). Thus, it is undeniable the role of the digital competences in teaching practice and training teachers in this regard is a must in the 21st century educational agenda. Both topics, the relevance of using ICT in EFL teaching and need of training have been widely discussed in the literature (Azmi, 2017; Fritz, 2016, Palacios, Gómez & Huertas, 2020;

Fernández-Cruz & Fernández-Díaz, 2016; Mullamaa, 2010; Hismanoglu, 2012; Ghasemi, & Hashemi, 2011; Çakıcı, 2016; Sabiri 2019; Gilakjani, 2012; Rahimi & Yadollahi, 2011; Tri & Nguyen, 2014)

According to the European Statistical Office (EUROSTAT, 2020), by the time young people in the EU leave compulsory education most of them have regularly made use of computers and the internet for a variety of activities. ICT are used by schools and other educational establishments not only to develop ICT skills but also to support the teaching of traditional subjects such as mathematics or foreign languages.

Although many researchers worldwide have been investigating how ICT has been effectively used in the context of EFL teaching and how teachers' perceptions and beliefs impact on teaching and learning processes, this issue has still not been fully studied. Nevertheless, the impact of ICT use in EFL teaching hasn't been so different from its impact on other educational areas and school subjects. And, since teachers have been playing a key role in the learning process, as they facilitate it by their teaching practice, their perceptions, namely emotions and feelings regarding the ICT use should not be ignored. Teaching is one of the most challenging and crucial professions in the world. Teachers are critical in facilitating learning and in making it more efficient and effective, and they will continue to be in the future (Haddad & Draxler, 2002, p. 7).

Teaching and learning languages must include all the communication skills (listening, speaking, reading and writing), thus, EFL teachers have been using some type of ICT to address their teaching purposes, even in the past, when there was a very limited range of options compared to current days, when teachers can make use of these different tools of technology and can make his/her teaching innovative and interesting (Ravar, 2014) by using different tools and resources. According to Ghasemi & Hashemi (2011), ICT helps English language learners by enabling them to communicate, edit, annotate and arrange text quickly and flexibly. Moreover, Ghasemi & Hashemi (2011) emphasise:

Using ICT gives the learners real-life contact with, and exposure to, the cultures of the peoples and countries where the new language is spoken and enables children to access and research information worldwide. The opportunity for children to develop an interest in the culture of other nations through comparison with their own is an integral part of primary languages entitlement. Using ICT, particularly email, blogs and video conferencing, facilitates children's interaction and communication with native speakers and other communities by enabling them to use language for real purposes and in real contexts. ICT both supports and integrates literacy skills. It enhances interactive teaching and learning

styles and provides many opportunities for creativity. When used imaginatively it can stimulate curiosity about how languages work, raise the level of cognitive challenge, and extend children's ability to be independent in their use of the new language. ICT offers a powerful way of enabling children to be fully engaged in their own language learning process. (p.3099)

Furthermore, the use of ICT for teaching English helps to enhance skills in reading, writing, speaking and listening (Lopez et. al, 2019). According to Mullamaa (2010), ICT supports the modern principles of learning and language acquisition. Individualisation, interaction and student motivation, often considered paramount in modern education theories, are necessarily a part of the process in ICT. Furthermore, Mullamaa (2010) highlights that in language teaching, the educational and tutoring support available can be used in creating the e-learning environments for teaching general language courses in different languages at different levels; for learning terminology, and ESP (English for Specific Purposes) in different fields of specialisation. At the same time, ICT enables teachers to foster student-centred learning, individualisation and support building up a sense of belonging to a community.

However, Robertson (2003, as cited in Townsend & Bates, 2007) make it clear that

Teachers are vulnerable to the technopositivist ideology that perpetuates a naive faith in the "promises" of technology. Most teachers have been denied opportunities to explore the motives, power, rewards, and sanctions associated with the unscrupulous marketing of information and communications technology (ICT) and tend to be uninformed about the research that has failed to find a positive relationship between ICT use and student achievement. They remain unaware of the efforts to disguise how devotion to technology necessarily entails retrofitting the purposes and practices of education. (Townsend & Bates, 2007, p.21)

Hennessey et al (2005) have point out that

One means of shedding some light on the complexities arising above is to recognise that teachers' involvement with ICT is undoubtedly influenced by the working contexts in which teachers find themselves. Innovation and adaptation are costly in terms of the time needed to develop and establish new practices. In addition to the new interpersonal and pedagogic skills which teachers require to use ICT in

their classrooms, other contextual factors which can act as barriers to using ICT include: lack of confidence, experience, motivation, and training; access to resources and timetabled use of dedicated ICT suites; unreliability of equipment; classroom practices which clash with the culture of student exploration, collaboration, debate and interactivity within which much technology-based activity is said to be situated. (p. 9)

Since teachers are the key figures to utilize ICT in educational settings productively and to help integrate ICT into the curriculum, they need support and training to disseminate ICT integration into their classrooms (Hismanoglu, 2012, p.185). Albirini remarks that the successful implementation of educational technologies depends largely on the attitudes of educators, who eventually determine how they are used in the classroom (Albirini, 2006, p. 375). Based on a review of literature, this author highlights how essential the teacher's perceptions and attitudes are in this process. Teachers' attitudes are a major enabling/disabling factor in the adoption of technology. Teachers who have positive attitudes toward technology feel more comfortable with using it and usually incorporate it into their teaching (Albirini, 2006) Any successful transformation in educational practice requires the development of a positive user attitude toward the new technology. The development of teachers' positive attitudes toward ICT is a key factor not only for enhancing computer integration but also for avoiding teachers' resistance to computer use.

Hismanoglu (2012) points out that several studies, however, not all teachers have been willing to introduce ICT into their language classrooms. In the last decade, a steady stream of work has variously addressed this issue. According to Hismanoglu (2012), studies have also shown that, for the younger generation of teachers, the basis of this unwillingness is sometimes to be found in the training on the use of ICT provided in the teaching and learning processes. The ICT role is not only to engage learners in the learning process, but also to promote learners' motivation and learner-centered instruction (Chapelle, 2005).

2.3. The Impact of COVID-19 Pandemic

The COVID-19 pandemic, also known as the coronavirus pandemic, is (in 2020) an ongoing pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), first identified in December 2019 in Wuhan, China. The outbreak was declared a Public Health Emergency of International Concern in January 2020 and a pandemic in March 2020. As of 8 November 2020, more than 49.9 million cases have been confirmed, with more than 1.25 million deaths attributed to COVID-19.

Most governments around the world have temporarily closed educational institutions in order to contain the spread of the COVID-19 pandemic. According to UNESCO, the school closures due to pandemic affected over 1.4 billion learners by the end of March of 2020, which means 84% of total enrolled learners from 169 country-wide closures, as presented in Figure 2.1, below. These nationwide closures have been impacting hundreds of millions of students. Several other countries have implemented localized closures impacting millions of additional learners.

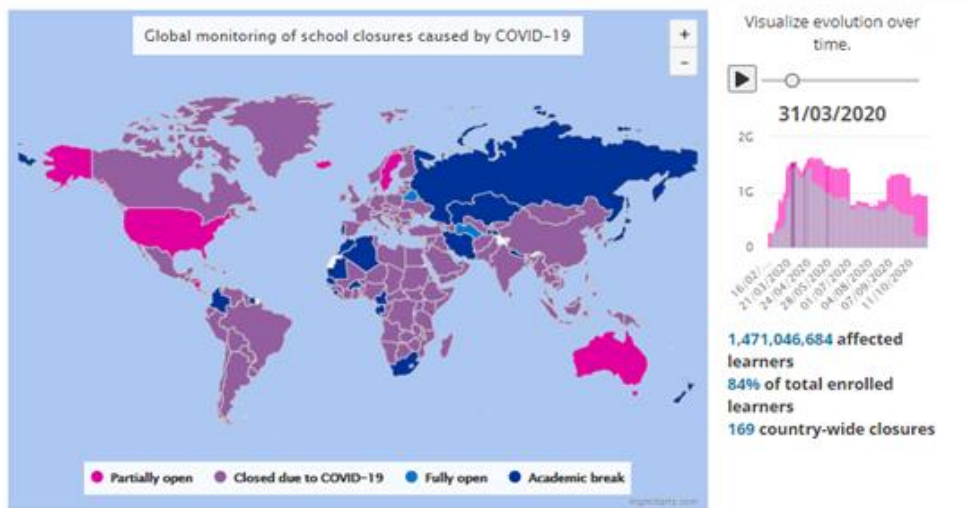


Figure 2.1: Global monitoring of school closures by COVID-19

(Source: UNESCO, 2020, retrieved from <https://en.unesco.org/covid19/educationresponse>)

As for learners it was a drastic change, moving learning from classroom to home, suddenly, there was no other option for teachers, but teaching remotely, which means using ICT whether being prepared and willing to do that or not. Thus, perceiving how the COVID-19 pandemic has impacted teachers' perceptions, emotions and feelings regarding ICT use for teaching become one of our interests in this research.

2.4. The Role of Emotions in the Teaching and Learning Processes

Generally, it is widely accepted that emotions can be understood as dispositional traits, or in other words, that people differ from one another in the frequency and intensity with which they experience certain emotions. Emotions can intensify the neuronal networks activity, strengthen their synaptic connections, stimulate the acquisition, retention, evocation and articulation of information in the brain. Hence, we need to encourage and strength the importance of contexts that offer individuals the prerequisites necessary for any type of learning: interest, joy and motivation. In fact,

even reasoning is strongly related to emotion. One way or another, our acts and thoughts are always influenced by emotions (Alvarenga & Domingos, 2020).

Mostly, we will use in everyday life emotions and feelings as synonyms, taking one or another term indistinctly, to refer to what sensations we have, what we feel. Nevertheless, emotions and feelings are related but two different instances and occur in different sites of our brain. They can be taken as two sides of the same coin (Damasio, 2004). When the brain detects the presence of an emotionally competent stimulus, it produces regulatory reactions, constituted by a patterned collection of chemical and neural responses, which are the emotions and in simple terms, feelings are the perception of emotions, in other words, feelings are the result of becoming conscious of emotions. Not all the emotions will be perceived though.

Emotions are objective while feelings are subjective (Damasio, 2004), thus, emotions can be investigated in laboratory and their neural basis and role are clearer than feelings and, according to Damasio, (2004, p. 56), their neurobiology can investigate objectively, and understanding their neurobiology opens the way to elucidating the neurobiology of feelings.

As such, we assumed that also teachers' emotional experiences during teaching are, to a considerable degree, person specific. For example, we assume that the intensity and frequency of a teacher's anxiety while teaching is shaped by their general disposition to experience anxiety, and that teachers thus differ systematically from one another in their experiences of anxiety while teaching.

Teachers' emotions have attracted increasing empirical research attention in recent years. They have been shown to be critically important for the quality and effectiveness of classroom instruction and are highly relevant for teachers' psychological well-being (Frenzel et al., 2015). Pintrich (1991) (as cited by Schutz & Lanehart, 2002) shed light on the discussion about emotions in education. Pintrich makes it clear how relevant it is to bring the emotions to the educational scenario:

As motivation, cognitive, developmental, and educational psychologists have continued to contextualize their inquiry within the schools, it has become clear that emotions are an integral part of educational activity settings. In the 2000s, researchers interested in teaching, learning, and motivational transactions within the classroom context can no longer ignore emotional issues. Emotions are intimately involved in virtually every aspect of the teaching and learning process and, therefore, an understanding of the nature of emotions within the school context is essential. (p.67)

Frenzel et al. (2016) studied the role of emotions in the educational scenario, particularly teachers' emotions. They state that "the emotions of teachers are considered relevant not only for their own well-being but also for the functioning of classrooms." (p. 2).

Emotions have been taken, indeed, as an object of study in educational research, particularly regarding how they relate to cognition and learning. Several studies have been done in this field, "nevertheless, research on teacher emotions has been slow to emerge, and scales for their assessment via self-report are generally lacking" (Frenzel et al., 2016, p.2). Therefore, these researchers developed a self-report instrument for the assessment of teachers' emotional experiences, called Teacher Emotions Scales - TES, which is a four-item scales for three emotions considered most relevant in the context of teaching: enjoyment, anger, and anxiety (Frenzel et al., 2016). According to Immordino-Yang & Damasio (2007),

Recent advances in neuroscience are highlighting connections between emotion, social functioning, and decision making that have the potential to revolutionize our understanding of the role of affect in education. In particular, the neurobiological evidence suggests that the aspects of cognition that we recruit most heavily in schools, namely learning, attention, memory, decision making, and social functioning, are both profoundly affected by and subsumed within the processes of emotion; we call these aspects emotional thought. (p.3)

Damasio (1994), as cited by Immordino-Yang & Damasio (2007, p. 7), says that "emotions entail the perception of an emotionally competent trigger, a situation either real or imagined that has the power to induce an emotion, as well as a chain of physiological events that will enable changes in both the body and mind".

Emotions can be classified in primary or universal emotions: happiness, sadness, fear, anger, surprise, or disgust and secondary or social emotions: embarrassment, jealousy, guilt, or pride; and what the author calls background emotions, such as well-being or malaise, calm or tension Damasio (1999). The label emotion has also been attached to drives and motivations and to the states of pain and pleasure and defines emotions as phenomena underlied by a shared biological core.

Mosca (2000) based on Damasio's studies states a definition for emotions as patterns of chemical and neural responses, the function of which is to assist the organism in maintaining life by prompting adaptive behaviors. They are due to the activation of a set of brain structures, most of which also monitor and regulate bodily states around optimal physiological values, in processes known as homeostasis or homeodynamics. The emotions are biologically determined, stereotypical, and

automatic, although it is acknowledged that culture and individual development may influence the set of inducers and can inhibit or modify overt expressions.

Supported by neuroscience research, we can say that emotion and cognition are interconnected and demand interaction between body and mind (Immordino-Yang, 2011). In addition, the same authors state that

social processing and learning happen by internalizing our subjective interpretations of other people's beliefs, goals, feelings and actions, and vicariously experiencing aspects of these as if they were our own. Together, these two results from neuroscience could have important implications for the design of learning environments; to discover these will require reconciling established educational learning theories with the current neurobiological evidence. (p. 98)

Immordino-Yang & Damasio (2007) in their essay about connections between emotions and education "illustrate that most, if not all, human decisions, behaviors (sic), thoughts, and creations, no matter how far removed from survival in the homeostatic sense, bear the shadow of their emotive start." (p.7).

From the most traditional approaches of teaching to the most innovative and learner-centred ones, the teachers' thoughts and beliefs impact on their practice. Teachers need to make decisions all the time, which will interfere in the learning process even before they are teaching. According to Tudor (1993), the teacher, in a traditional approach, is a figure of authority who decides on what should be learned and how this should best be learned. And, in a more learner-centred approach, the teacher's role is that of activity organizer: the teacher sets up and steers learning activities in the right direction, motivates and encourages students, and provides authoritative feedback on students. This way, we cannot dissociate emotions from cognitive activity and rational thinking, which are the main features in teaching practice. Nevertheless, this association between emotions and rational thinking, cognition and decision making is a recent concept. In several cultures, there is a belief that some people will think either with their head or heart, which means they would be rational or emotional. Damásio (1994) summarises such tradition:

I had been advised early in life that sound decisions came from a cool head, that emotions and reason did not mix any more than oil and water. I had grown up accustomed to thinking that the mechanisms of reason existed in a separate province of the mind, where emotion should not be allowed to intrude, and when I thought of the brain behind that mind, I envisioned separate neural systems for reason and

emotion. This was a widely held view of the relation between reason and emotion, in mental and neural terms. (p.12)

Even science has relegated emotions from high reason and cognition by treating rational thoughts as dissociated from emotions.

By the end of the nineteenth century Charles Darwin, William James, and Sigmund Freud had written extensively on different aspects of emotion and given emotion a privileged place in scientific discourse. Yet, throughout the twentieth century and until quite recently, both neuroscience and cognitive science gave emotion a very cold shoulder. (Damasio, 1999, pp. 58, 59).

However, neuroscience has been working to show us that the traditional views on the nature of rationality were not correct. Immordino-Yang & Damasio (2007) provided a graphical representation of the neurological relationship between cognition and emotion, in which they have used the term emotional thought to refer to the large overlap between cognition and emotion, as shown in Figure 2.2. Explaining Figure 2, the authors state:

The evolutionary shadow cast by emotion over cognition influences the modern mind. In the diagram, the solid ellipse represents emotion; the dashed ellipse represents cognition. The extensive overlap between the two ellipses represents the domain of emotional thought. Emotional thought can be conscious or nonconscious and is the means by which bodily sensations come into our conscious awareness. High reason is a small section of the diagram and requires consciousness. (p.8)

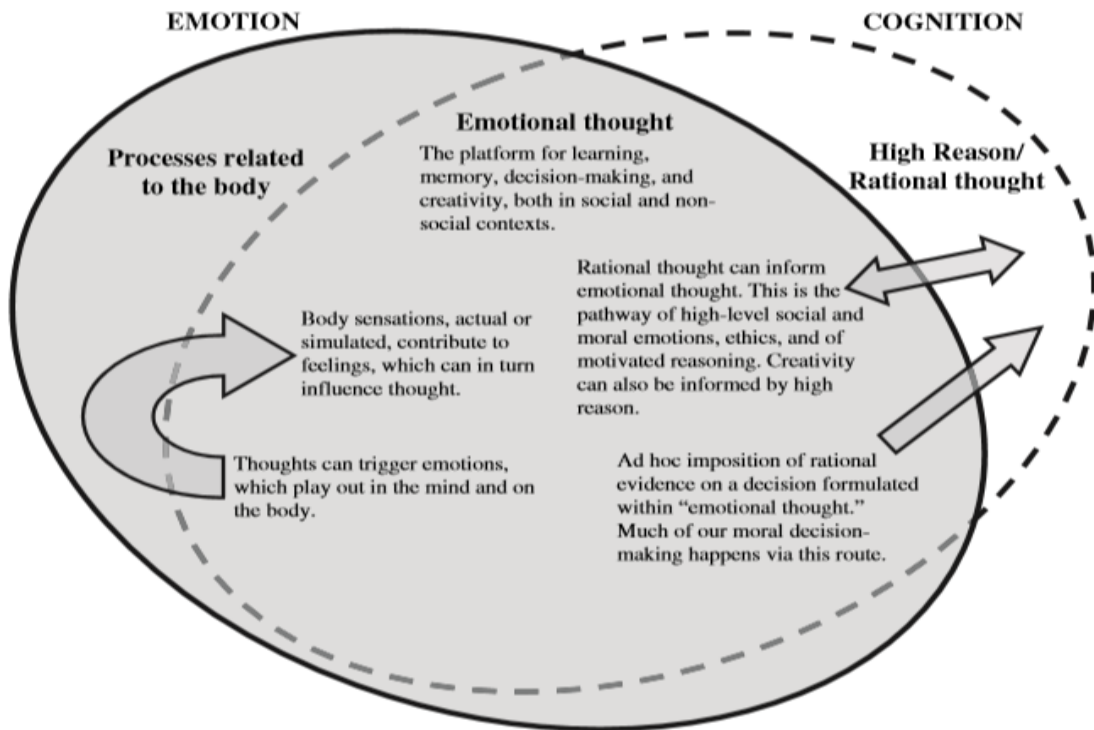


Figure 2.2: Neurological relationship between cognition and emotion

(Source: Immordino-Yang & Damasio, 2007. p. 8)

Furthermore, they remark that

emotional thought encompasses processes of learning, memory, and decision making, in both social and non-social contexts. It is within the domain of emotional thought that creativity plays out, through increasingly nuanced recognition of complex dilemmas and situations and through the invention of correspondingly flexible and innovative responses. Both the recognition and response aspects of creativity can be informed by rational thought and high reason. (Immordino-Yang & Damasio 2007, p. 8).

In recent work in affective and social neuroscience, Damasio et al. (2000) has revealed a new view of the mind. Instead of divorcing emotions from thinking, these researchers' findings suggest that emotions, such as anger, fear, happiness and sadness, are cognitive and physiological processes that involve both the body and mind.

Those findings should be part of discussions in the agenda of this huge umbrella called education. Boler (1999) observes that “emotions are inseparable from actions and relations, from lived experience. On the whole, education is impoverished in both theory and practice in accounting for the particularities of emotions in relation to lived power relations” (p.2). Boler (1999) also claims that educators have long recognized that emotions are slippery and unpredictable and since the early decades of the 19th century, social scientists and educators have been paying attention on how emotion and education intersect.

We could shed the neuroscience light on different aspects in the teaching and learning processes, but as stated before, my interest is to focus on EFL teachers’ emotions regarding ICT use in their practice, once we live in a digital era and it is not possible to deny it. So, the use of technology is part of the teaching practice and, as it happens to any other features of teaching, it demands choices, decision making, learning, adapting, getting used to new practices, etc. Changing may be one of the most constant attitudes currently required from teachers. From the most traditional ones, who might resist incorporating ICT in their practice, to the most innovative ones, who keep seeking new tools and uses for ICT in their daily practice in the classroom. Many teachers may experience some level of resistance when walking through this path. And “resistance to change is only one example of complicated emotional terrain of educational work” (Boler, 1999. p.2).

Besides those specific implications, “there is consensus that the teaching job involves intense efforts from teachers to regulate their internal and expressive components of emotions according to the display rules prevalent in teaching contexts – a phenomenon referred to as emotional labor” (Frenzel et al., 2016, p. 4). This, itself, is already a very compelling reason to make the emotions urgently part of the debate.

In the educational process, people are central. The role of teachers is always crucial (Haddad & Draxler, (2002). But, it is also known that,

the human element has limits, and other interventions need to be brought to bear strongly into the process of delivery and transformation of knowledge, and verification of results. It is the potential and role of technologies in contributing to improvement in the effectiveness and efficiency of this profoundly human exercise (Haddad & Draxler, 2002, p.3)

The use of Information and Communication Technologies (ICT) in teaching setting is a continuing and unstoppable process in EFL and all of the educational areas. Using ICT in the teaching practice demands learning, adjustments, planning, decision making, etc. Those are inherent processes and procedures of teaching which trigger emotional experiences. Understanding which emotions are

related to that and what role they play in this context is very important for the understanding of the whole process of integration and use of ICT in EFL teaching, once, according to neuroscience, we no longer can investigate any cognitive activity without considering the emotions. “New neurobiological evidence regarding the fundamental role of emotion in cognition holds the potential for important innovations in the science of learning and the practice of teaching” (Damasio, 1999, p.61).

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3. Methodology

3.1. Methodological Approach

3.1.1. The Nature of this Research

Based on its theme, Perceptions of the ICT use in TEFL, this research methodological approach is qualitative which has been pointed as the best suited to address a research problem in which you do not know the variables and need to explore (Creswell, 2012). It's an empirical study outlined to perceive teachers' emotions regarding using ICT for teaching purposes, which may or may not be related to the existing gap between expectations and practice in using ICT and/or other variables which were selected primarily to set the participants background and teaching context. Creswell (2012) suggests how to choose whether to use quantitative or qualitative approach among other factors that must match the research problem. This author states that the problems best suited for quantitative research are those in which trends or explanations need to be made. For qualitative research, the problems need to be explored to obtain a deep understanding. Furthermore, he advises researchers:

A quantitative researcher typically has taken some courses or training in measurement, statistics, and quantitative data collection, such as experiments, correlational designs, or survey techniques. Qualitative researchers need experience in field studies in which they practice gathering information in a setting and learning the skills of observing or interviewing individuals (p. 20).

That concept meets the postulation that the research is concerned with understanding the world and this is informed by how we view our world(s), what we take understanding to be, and what we see as the purposes of understanding (Cohen et al., 2001).

According to Bogdan & Biklen (1997), when a study employs the qualitative approach,

researchers go to the setting under study because they are concerned with context. They feel that action can best be understood when it is observed in the setting in which it occurs. These settings have to be understood in the historical context of the institutions of which they are a part. When the data with which they are concerned are produced by subjects, as in the case of official records, qualitative researchers want to

know where, how, and under what circumstances they came into being. Of what historical circumstances and movements are they a part? To divorce the act, word, or gesture from its context is, for the qualitative researcher, to lose sight of significance. (p.5)

Although this study is based on a qualitative approach, we provide some numerical data in order to better set the sample profile and to picture their preliminary perceptions, emotions and feelings towards using ICT in their teaching practice. . However, we cannot classify it as a mixed method once they weren't only taken for supporting the analysis but much more for setting context reasons and pointing out some directions to be taken in the qualitative data collection. Maxwell (2010) states that if participants in a study repeatedly make a particular claim or perform a particular action, presenting this fact in numbers isn't necessarily conceptualizing it in terms of variables, but can be seen as simply describing the occurrence and distribution of the claim or action in that setting or set of individuals.

The numerical data about the distribution of observations, or the number of instances of a particular type of event or statement, according to Maxwell (2010) helps to deal with potential challenges in conclusions. In addition, quantitative data can be valuable to identify and correctly characterize the diversity of actions, perceptions, or beliefs in the setting or group studied, once, sometimes quantitative data can enable the researcher to identify patterns that are not apparent simply from the unquantized qualitative data.

3.1.2. Research design: an Exploratory Study

This research design is primarily exploratory. For this choice, we considered some features of research in education, with especial interest in qualitative research, once that is the nature of this study. Exploratory research, as the name implies, intends merely to explore the research questions, and does not intend to offer final and conclusive solutions to existing problems. This type of research is usually conducted to study a problem that has not been clearly defined yet. Nevertheless, according to Theodorson & Theodorson (1970),

A preliminary study the major purpose of which is to become familiar with a phenomenon that is to investigate, so that the major study to follow may be designed with greater understanding and precision. The exploratory study (which may use any of a variety of techniques, usually with a small sample) permits the investigator to define his research problem and formulate his hypothesis more accurately. It also enables him to choose the most suitable techniques for his research and to decide on the questions most in need of emphasis and detailed investigation, and it may alert him to potential difficulties, sensitivities, and areas of resistance.

According to Cohen et. al (2001), the primary objective of such research is the identification and elucidation of the role/rule frameworks governing social interaction, informed rather than deceived subjects are essential if the necessary data on how they genuinely think and feel, are to be made available to the researcher.

3.2. Participants and procedures

EFL teachers from different countries were invited through schools' principals, teachers' associations and social media groups to complete a web-based questionnaire. Tables 3.1 and 3.2 display the sample profile in detail.

Table 3.1: Sample demographic profile (n=21)

Variable	Categories	n	%
Gender	Female	18	85,7
	Male	3	14,3
Age	21 to 39 yrs.	9	42,9
	40 yrs. and above	12	57,1
Nationality	Portugal	8	38,1
	Brazil	3	14,3
	Others	10	47,6

Table 3.2: Sample professional profile

Variable	Categories	n	%
Years of experience	Less than 5 yrs.	4	19,0
	5 to 10 yrs.	7	33,3
	More than 10 yrs.	10	47,6
Current Work Setting ^(a)	Public School	10	47,6
	Private School	8	38,1
	Primary School	6	28,6
	Private language school - teaching teenagers (13-18 yo.)	5	23,8
	Secondary School	5	23,8
	Private language school - teaching children (4-12 yo.)	4	19,0
	Private language school - teaching adults (+18 yo.)	4	19,0
	Private 1-to-1 Lessons	4	19,0
	Pre-School	3	14,3
Highest Relevant Level	Professional Education	7	33,3
	Graduate	8	38,1
	Postgraduate	2	9,5
	Master	4	19,0

(a) Relative (%) frequencies exceed 100% due to multiple responses.

The sample was composed of 21 EFL teachers. Besides this is a convenience sample, we can see a large variety of context and professional background, as well, we infer there is great personal and cultural diversity, once participants are not all from the same country. Most of the teachers were female (85.7%), aged 40 years old or above (57.1%), with less than 10 years of teaching experience (52.3%).

3.3. Instruments

3.3.1. Questionnaire

At the first stage of data collection, which happened in May of 2020, a questionnaire was our primary instrument. As asking questions is one of the most natural ways of gathering information (Dörnyei & Taguchi, 2009), researchers use questionnaires as one of the main data-gathering instruments. Broadly speaking, questionnaires can yield three types of data about the respondent: factual, behavioural, and attitudinal. Based on that, the four-section questionnaire was designed with a total of 22 questions (presented in Appendix A). The first section was an introduction and elicited the research purpose and contextualization. The second section aimed to outline the participants' background, gathering personal information and professional practice setting. The third section aimed to perceive the respondents' technological environment and experience in using ICT to teach EFL.

Concerning the teachers' emotions, the final section consists of a close-ended format on four-point Likert scale type questions to investigate teachers' perceptions and emotions regarding the use of ICT in EFL classrooms (see Appendix A). For designing this section, we took as theoretical reference the TES - Teacher Emotions Scales, a study by Frenzel et al (2016), from which were developed four-item scales for three emotions considered most relevant in the context of teaching: enjoyment, anger, and anxiety. Based on data of 944 teachers, all the TES scales proved to be highly reliable, and confirmatory factor analysis supported internal validity.

Likert scales are commonly used to measure attitude, providing a range of responses to a given question or statement. It has been a challenge to quantify attributes of human behaviours and performance through conventional measurement techniques. Such perceived need of quantification comes from the necessity to transform an individual's subjectivity as attitude, perceptions, and opinions - qualitative attributes - into an objectivity reality (Joshi et al, 2015). Thus, the construction of Likert (or Likert type) scale is rooted into the aim of the research. Sometimes the purpose of the research is to understand the opinions/perceptions of participants.

Rensis Likert created these scales which were first introduced to the field in 1932 in an article entitled, "A Technique for the Measurement of Attitudes" in *Archive of Psychology* (Jamieson, 2004; Likert, 1932). The Likert scale was designed to simplify the complexity of the Thurstone scaling technique (Edmondson, 2005). It was built as a means of capturing an infinite number of attitudes in an ordinal scale format (Likert, 1932). Typically, there are 5 categories of response, from (for example) 1 ¼ strongly disagree to 5 ¼ strongly agree, although there are arguments in favour of scales with 7 or with an even number of response categories (Cohen, 2013). We chose not to offer a neutral option, as we intended to have the respondents to clearly report whether they feel that way or not. Sometimes a 4-point (or other even-numbered) scale is used to produce an ipsative (forced choice) measure where no indifferent option is available (Bertram, 2013).

Pilot Test

Before the questionnaire instrument was officially used in the study, piloting was conducted by providing it to four participants who have not been included in the main study. From the pilot test feedback, we gathered a few language clarifications and rewording contributions and suggestions for adjusting some questions. Those suggestions were important to make the questionnaire clearer and maybe to avoid misunderstandings that could impact on the results, but there were not any changes in the questionnaire structure itself or comments that could make us less confident about the adaptation we made from TES questionnaire (Frenzel et al., 2016). Among the suggestions from piloting feedback we had, for example, to make it clear what ICT and EFL stand for also in the headline, not only in the introduction text body, which was very valuable. Also, one of the respondents suggested changing question 2 to a drop box with options for age groups instead of having that as an open question to be filled in with the exact age, as some participants may not feel comfortable to inform such personal information. Another very relevant suggestion was to display a progress bar, as the respondents could see their progress and know how far or close to the end they were.

The aim of piloting is to enable the researcher to "identify problems, so that they could modify, delete, and add items in the instrument to increase its reliability" (Creswell, 2012). A pilot test on a few participants can usually help you decide which questions to use. Creswell (2012) claims that

A pilot test of a questionnaire or interview survey is a procedure in which a researcher makes changes in an instrument based on feedback from a small number of individuals who complete and evaluate the instrument. The participants in the pilot test provide written comments directly on the survey, and the researcher modifies or changes the survey to reflect those concerns. Because the pilot group provides feedback on the

questionnaire, you exclude them from the final sample for the study.
(p.413)

3.3.2. Interviews

For the second stage of data collection, which happened between October and November of 2020, we

chose semi-structured interviews as our instrument. Cohen (2013), based on Tuckman (1972) and Kerlinger (1970), points out that the research interview may serve three purposes. First, it may be used as the principal means of gathering information having direct bearing on the research objectives. Second, it may be used to test hypotheses or to suggest new ones; or as an explanatory device to help identify variables and relationships. And third, the interview may be used in conjunction with other methods in a research undertaking. In this sense, it might be used, for example, to follow up unexpected results or to validate other methods, or to go deeper into the motivations of respondents and their reasons for responding as they do, which was our motivation for choosing interview as a data collection instrument.

All pre-processing data procedures, detailed described in Chapter 4, were taken to minimize the impact of low sample ($n = 21$) at results, focusing on the profiling variables that were used to evaluate the different teachers' perceptions of their emotions regarding using ICT, measured by the Emotions Scales.

After a preliminary analysis of the processed data, we outline our interview guide (see Appendix B) to address variables not covered in the questionnaire but become relevant whilst the study has been developed and to deepen our understanding in elements that resulted as strongly significant in the questionnaire data analysis. More specifically, the in-service training on ICT as the most significant variable, once less than 10% of respondents has received ICT related training. And, and the impact of COVID-19 pandemic on teachers' emotions and perceptions of using ICT once our data collection happened in such context.

As it was not required for teachers to identify themselves when responding to the questionnaire, 10 of them voluntarily informed their details to be contacted for further research. Those teachers were invited via email to take part in the second stage of our data collection: interviews. Only four teachers responded positively, so the sample at the second stage consists of those four teachers. The interviews were taken remotely and recorded with the participants consent. Then, we transcribed the interviews and conducted the content analysis, which is outlined in Chapter 4. Table 3.3, below, presents details about the interviews.

Table 3.3: Interviews details

Interview #	Respondent's identification code	Date	Time	Duration
01	R1	Oct 21, 2020	08.00 am	15 min 50 sec
02	R2	Nov 20, 2020	11.30 am	18 min 12 sec
03	R3	Nov 25, 2020	12.30 pm	15 min 06 sec
04	R4	Dec 02, 2020	07.00 pm	55 min 52 sec

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4. The Research Corpus: Data Collection, Results and Discussion

4.1. Quantitative Data¹

One of the specific objectives in this study was picturing the participants' technological environment. Hence, the third section of the self-report questionnaire was framed to describe it (see Appendix A). The teachers were asked whether the ICT tools/devices are provided by the school or whether they have to use their own. In both cases, the respondents were asked to list the ICT tool/devices they use for teaching purposes. The teachers were also asked if their schools offered them any training regarding ICT use. The variables presented were in-service training using ICT, training received (if applied), number of students, school provides ICT tools/equipment for teaching, tools/equipment brought by teachers (if applied), technology access at school, using absolute (n) and relative (%) frequencies. Findings point out that most of this group of teachers (81%) have the ICT tools/equipment provided by the schools, but only 9.5% of them have received some in-service ICT-related training, which is a relevant number, considering all of the respondents use some type of ICT in their teaching practice. The results of preliminary descriptive analyses for the study variables are outlined in Tables 4.1, 4.2, and 4.3.

Table 4.1: Number of students per class

Variable	Categories	n	%
Number of Students	11 to 20	6	28,6
	21 to 30	9	42,8
	31 and above	6	28,6

¹ The quantitative data were processed, and procedures were taken to minimize the impact of low sample (n = 21) at results, focusing in the profiling variables that will be used to evaluate the different behaviors of teachers under the Scale of Emotions (TES). Results from statistical tests were not included or taken to support result analysis, once the nature of this research is qualitative and numerical data was considered only to outline the participants' profile.

Table 4.2: ICT-related in-service training

Variable	Categories	n	%
In-Service Training using ICT	No	19	90,5
	Yes (a)	2	9,5
Training for ICT ^(a)	Flipped classroom	1	50,0
	Many training courses	1	50,0

(a) Relative (%) frequencies were calculated due to "Yes" at precedent variable (n = 2).

Table 4.3: Technological environment

Variable	Categories	n	%
ICT Tools / Equipment Provided by School	Yes	17	81,0
Tools / Equipment ^(a, b)	No (b)	4	19,0
	Laptop	3	75,0
	Tablet	1	25,0
	Camera	1	25,0
	Scanner	1	25,0
Technology Access at School ^(c)	WEB Access for ALL	14	66,7
	Digital Projector for ALL	9	42,9
	Digital Projector for SOME	9	42,9
	Computer for ALL	8	38,1
	Computer for SOME	8	38,1
	Computer Room for Students	6	28,6
	Interactive Whiteboard / Smart Board for SOME	6	28,6
	Computer Room for Teachers	5	23,8
	Interactive Whiteboard / Smart Board for ALL	4	19,0
	WEB Access for SOME	4	19,0
	Portable DVD / CD Player	2	9,5
	Tablets for Students	2	9,5
	Portable Digital Projector	1	4,8

(a) Relative (%) frequencies were calculated due to "No" at precedent variable (n = 4).

(b) Relative (%) frequencies exceed 100% due to multiple responses.

We sought, in Section 4 of the questionnaire, the respondents' perceptions and emotions by applying Likert scale type questions, adapted from TES (see Appendix C). Our preliminary findings show significant higher frequencies of agreement for positive emotions and the opposite, higher disagreement, for negative emotions, as highlighted on Table 4.4, where we describe responses for each question, using absolute (n) and relative (%) frequencies.

Table 4.4: Relative (%) frequencies for TES questions (n = 21)

Question	Likert Scale			
	Strongly Disagree	Disagree	Agree	Strongly Agree
Enjoy	0,0	9,5	23,8	66,7
Worry	28,6	28,6	33,3	9,5
Annoyed	42,9	47,6	4,8	4,8
Uneasy	57,1	33,3	9,5	0,0
Worried	42,9	42,9	9,5	4,8
Tense and Nervous	57,1	28,6	9,5	4,8
Have Fun	0,0	9,5	42,9	47,6
Enthusiasm	0,0	9,5	33,3	57,1
Mad	42,9	23,8	28,6	4,8
Frustrated	71,4	28,6	0,0	0,0
Angry	47,6	42,9	4,8	4,8
Happy	0,0	14,3	33,3	52,4

4.2. Qualitative Data

4.2.1. Qualitative data pre-analysis: organising and coding

After collecting the data, it was necessary to prepare and organise them for analysis. The first step was transcribing the interviews, coding the respondents by the letter “R” plus the number of the interview, according to the order each interview has happened, and the interviewer was coding by the letter “I” and bold font, so it was easier to differentiate respondent vs. interviewer when reading the transcriptions. By transcribing the audios, we tried to capture the respondents’ pace of speech, so, pausing and deep breathing were noted in brackets and uppercase letters, as well as some visible state of mind, as presented in Figure 4.1, below, an extract from interview 1:

I: **And motivated?**

R1: Wow! [DEEP BREATHING/LAUGHTER] That is difficult.

I: **Happy?**

R1: Well [PAUSE] I think [PAUSE/PENSIVE] actually, regarding technologies I can't say that [PAUSE] I don't know. In the classroom [PAUSE] well, it is when I see my teaching is going well [PAUSE] it's reaching students in a positive way [PAUSE] when I get positive results [PAUSE] that's the same for technologies. It's when I can use technology with results in something positive [PAUSE] some positive feedback.

Figure 4.1: Extract from interview transcription

Once the interviews transcriptions were completed, we proceeded to the floating reading, which, according to Bradin (1977) is part of the stage of material exploration in order to obtain a general sense of the material and then start getting clues to establish the initial themes for coding. At this stage, we highlighted the main ideas from the transcription and 39 captured initial themes (text segments) which were listed by the order they appear in the material, by inserting comments in the transcription document, as presented in Figure 4.2, below.

I:	Okay. We are now living an exceptional moment... and I guess the technologies have been playing a different role currently, compared to the previous scenario when lessons weren't remote. I'd like you to think about what is the role of ICT in your teaching practice, not only at this exceptional moment but previously... let's say in that "normal" scenario?
R:	Well... in my case... since I've started working as a language teacher... I'm talking about teaching foreign languages, specifically, which is what I do.
I:	Right.
R:	I think they are essential, because when you are teaching a subject in your mother tongue, ICT is already necessary. The kids are very "advanced" (savvy)... so it seems like we have to be in contact with all of those technologies. But, for EFL teaching it's essential because we need much more resources to make them better understand everything. Thus, I think technologies play a huge role in teaching a language because you need to work with the four skills... you need listening, you need writing, reading... and you'll need audio-visuals all the time. So, I think this kind of resource is essential. And now, at this moment, there wouldn't be another way to make it happen if we didn't have all of these technologies, platforms, you know? That's it. It's

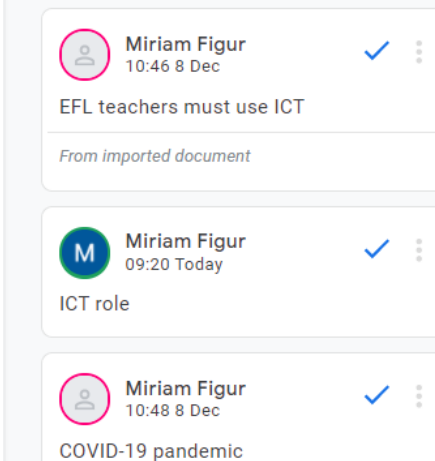


Figure 4.2: Starting the coding process

Those initial themes were grouped by meaning/concepts, using colours, as shown in Figure 4.3 (more detailed in Appendix E) to build each group and then collapsed in 13 themes and codes were created in order to label the text segments in the research corpus, following the pre-analysis steps, as stated by Creswell (2012),

ANXIETY: pressure to make it work, insecure?	ANXIETY: pressure to make it work, insecure?	COVID-19 pandemic self-learning	
frustration regarding using ICT		Using ICT during COVID-19 pandemic: hard; ANXIETY; uncertainty	
ANGER and ANXIETY comes from the same reason	ANGER and ANXIETY comes from the same reason	ANXIETY comes from the lack of training	ANXIETY comes from the lack of training
pressure to meet students' expectations	pressure to meet students' expectations	feeling under the pressure	
can't report motivation regarding using ICT		Covid-19: there is no choice but using ICT	
happiness isn't directly linked to the use of ICT but for achieving a goal; receiving positive feedback; meeting students' expectations; feeling less anxious.	happiness isn't directly linked to the use of ICT but for achieving a goal; receiving positive feedback; meeting students' expectations; feeling less anxious.	pressure from institution to use ICT	pressure from institution to use ICT
happiness isn't directly linked to the use of ICT but for achieving a goal; receiving positive feedback; meeting students' expectations; feeling less anxious.	happiness isn't directly linked to the use of ICT but for achieving a goal; receiving positive feedback; meeting students' expectations; feeling less anxious.	ICT = creativity/innovation	
ANXIETY is the most present feeling regarding ICT use.		ANGER = frustration for lack of training	ANGER = frustration for lack of training
anxiety regarding pressure to achieve goals.	anxiety regarding pressure to achieve goals.	ANXIETY AND ANGER; self-learning	ANXIETY AND ANGER; self-learning
Emotions have no impact on teaching learning process		no difference from face-to-face	no difference from face-to-face
covid-19: teaching online is hard for teachers		FRUSTRATION and ANXIETY regarding lack of TRAINING	FRUSTRATION and ANXIETY regarding lack of TRAINING
		pressure from school vs. lack of training	pressure from school vs. lack of training

Figure 4.3: Grouping meanings by colour

Begin the process of coding the document. This process involves identifying text segments, placing a bracket around them, and assigning a code word or phrase that accurately describes the meaning of the text segment. Sentences or paragraphs that all relate to a single code are called a text segment. Codes are labels used to describe a segment of text or an image. (p.244)

Next, we collapsed those initial themes again, which led us to 26 condensed meaning units. The condensed meaning units were clustered by meaning, generating 9 minor themes (subthemes) and then clustered again, which resulted in three major themes (themes): two of them are themes created *a priori*, as they directly address these research questions, which were named as “ICT in the teaching practice” and “Emotions and feelings regarding ICT use”. The other major theme: “Training” emerged from the research corpus. The rationale for this so-called emerging theme to become a major theme comes from the relevance it has shown in both quantitative and qualitative data. This reduction phase is the core of the content analysis, as we get into the content by building meaningful themes to address our research questions and the study aims.

The reduction phase is when the researcher develops a systematic approach to the data. It constitutes the heart of the content analysis

process and supplies rigor to the process. The goals of the reduction phase are to: (1) reduce the amount of raw data to that which is relevant to answering the research question(s); (2) break the data (both transcripts and memos) into more manageable themes and thematic segments; and (3) reorganize the data into categories in a way that addresses the research question(s) (Forman & Damschroder, 2008, p.48).

By coding we developed a classification system for the analysis (the coding frame can be found in Appendix F). Codes can represent topics, concepts, or categories of events, processes, attitudes or beliefs that represent human activity, and thought (Forman and Damschroder, 2008). In this study, the codes were built by concept topics, or thematic segments, although thematic criteria are much less clear cut than formal criteria, they often provide a better fit with the coding frame (Schreier, 2014). The way the coding process was conducted can be summarized by a visual model, presented by Creswell (2012, p.244), see Figure 4.4, below.

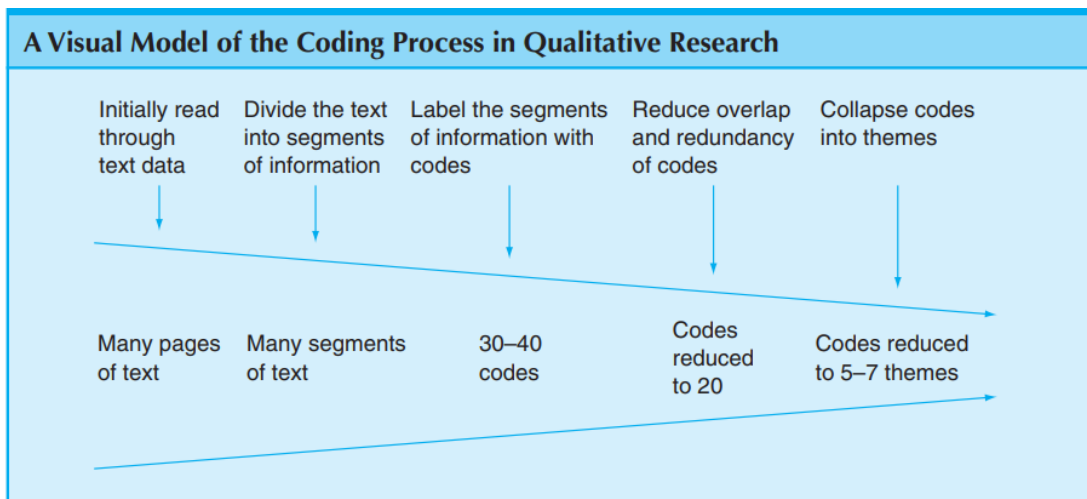


Figure 4.4: Visual model of coding Process in Qualitative Research (Creswell, 2014)

4.2.2. Presenting qualitative data

This research qualitative data was collected between October and November of 2021, being 4 interviews (102 minutes of video/audio recording; 21 pages of transcription). In this section, we will present the findings from the interviews qualitative content analysis. For the analysis, data were organised in three main themes: 1) ICT in the teaching practice; 2) Training; 3) Emotions and feelings regarding ICT use (as described in Section 4.2). The process of qualitative data analysis is very closely related to the craft of writing (Barbour, 2014, p.502)

The process of qualitative data analysis is very closely related to the craft of writing (Barbour, 2014) and for reporting results, researchers must be able to summarize the main features of their findings (Timulak, 2014). This way, in this section, we will present a summary of the interviews coding frame, since with qualitative content analysis, the coding frame itself can be the main result (Schreier, 2014).

ICT in the teaching practice

This theme has been divided in three subthemes: a) Use ICT in teaching practice; b) Perceptions of using ICT; c) ICT use during/after COVID-19 pandemic scenario. Regarding “Use of ICT in the teaching practice”, the respondents reported high frequency of use, as presented in Table 4.5, below.

Table 4.5: Frequency of ICT use in teaching practice

Theme: ICT in the teaching practice		Subtheme: Use of ICT in teaching practice
Condensed meaning unit: Frequency of use		
ID*	SUMMARY	MEANING UNIT
R1	R1 uses ICT all the time because audio-visual resources are essential.	“you’ll need audio-visuals all the time (...) so, I think this kind of resource is essential.”
R2	R2 uses ICT very often; not always because especially younger learners need to develop other skills (motor skills) and personal bonds.	“there are lots of different ICT tools and devices, such as smart board, tablets, digital projectors, and computers. I use them very often.” “Sometimes it’s nice to use other resources and materials. To get closer to students. Especially with the youngest ones. They need some activities with movement, acting, dancing,

		singing to develop motor skills. And it's an opportunity to get closer to them, to make emotional connections."
R3	Not mentioned	
R4	R4 uses a computer every day and very often uses You Tube to play songs.	<p>"I will need to use [ICT] every day, for teaching, for preparing PPT presentations, for using Zoom, because now we need it, to teach students who are at home with COVID, or whatever. We work with a computer every day. In my case, I use ICT especially for songs."</p> <p>"Very often I use YouTube, which kids love."</p>

*ID = Respondents' Identification code

The types of ICT used will vary. As shown in the following table (Table 4.6), they reported using the internet to access different platforms and listed different devices and tools.

Table 4.6: Types of ICT used in teaching practice

Theme: ICT in the teaching practice		Subtheme: Use of ICT in teaching practice
Condensed meaning unit: Types of ICT used in teaching practice		
ID*	SUMMARY	MEANING UNIT
R1	R1 reports using different technologies, audio-visual resources, and several digital platforms for recording lesson, creating games and activities, posting activities (Loom, Quizizz, Google Classroom,	<p>"Loom, which I use for recording my lessons, to use Quizizz, which I use to prepare games and, well, many other platforms I use to create games and several other activities."</p> <p>"you'll need audio-visuals all the time (...) so, I think this kind of resource is essential."</p> <p>"My institution has offered online training on how to use Google Classroom platform, you know? Which is the platform we use to post activities."</p>
R2	R2 reports using computer, internet, digital projector, Google Earth, smart board, tablet.	"As I had a computer with internet access and a digital projector in that classroom, I just opened Google Earth and showed the country and we explored that"

R3	R3 reports using i-Pad, digital book, songs, videos	<p>“the support for the books we use is digital, songs, videos. Everything. “</p> <p>“in my preschool classes if I didn't have my own i-Pad.”</p>
R4	R4 reports using computer, smart board, speaker, Power Point, digital book, Zoom, You Tube.	<p>“Well, in terms of technology, I’m not the best person to tell if the school is well equipped or not, because I do not master ICT. But, compared to what I’ve seen in other schools, computers, speakers, smart boards... I can tell we are very well equipped. Actually, there is a smart board in all of our classrooms. I think this is already a great value.”</p> <p>“I will need to use [ICT] every day, for teaching, for preparing PPT presentations, for using Zoom, because now we need it, to teach students who are at home with COVID, or whatever. We work with a computer every day. In my case, I use ICT especially for songs.”</p> <p>“I use YouTube, I play the animated stories from the class e-book... but that's it.”</p>

*ID = Respondents’ Identification code

The respondents will use ICT in their teaching practice mostly to work the communicative skills, to play videos and songs, to post activities, to record lessons, to teach remotely, to access the course e-book. More detailed information is presented in Table 4.7 below. The ICT listed by these respondents match with the data collected by the questionnaire, which was presented in Section 4.1 (see Table 4.3).

Table 4.7: What teachers use ICT for

Theme: ICT in the teaching practice		Subtheme: Use of ICT in teaching practice
Condensed meaning unit: What teachers use ICT for		
ID*	SUMMARY	MEANING UNIT
R1	R1 reports using ICT to record lessons, create games and activities, work the	“Loom, which I use for recording my lessons, to use Quizizz, which I use to prepare games and, well, many other

	communicative skills	platforms I use to create games and several other activities.” “I think technologies play a huge role in teaching a language because you need to work with the four skills... you need listening, you need writing, reading
R2	R2 reports using the internet to explore further the topics and for listening activities, play audio file (work listening skill), print and project materials.	“I just opened Google Earth and showed the country and we explored that.” “When I have an activity to be done and I can’t get access to some material or device to do it as planned. For example, some days ago... my students had a test and there was listening skill involved. I wanted to print the audio scripts out, in case I couldn’t play the audio file for some reason, but it wasn’t possible. There was no paper at school for the printer. Such issues frustrate me because when you use technology you always have to be prepared, you may need a plan B. The scripts were my plan B, because if something went wrong with the audio file or if the projector didn’t work, or, you know... something like that, I could read it aloud instead of playing the recording.”
R3	R3 reports using ICT for everything: songs, videos and the digital support for the course book.	“We need it... the support for the books we use is digital, songs, videos. Everything. “
R4	R4 reports using ICT for everything: teaching, preparing PPT presentations, to remote teaching, to play songs and animated stories.	“We use technologies for everything”. “I will need to use [ICT] every day, for teaching, for preparing PPT presentations, for using Zoom, because now we need it, to teach students who are at home with COVID, or whatever. We work with a computer every day. In my case, I use ICT especially for songs.” “I use YouTube, I play the animated stories from the class e-book... but that's it.”

*ID = Respondents’ Identification code

Regarding to what extent the ICT use impacts the respondents' teaching practice and how important the ICT use is in their practice, we can notice they consider it essential and it plays an important role in their teaching practice, according to data presented in Table 4.8, below.

Table 4.8: ICT use impact on teaching practice

Theme: ICT in the teaching practice		Subtheme: Use of ICT in teaching practice
Condensed meaning unit: ICT use impact on teaching practice		
ID*	SUMMARY	MEANING UNIT
R1	R1 thinks ICT are essential; ICT play a huge role in teaching a language	"I think technologies play a huge role in teaching a language because you need to work with the four skills... you need listening, you need writing, reading... So, I think this kind of resource is essential (...) That's it. It's essential."
R2	For R2, ICT make the teaching and learning process more meaningful.	"For example, last week I was teaching countries and nationalities. And one student didn't know where a specific country was. As I had a computer with internet access and a digital projector in that classroom, I just opened Google Earth and showed the country and we explored that. It was really nice. If I didn't have those technology tools on hand, it would be frustrating. I'd have to get a world map, which I didn't know if we had there or where it was... you know, probably I wouldn't be able to do that. I would have to explain to her. But it's not the same."
R3	For R3, it's important to use ICT; they're essential for teaching practice; part of teaching practice.	"For me it's very important to use ICT in the classroom." "Honestly, I can't see myself teaching without using ICT." "For me it is essential. It would be too difficult to teach without technological tools, especially at school"
R4	R4 thinks ICT are indispensable as it impacts on the way students engage in lessons and the quality of	"I think it is indispensable for the kids... if they are watching it on a tablet... seeing and listening to the words in English... it is completely different. You can sing but the kids' engagement

	teaching and learning process.	is different. It's a totally different way to relate to the songs." "Not having at least that for a preschool class, which is super important [EMPHATICALLY] super important! For me that's too bad... too bad. Then, sometimes the results aren't as expected, and parents can understand why. They do not provide the tools for you to work and then they do not understand why some aims aren't achieved. It's because you can't work as you wish... you do not have the tools you need"
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*ID = Respondents' Identification code

According to data presented in Table 4.9, we can notice that the access to ICT will vary among these teachers. Some will have full access to all types of ICT needed for their teaching practice while for others access is very limited and they will have to use their own devices for teaching.

Table 4.9: Access to ICT

Theme: ICT in the teaching practice		Subtheme: Use of ICT in teaching practice
Condensed meaning unit: Access to ICT		
ID*	SUMMARY	MEANING UNIT
R1	R1 doesn't make it clear how it is her access to ICT, but suggests it isn't the best possible, as the institution doesn't invest in technologies.	"(...) there isn't [PAUSE] any kind of investment in technologies for my classroom."
R2	R2 reports her access to ICT is not the same in all the schools where she works; she experiences both good access and poor access to ICT; sometimes she needs to use	"In one of the schools where I work there are lots of different ICT tools and devices, such as smart board, tablets, digital projectors, and computers. I use them very often." "It's not the same for all. There is one where I have to take my own computer because they don't have any in the

	her own equipment.	classrooms.”
R3	For R3, the access to ICT vary depending on the work setting: good access in primary school but not so good at the language institute and no access in preschool (she uses her own device).	<p>“in primary school, yes. For sure yes. We have computers in all the classrooms and digital projectors which are connected to the computers. So, I can use the platform where I access the digital book and it works very well. “</p> <p>“for preschool I have to use my own device to use any technology, otherwise it wouldn’t be possible to use any ICT.”</p> <p>” At the institute of language, there is less technology available. “</p>
R4	R4 reports good access to ICT in her current working setting but poor access in her former school.	<p>“I can tell we are very well equipped. Actually, there is a smart board in all of our classrooms. I think this is already a great value.”</p> <p>“I don’t miss anything because what I want to use, I can use.”.</p> <p>“I didn’t have access to a tablet [PAUSE] I didn’t have access to a tablet and many times I had to use my phone and my internet data because I didn’t have Wi-Fi internet access at school.”</p>

*ID = Respondents’ Identification code

We also captured from the data what reasons and motivations the respondents report for using ICT in their teaching practice. It’s clear that they see ICT as necessary. According to these teachers’ perceptions, using ICT is part of the teaching practice and indispensable to address their students’ needs and make their lessons more interesting (see Table 4.10).

Table 4.10: Why using ICT in teaching practice

Theme: ICT in the teaching practice		Subtheme: Perceptions of using ICT
Condensed meaning unit: Why using ICT in teaching practice.		
ID*	SUMMARY	MEANING UNIT
R1	For R1 using ICT is necessary to teach a language, to address students' demand and to be creative and innovative; the institution asks for that.	<p>"We have been using several other platforms [EMPHATICALLY]! You know... many other ways, many other technologies to record lessons, to create games. And this is something that the institution has been asking for very often, for us to be innovative, to look for new alternatives, for us to be creative".</p> <p>"I think they are essential, because when you are teaching a subject in your mother tongue, ICT are already necessary."</p> <p>"The kids are very "advanced" (savvy)... so it seems like we have to be in contact with all of those technologies. But, for EFL teaching it's essential because we need much more resources to make them better understand everything."</p>
R2	R2 thinks ICT are valuable.	"I think using ICT adds value to my lessons."
R3	R3 thinks ICT are necessary, essential, and using ICT is inherent and it would be difficult to teach without using ICT.	<p>"We need it... the support for the books we use is digital, songs, videos. Everything."</p> <p>"We just started using it because it was the way we teach currently."</p> <p>"For me it is essential. It would be too difficult to teach without technological tools, especially at school."</p>
R4	R4 will use ICT because it's needed for teaching and preparing lessons, especially to teach remotely. Using ICT makes her lessons more interesting; it's indispensable for the kids.	<p>"I think it is indispensable for the kids."</p> <p>"I think I could make my classes more interesting... and maybe funnier, if I knew how to work better with ICT."</p> <p>"I will need to use [ICT] every day, for teaching, for preparing PPT presentations, for using Zoom, because now we need it, to teach students who are at home with COVID, or whatever. We work with a computer every day. In my</p>

		case, I use ICT especially for songs.”
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*ID = Respondents’ Identification code

Looking at the interviews content, it is evident that the ICT have been playing a very important role during the COVID-19 scenario and it has impacted the respondents’ perceptions of ICT use. In Table 4.11 we present the impacts of the COVID-19 pandemic on this group of teachers’ use and perceptions of ICT.

Table 4.11: Impacts of the COVID-19 pandemic ICT use and perceptions

Theme: ICT in the teaching practice		Subtheme: ICT use during/after COVID-19 pandemic
Condensed meaning unit: Impacts of the COVID-19 pandemic ICT use and perceptions		
ID*	SUMMARY	MEANING UNIT
R1	For R1, the pandemic scenario has reinforced that it is essential using ICT in teaching practice.	“And now, at this moment, there wouldn’t be another way to make it happen if we didn’t have all of these technologies, platforms, you know? That’s it. It’s essential.”
R2	For R2 the pandemic scenario has made the lack of ICT related support from schools even more evident. She thinks ICT made her closer to her students, by getting into students’ home while teaching remotely. The pandemic scenario may be a change of paradigm in using ICT in education as remote teaching has become essential and inevitable.	<p>“I had to use my own equipment. My computer wasn’t that good to support video conferences. I had to use my husband’s PC and he took mine to work. But it wasn’t nice, it wasn’t easy... it was really tricky because sometimes he needed some files which were on his computer, but he had mine and the same for me. But also I can tell in some ways I felt closer to some students and I guess some of them felt the same. Suddenly we were in each other's homes.”</p> <p>“Now we’re back to school, however it hasn’t ended. We still have to deal with that. There are always some students at home because of COVID. Then they watch the classes remotely. We have a camera in the classroom, and we do it via Zoom. That’s the new reality.”</p>
R3	For R3, the pandemic scenario	“If we didn’t use ICT, it would be impossible to get through

	<p>made it clearer how indispensable it is using ICT in the teaching practice. And the ICT role has changed because after the pandemic teaching remotely and /or blended learning is indeed part of the educational context.</p>	<p>this. It would be impossible to do what we did from March to June. How would the students have classes if not remotely, via computers? It's very important."</p> <p>"It has changed. Not exactly the way I use it but now, every time a student has to be at home, for any reason, if they miss a lesson, there it is... they can watch the class remotely, on a computer. Each time a student doesn't come to school, and you have to send them some homework, you do it on your computer. If the school closes due to pandemic, you teach through the computer. It has changed a lot. Before it was different. If a student missed a lesson, that was it. Next class he would catch up, asking colleagues and the teacher about the lesson he missed. There wasn't another option. There wasn't this readiness to use digital tools in the classroom. So, this has changed a lot."</p>
R4	<p>For R4 the pandemic scenario was a precedent for the establishment of remote and blended learning in earlier education levels. She also has become aware of her lack of ICT related knowledge.</p>	<p>"And because of COVID, parents think their children can stay home for other reasons, not COVID, and watch lessons on Zoom."</p> <p>"The pandemic made me see how much I have to learn about using ICT. The pandemic scenario has been showing me that I do not know very much about it.... I mean, I know less than I thought I did when I didn't have to use ICT as much as now. It showed me that I have to learn more how to use them. That's the biggest lesson from the pandemic: to open my eyes for this."</p>

*ID = Respondents' Identification code

Training

The second main theme in our content analysis was training. As presented in Section 4.1, less than 10% of the respondents of the questionnaire at the first stage of our data collecting reported they have received some in-service training on using ICT in the teaching practice. Qualitative data reinforce that lack of training and its impact on these teachers' practice. Firstly, we sought for the respondents' reporting about received training, which is presented below, in Table 4.12.

Table 4.12: Types of training

Table 4.12 Theme: Training		Subtheme: Received training
Condensed meaning unit: Types of training		
ID*	SUMMARY	MEANING UNIT
R1	R1 reports she has received training on Google Classroom and for using the digital platform that supports the course book she uses.	<p>“My institution has offered online training on how to use Google Classroom platform, you know... which is the platform we use to post activities.”</p> <p>“We receive a lot of training related to this material, which is a material that comes from {PAUSE/REPHRASING} I mean the book we use. It comes with very well explained instructions, there are detailed instructions and directions for how to use it, what to do or not to do.”</p>
R2	Haven't received any training.	
R3		
R4		

*ID = Respondents' Identification code

The respondents have also reported how important and impacting receiving training is for their teaching practice, which is displayed in Table 4.13, below.

Table 4.13: Perceptions of receiving training

Theme: Training		Subtheme: Received training
Condensed meaning unit: Perceptions of receiving training		
ID*	SUMMARY	MEANING UNIT
R1	Receiving training made R1 feel calm, relaxed and prepared,	“I felt prepared in relation to Google Classroom, because I could have that online training before starting to use that platform. I felt calm, relaxed and prepared indeed regarding using this

		platform.”
R2	For R2 training is important and it would make her more confident when using ICT and it would be time saving.	<p>“Training is always important.”</p> <p>“I’d feel more confident. I’d spend less time trying to learn by myself and could use that time to plan lessons and activities to explore all the technology can give me.”</p>
R3	For R3 the most important investment is training. Without training the teaching practice become outdated.	<p>“I just think that facing the current scenario we are experiencing it’s becoming more and more necessary that teachers receive training on this. Whatever the reason for, the pandemic or any other issue... you may be in another country, learning a foreign language, whatever... ICT are more and more important. Thus, if there is no training in this area, teaching will become outdated. There should be investments on training teachers to use ICT in the classroom. That’s the most important from my view.”</p>
R4	R4 thinks training is the necessary and important and it would make the difference on the way she feels while using ICT, as it is complicated when someone has to use ICT but doesn’t master it.	<p>“ICT must be part of any teaching training. And all kinds of teaching training because we are becoming more and more technological. We use technologies for everything. So, it doesn’t make sense that teachers do not get trained. it doesn’t make sense at all”</p> <p>“(When asked if receiving training would make her feel different regarding ICT use) Sure. Completely different.”</p> <p>“I just think that facing the current scenario we are experiencing it’s becoming more and more necessary that teachers receive training on this. Whatever the reason for, the pandemic or any other issue... you may be in another country, learning a foreign language, whatever... ICT are more and more important. Thus, if there is no training in this area, teaching will become outdated. There should be investments on training teachers to use ICT in the classroom. That’s the most important from my view.”</p> <p>“If you do not master in using ICT, this ends up complicated for the kid and for you.”</p>

*ID = Respondents’ Identification code

All the participants have reported lack of training, which means not receiving any training at all or receiving insufficient training, as presented in Table 4.14, below.

Table 4.14: Lack of ICT-related training

Theme: Training		Subtheme: Lack of training
Condensed meaning unit: Lack of ICT-related training		
ID*	SUMMARY	MEANING UNIT
R1	R1 reports the training received is not sufficient because it doesn't address her current needs.	<p>"(...) there is no preparation, no training for us to be able to use those other platforms."</p> <p>"I mean from the institution side, also there isn't this type of training. So, even with this pressure from school, even with some suggestions they make, there is no [PAUSE] there is no training, there is no direction. Many times, even related to the material we use, there is a lack of training regarding the use of technologies."</p> <p>"(...) related to other technologies, like audio-visual resources, etc and other platforms, not. We don't have this kind of training.</p>
R2	R2 has never received any type of ICT related training.	"I've never received any training. Even this school that offers all of this range of ITC has never offered any training. Once they provide all the ICT they do, they expect us to use it a lot."
R3	R3 has never received any type of ICT related training.	"Never. I have never received any training. All we've been using was self-taught. I've learned by doing. We just started using it because it was the way we teach currently, but there was no training."
R4	R4 reports lack of training once the only training received was very specific and doesn't address her actual needs. She	"Actually, the only training I've received was from <i>Porto Editora</i> . But it was very specific to learn how to use their platform. That was not about ICT use in general. They taught us only to work on their platform and nothing more. They offer other types of

	<p>also thinks the institutions don't have any plan for training teachers, but they should draw strategies to offer teachers the required training in ICT.</p>	<p>training but not ICT related.”</p> <p>“There's a lack of strategy for training teachers in most schools. So, teachers end up getting some training for themselves, somewhere else, because the school does not provide any training.”</p>
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*ID = Respondents' Identification code

The data presented in Table 4.15 show how impacting the lack of training is on the teaching practice of this group of teachers. It impacts on their perceptions and emotions related to ICT use, as they feel anxious and frustrated regarding the lack of knowledge in this area. They think they could use it more if they received training and some will even avoid using ICT for being afraid and unprepared to use them.

Table 4.15: Impact of lack of training

Theme: Training		Subtheme: Lack of training
Condensed meaning unit: Impact of lack of training.		
ID*	SUMMARY	MEANING UNIT
R1	<p>Lack of training makes R1 anxious and afraid of using ICT; sometimes it's preferable to avoid using ICT; R1 felt unprepared to teach remotely and had to learn it by herself, which has been overwhelming.</p>	<p>“(…) related to other technologies, like audio-visual resources, etc and other platforms, not. We don't have this kind of training So, when it's time to use them, I feel anxious, afraid that it will go wrong.”</p> <p>“Many times, I preferred not to use them. Not to use, not to work with some tool because I was afraid that would go wrong, if I didn't know how to use it, how to do it.”</p> <p>“I feel a bit frustrated because there is no preparation, no training for us to be able to use those other platforms.”</p> <p>“I felt like I had to learn that, so [PAUSE] I spent much time learning how to use this type of technology, learning how to get</p>

		used to these platforms for, then, being able to use them.”
R2	R2 addresses lack of training by self-learning or by peer learning.	“(…) all I know about that I’ve learnt by myself or from a colleague. Or even from students, as I said, they know a lot about ICT.”
R3	Not receiving training doesn’t make R3 to avoid using ICT, but she could do more if she had received any training. She addresses the lack of training by self-learning.	“Well, fortunately for me it doesn’t have much impact because when I have to do something new, I learn it. I search and learn by myself. But I think it would be important because these things change every year… these digital tools, the way we can use digital tools in the classroom. There are many ways but sometimes we get used to only one because we haven’t had any training on it. I mean, actually there is some impact because I think I could do even more. But fortunately, even though I think I do it well. I can use it well in the classroom.”
R4	R4 thinks she could go further related to ICT use in her teaching practice if she had the knowledge for that. This lack of knowledge/training makes her anxious, feeling limited and unprepared.	<p>“I can’t go any further than that because I don’t have the knowledge to use ICT better than that”.</p> <p>“Complicated because I do not master ICT and because of the anxiety that causes me. I think if I mastered ICT I wouldn’t feel that way.”</p> <p>“(…) if you’re teaching on Zoom, and if you do not master in using ICT, this ends up complicated for the kid and for you.”</p> <p>“I think I could use them even more but regarding my limitations I don’t get all the benefits from the ICT use because I’m not 100% prepared to use them.”</p>

*ID = Respondents’ Identification code

Emotions and feelings regarding ICT use

The third main theme in our content analysis was emotions and feelings regarding ICT use. Findings related to this theme will directly address our research questions and main aim: to identify what emotions are expressed by a specific group of EFL teachers regarding using ICT in their teaching

practice and what elements may be related to them. Below, in Table 4.16, we present a summary of the positive emotions and feelings reported by this group of teachers. Enjoyment regarding using ICT in the teaching practice was the most frequent emotion reported by the teachers when they answered the questionnaire, at the first stage of data collection (see Table 4.4). However, findings from the qualitative data show that enjoyment may not be so strong and not the most relevant emotion reported by the respondents related to ICT use.

Table 4.16: Positive Emotions

Theme: Emotions and feelings regarding ICT use		Subtheme: Positive Emotions
Condensed meaning units: Enjoyment, Confidence and Motivation		
ID*	SUMMARY	MEANING UNIT
R1	R1 reports that she partly likes using ICT and feeling happy isn't directly triggered by ICT using but by the positive feedback from students. When asked about what would make her feeling motivation to use ICT, she couldn't report any situation.	<p>"Well [PAUSE] I think [PAUSE/PENSIVE] actually regarding technologies I can't say that [PAUSE] I don't know. In the classroom [PAUSE] well, it is when I see my teaching is going well [PAUSE] it's reaching students in a positive way [PAUSE] when I get positive results [PAUSE] that's the same for technologies. It's when I can use technology with results in something positive [PAUSE] some positive feedback."</p> <p>"[DEEP BREATHING] I like it...[PAUSE] partly(...) But, at the moment I see the students are enjoying it, I start enjoying it too. So, that's it... from the moment I see they enjoy it I feel more comfortable to work with it as well. That's why I partly like it (...) So, I end up enjoying it... at least a little."</p> <p>"Wow! [DEEP BREATHING/LAUGHTER] That's difficult."</p>
R2	R2 reports satisfaction from using ICT because it can make her teaching more meaningful and when asked about how she feels regarding using ICT, she reports feeling confident.	<p>"Sure! [ENTHUSIASTIC] For example, last week I was teaching countries and nationalities. And one student didn't know where a specific country was. As I had a computer with internet access and a digital projector in that classroom, I just opened Google Earth and showed the country and we explored that. It was really nice. If I didn't have those technology tools on hand, it would be frustrating. I'd have to get a world map,</p>

		<p>which I didn't know if we had there or where it was... you know, probably I wouldn't be able to do that. I would have to explain to her. But it's not the same."</p> <p>"I feel confident about it."</p>
R3	R3 seems to feel confident regarding using ICT. She also thinks there are more positive feelings regarding using ICT than the opposite. And she's got satisfaction from the students' positive feedback	<p>"I think I do it well. I can use it well in the classroom."</p> <p>"Oh! Absolutely more positive ones [EMPHATICALLY]. The negative ones are related to specific issues and do not always happen."</p> <p>"Recently, using this platform for the digital book, I've shown my students a video song and they got thrilled. Then I thought "yeah! that's it!" [ENTHUSIASTIC] because it's really good to have this feedback from students when we use digital tools, and we can see they love it."</p>
R4	R4 hesitates to report enjoyment in using ICT; she likes it timidly and doesn't report many situations that bring her enjoyment in using ICT.	<p>"[HESITATING] I like it...but it is a "like" as a Facebook like. I like it because it allows me more interactive lessons."</p> <p>"It's really good for you as a teacher when you can stimulate such feelings in a student like this. So, here it is how ICT can work for me."</p>

*ID = Respondents' Identification code

We also sought for reports of negative emotions and feelings regarding using ICT. The following two Tables summarise the respondents' reports related to anxiety (Table 4-17) and anger (Table 4.18). Findings suggest these teachers most prevalent emotion regarding using ICT is anxiety. We can also imply that besides they may feel anger, they will avoid explicitly expressing it. Instead, they will use a different term to address such feeling, e. g. feeling frustrated, annoyed, or distressed.

Table 4.17: Anxiety

Theme: Emotions and feelings regarding ICT use		Subtheme: Negative Emotions
Condensed meaning units: Anxiety, Insecurity, Pressure, Tension and Worry		
ID*	SUMMARY	MEANING UNIT
R1	R1 reports feeling mostly anxious regarding ICT. Such feeling is related to uncertainty and being worried that something can go wrong with ICT and her teaching won't go well. This also seems to be related to the institution's pressure for teachers to use them and feeling under pressure to achieve aims while not feeling allowed failing.	<p>"A bit anxious... yes, anxiety indeed... worried because it must go well, it must work... then it causes me some anxiety."</p> <p>"And regarding face-to-face teaching I feel the same way frustrated and anxious related to technologies and different platforms use".</p> <p>"(...) when it's time to use them, I feel anxious, afraid that it will go wrong [PAUSE]. Many times, I preferred not to use them.</p> <p>"There is always that uncertainty... what if it doesn't work... what if I didn't achieve it as I wish."</p> <p>"I think it's more about uncertainty [PAUSE] you know? It may not work [PAUSE] I may not achieve my goal... what am I going to do if it happens [PAUSE] if it doesn't work? It's uncertain indeed. It's more about worry."</p> <p>"Anyway [PAUSE/PENSIVE], so [DEEP BREATHING] putting all together, this pressure [CHUCKLES] that the institution put on us to [PAUSE] let's say look for these different things for the classes"</p> <p>"[PAUSE/PENSIVE] the pressure from school is the same for us to use them, we have to use them, they want us to be always connected and bringing these new technologies and different tools for the lessons."</p> <p>"There is always that uncertainty... what if it doesn't work... what if I didn't achieve it as I wish."</p> <p>"[DEEP BREATHING] I think it is the same case [PAUSE] when some device doesn't work during the lesson [PAUSE] the students are waiting for something and for some reason [PAUSE]</p>

		some failure [PAUSE] anything [PAUSE] and then I can't use the projector as I wish, or deal with the laptop [PAUSE] this type of situation causes me tension [PAUSE] when the students are waiting and it's not working."
R2	R2 feels anxious because when using ICT there is always a chance of something not to work. Anxiety comes from the same cause as anger.	<p>"The same situation made me tense and anxious because I went to my lesson thinking of that. If something went wrong with technology... I don't know, maybe some issue with the internet or any other problem could happen."</p> <p>"Not exactly angry... maybe annoyed. But I'd say I'm more frustrated and anxious."</p>
R3	For R3, anxiety comes from the worry that something may not work when there is some situation when using ICT is indispensable.	"Anxious... when there is a test and I need the audio file for the listening and something happens... because sometimes it doesn't work, for poor internet connection or whatever. Then I feel anxious because it's a test and if it doesn't work what am I going to do?"
R4	Most of anxiety R4 feels comes from not feeling well prepared to use ICT and deal with issues that may happen when using them; and from remote teaching regarding different factors, e. g. for having students that don't follow, for being observed (and maybe judge) by parents,	<p>"I feel really, really anguished when I have to use it. Because Zoom works very well if you have kids who respond well to what you're teaching."</p> <p>"All of these little things cause anxiety and I feel frustrated because I can't deal with them, and you won't be able to accomplish your lesson plan."</p> <p>"Complicated because I do not master ICT and because of the anxiety that causes me. I think if I mastered ICT I wouldn't feel that way."</p> <p>"All of these little things cause anxiety and I feel frustrated because I can't deal with them, and you won't be able to accomplish your lesson plan."</p> <p>"(...) moments of pure anxiety and frustration when I have some students those have some psychological issues when you try to work with these students online."</p> <p>"There will be people to support you but there are others that</p>

		will not say a word... like spiers. As a teacher it causes much anxiety.”
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*ID = Respondents’ Identification code

Table 4.18: Anger

Theme: Emotions and feelings regarding ICT use		Subtheme: Negative Emotions
Condensed meaning units: Anger, Stress and Frustration		
ID*	SUMMARY	MEANING UNIT
R1	R1 reports feeling frustrated when the internet doesn’t work and because the school doesn’t offer proper support ICT related.	<p>“That makes me feel frustrated [LONG PAUSE/DEEP BREATHING]] when the internet doesn’t work.”</p> <p>“I feel a bit frustrated because there is no preparation, no training for us to be able to use those other platforms.”</p> <p>“And regarding face-to-face teaching I feel the same way frustrated and anxious related to technologies and different platforms use”.</p>
R2	R2 doesn’t report being angry but feeling annoyed and frustrated.	“Not exactly angry... maybe annoyed. But I’d say I’m more frustrated and anxious.”
R3	R3 doesn’t report anger related to ICT use but frustrations when something doesn’t work.	<p>“(angry) Not ICT related.”</p> <p>“Frustrated... well, when I have to use the digital book, if I try to access the digital platform and it doesn’t work, I feel frustrated.”</p>
R4	R4 doesn’t report feeling angry but frustrated and stressed, especially regarding remote teaching because some students do not follow online lessons and there are many issues to deal with when teaching remotely. She	<p>“I wouldn’t say angry, but frustrated. You have students that respond very well and can participate on Zoom, but there are others that do not.”</p> <p>“It’s distressing. I can only tell you I hope this year we do not have to go back to remote teaching because if we do, it will be [CHUCKLING] really, really complicated.”</p>

	<p>reports feeling uncomfortable because when teaching remotely, parents are watching.</p>	<p>“I think the ICT use can either give us happy moments with our students, as that Van Gogh example, or moments of pure anxiety and frustration when I have some students that have some psychological issues when you try to work with these students online.”</p> <p>“And the teaching practice itself... imagine... you’re doing a worksheet with your students, but first you have to send it to them. Then, they can’t open the file and start saying “teacher, I can’t open it” etc... so, when you are trying to start a lesson, and you have to waste 10 minutes dealing with these issues, it is very stressful. It’s very stressful because you know you have only 45 minutes a lesson and you have to do A, B, C in that lesson, but you see it won’t be possible because the students are at home, some can’t even open the worksheet file, etc.”</p> <p>“So, you will not be fully yourself. You’re not able to be the same teacher you are at school. On Zoom you have to be much more aware of everything you will say... you have to think twice or three times before saying something. You have to be very cautious on this modality of teaching. Especially with parents like the ones at my school. It happens in private schools where the parents are doctors, lawyers, engineers, politicians... they are well educated people. They are people who many times recognize your work but many times do not. This is another disadvantage of online teaching.”</p>
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*ID = Respondents’ Identification code

ICT became utterly indispensable in the teaching practice role during the COVID-19 pandemic which directly impacted teachers’ perceptions and emotions in this regard. In Table 4.19, below, we present a summary of the respondents’ report related to that.

Table 4.19: Emotions related to ICT use during COVID-19 pandemic

Theme: Emotions and feelings regarding ICT use		Subtheme: Emotions regarding remote teaching in the COVID-19 pandemic
Condensed meaning units: Emotions related to ICT use during COVID-19 pandemic		
ID*	SUMMARY	MEANING UNIT
R1	Teaching during COVID-19 pandemic made R1 mostly anxious and frustrated. She also reported feeling under pressure and insecure regarding feeling unprepared and unsupported. She described it as hard and overwhelming. Her feelings are not only regarding using ICT but regarding the context itself; using ICT was part of the context.	<p>“most of the time [DEEP BREATHING], I felt [LONG PAUSE/PENSIVE] frustrated and very anxious.”</p> <p>“I felt frustrated and unprepared and [PAUSE] most part of the time very anxious”</p> <p>“It’s not the ICT itself [PAUSE] it’s about doing something you don’t really know how to do. Too much pressure. There is no choice and no perspectives. We are all tired [PAUSE] teachers, kids [PAUSE] parents.”</p> <p>“(…) most of us weren’t prepared for that at all. I’ve never taught online before. I had to learn everything by myself. It’s overwhelming. It was like watching tutorials and more tutorials to learn how to record and edit videos [PAUSE] how to use those platforms [PAUSE] it’s been really hard. And the worst is not to know when it will be over. We don’t have a deadline for that. I just tell myself it will be over at some point [PAUSE] just to feel less anxious.”</p>
R2	R2 described it as tough and overwhelming as there was no other option but teaching remotely, from home and that was a completely new experience. She felt unprepared and unsupported. It was difficult and impacting on her family’s life. But, also, she thinks somehow, she was closer to her students as suddenly she was in their home	<p>“It was tough.”</p> <p>“(…) also, I can tell in some ways I felt closer to some students and I guess some of them felt the same. Suddenly we were in each other’s homes. It was a different approach.”</p> <p>“I’ve never experienced that before... working from home.”</p> <p>“Oh! That was overwhelming, you know. We just had no option.”</p> <p>“A completely new situation for all of us. But overwhelming indeed. The pandemic itself has been hard to bear. I like going to school, you know... I’ve never experienced that before... working</p>

	and vice-versa.	<p>from home.”</p> <p>“I had to use my own equipment. My computer wasn’t that good to support video conferences. I had to use my husband’s PC and he took mine to work. But it wasn’t nice, it wasn’t easy... it was really tricky because sometimes he needed some files which were on his computer but he had mine and the same for me.”</p>
R3	R3 experienced feeling shocked, anxious, depressed, nervous, insecure and unprepared. She described teaching remotely during the pandemic scenario as tough.	<p>For me it has changed a lot, especially in the beginning. Because it was a big shock when we left the classroom to start teaching from home, in a context where nobody was prepared for that. It was new for everyone... for students and for teachers. In the beginning it was too hard to manage a class with 27 students through my computer, from home. It was really hard. In the beginning I thought I would not be able to do that. I got anxious, nervous, tired, even depressed. Then eventually it works. We slowly get used to that... how it works and the students too. Then it went well. But in the first month it was really tough. But there it is. If we didn’t use ICT, it would be impossible to get through this. It would be impossible to do what we did from March to June. How would the students have classes if not remotely, via computers? It’s very important.</p>
R4	When asked specifically about her feelings about using ICT to teach during the pandemic scenario, R4 reported feeling unprepared. However, in different moments she reports feeling insecure, under pressure, anxious and frustrated when teaching on Zoom, which has been a new reality in the educational context since the first COVID-19 lockdown (in March of 2020).	<p>“The pandemic made me see how much I have to learn about using ICT. The pandemic scenario has been showing me that I do not know very much about it.... I mean, I know less than I thought I did when I didn’t have to use ICT as much as now. It showed me that I have to learn more how to use them. That’s the biggest lesson from the pandemic: to open my eyes for this. “</p> <p>“I wouldn’t say angry, but frustrated. You have students that respond very well and can participate on Zoom, but there are others that do not.”</p> <p>“It’s distressing. I can only tell you I hope this year we do not have to go back to remote teaching because if we do, it will be [CHUCKLING] really, really complicated.”</p> <p>“And the teaching practices itself... imagine... you’re doing a</p>

		<p>worksheet with your students, but first you have to send it to them. Then, they can't open the file and start saying "teacher, I can't open it" etc... so, when you are trying to start a lesson, and you have to waste 10 minutes dealing with these issues, it is very stressful. It's very stressful because you know you have only 45 minutes a lesson and you have to do A, B, C in that lesson, but you see it won't be possible because the students are at home, some can't even open the worksheet file, etc."</p> <p>"I feel really, really anguished when I have to use it. Because Zoom works very well if you have kids who respond well to what you're teaching."</p>
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*ID = Respondents' Identification code

Besides capturing this group of teachers' emotions regarding using ICT in their teaching practice, we were also interested in understanding to what extent they are aware of the role that emotions play in the teaching and learning process. Thus, we asked them if they think their emotions impact their teaching practice. Most of them declared the emotions will impact on the teaching and learning process, as shown in Table 4.20, below.

Table 4.20: Perception of emotions impact on teaching-learning process

Theme: Emotions and feelings regarding ICT use		Subtheme: Emotions impact on teaching-learning process
Condensed meaning units: Perception of emotions impact on teaching-learning process		
ID*	SUMMARY	MEANING UNIT
R1	R1 thinks her emotions do not impact on the teaching and learning process.	"No, I don't think so. The teaching and learning process [PAUSE] well [PAUSE] no. Not really."
R2	R2 thinks the way she feels has great impact on the teaching	"It impacts a lot. Students feel at first sight if you're anxious or tense or worried about something. If you don't feel confident, if you feel anxious or nervous you may not reach your lesson's

	and learning process.	aims or you may miss a good opportunity to explore something that happens during the lesson or you may miss some language issues, like structure or pronounce that you should correct at the moment. So, yes, the way we feel has a great impact on our practice.”
R3	R3 thinks her emotions impact on the teaching and learning process.	“Yes. Absolutely yes. And I experienced that this week when I had a lesson in year 4. There were two students who would watch the lesson from home. First the internet wasn’t working. Then Zoom... I logged in but the camera wasn’t working. I couldn’t make it work. Then they couldn’t hear me. I spent at least 15 minutes on it. I wasn’t able to do anything for 15 minutes... I couldn’t start my lesson; I didn’t manage to make the students who were learning from home get access to the classroom. All of that just in the beginning of my lesson. It had a huge impact on that lesson because then I had to rush, my mood was not the same anymore, I couldn’t achieve the goals I had planned for that lesson... so, it impacted in a very negative way.”
R4	R4 thinks the way she feels makes difference on her teaching practice.	“I feel this year I am a better teacher for my students than I was last year because last year besides not having the necessary materials and equipment, I wasn’t motivated. And when you don’t feel motivated to make things happen and when there is no support around you, it makes the difference.”

*ID = Respondents’ Identification code

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5. Discussion and Conclusions

ICT play a very important role in education. The fast-growing advance of ICT has made potential contributions to English language education for the past few decades (Tri & Nguyen, 2014). ICT have been indispensable once using technology has positive effects on teaching and learning English. Technology can be applied to teaching practices to enhance and facilitate foreign language learning (Çakici, 2016). Using ICT gives the learners real-life contact with, and exposure to, the cultures of the peoples and countries where the new language is spoken and enables children to access and research information worldwide (Ghasemi & Hashemi, 2011). The EFL teachers who participated in this study made it clear that their perceptions of ICT use is aligned with the ideas above, which can be seen in their reports in this regard. They use ICT in their teaching practice very often, as they think it's essential to meet their students' needs and attain their aims, which corroborates Cox, Cox and Preston (2000) when, after reviewing many studies from the 1980's to 90's, they state that the majority of the teachers reported a higher degree of motivation amongst the pupils and a better attitude to work when the pupils were using laptop computers. These research findings based on the participants' report can confirm that the usefulness of ICT in language learning is unquestionable nowadays.

We could not ignore the context where this study has been developed: during the COVID-19 pandemic, which has been a game changer for the use of ICT in the educational field, as most governments around the world have temporarily closed educational institutions in an attempt to contain the spread of the COVID-19 pandemic. These nationwide closures have been impacting hundreds of millions of students. As for learners it was a drastic change, moving learning from classroom to home, suddenly, there was no other option for teachers, but teaching remotely, which means using ICT whether being prepared and/or willing to do that or not.

Facing this research findings, we can see that the pandemic scenario made it clearer, for this group of teachers, how indispensable it is using ICT in their teaching practice. And the ICT role has changed because after the pandemic, teaching remotely and/or blended learning is indeed part of the educational context. Also, the pandemic scenario has made the lack of ICT related support and training offered by schools even more evident, as these teachers had no other option but using ICT and they felt unprepared to face such a challenging and sudden change. That fact is aligned with Suryaman et al (2020) statement:

that there are several obstacles experienced by students, teachers and parents in online teaching and learning activities, namely mastery of technology is still lacking, additional internet quota costs, additional work for parents in assisting children in learning, communication and socialization between students. , teachers and parents are reduced and working hours are unlimited for teachers because they have to communicate and coordinate with parents, other teachers, and school principal. (p.529)

That said, we bring back this study's findings, which suggest that these teachers' desire and sense of need for ICT integration in their teaching practice haven't been fully addressed as they face two main barriers in this regard: limited access and lack of ICT-related training. Our findings point out that it is very common for these teachers to bring their own equipment to be able to use ICT in their lessons. All the respondents reported that despite the institutions' pressure for them to be creative and innovative by using ICT, investment in technology for the classrooms and in professional development/training for teachers is insufficient. That fact is supported by Cox, Cox and Preston (2000), who stated that the main factors for the low uptake of ICT in the teaching practice include the level of training, the amount of ICT resources, the existence of a supportive network within the school, and the relevance of school policies to the appropriate uses of ICT.

As we can see by looking at this research quantitative and, especially, qualitative data findings, that some teachers reported limited access, or even no access at all, to the basics when we think of ICT, such as internet access, computers or tablets. According to Williams et al (2000), lack of availability of some ICT resources is the main reason given by teachers for non-use. This should not necessarily be taken to mean that there might not be other inhibiting factors such as lack of knowledge or skills, or lack of support, but rather that access to the technology tends to override all other factors in determining use.

One could say it would be more common, even nowadays, among developing countries and/or public schools. However, all the four participants in the second stage of our data collection (the interviews), teach in the private sector and three of them are based in the European Union. Such concern is present in the European Commission agenda: the commission has been working on several policy initiatives, in order to modernise education and training, provide funding for research and innovation, so as to promote digital technologies used for learning and measures the progress on digitization of schools (EC Digital Education Action Plan, 2018). Despite this study's sample being short, our findings may confirm the scenario pointed out by the European Commission's Communication on the Digital Education Action Plan (2018), as it reports that

More than 80% of young people in Europe use the internet for social activities. Mobile access to the internet significantly increased over the last years. But use of technology for educational purposes lags behind. Not all primary and secondary schools in the EU have broadband connections and not all educators have the competences and confidence to use digital tools to support their teaching. A recent study showed that in 2015 an estimated 18% of primary and secondary schools in the EU were not connected to broadband (p. 2).

Considering such scenario, we bring to this discussion the relevant impact that lack of training has on this group of teachers' practices regarding the use of ICT, as, according to their reporting, lack of training will make them to feel anxious, unprepared and frustrated, for not being able to go further in relation to ICT use in their teaching practice. On the other hand, they see training as essential. They reported more confidence when receiving some training. Basically, teachers' attitudes will depend upon how easy they perceive using ICT tools to be on a personal level as well as for teaching in the classroom (Ghavifekr, et al., 2016). Thus, while the educational institutions do not provide proper training in order to enhance their teachers' knowledge and therefore their confidence, ICT integration may remain a challenge.

We set at the beginning of this study with two research questions:

- a) what emotions and feelings does a group of EFL teachers express regarding using ICT in their teaching practice?
- b) what elements are related to those teachers' emotions and feelings?

Our findings from the teachers' report point out to both positive and negative emotions, being enjoyment and anxiety the most frequent ones. And it seems that the elements those emotions are related to are not directly linked to the ICT use, but subjacent, as ICT use does not appear as the primary trigger for the reported emotions and feelings.

Frenzel et al. (2015) claim that teachers' emotions have attracted increasing empirical research attention in recent years. They have been shown to be critically important for the quality and effectiveness of classroom instruction and are highly relevant for teachers' psychological well-being.

When answering the self-report questionnaire, the most frequent feelings expressed by respondents were related to positive emotions. For instance, regarding enjoying using ICT, 66.7% of the respondents reported strongly agree and 23.8% agree. Only 9.5% reported to disagree and none has reported to strongly disagree with the statement "I generally enjoy using ICT when teaching" (detailed results from quantitative data related to reported emotions can be found in Table

4.4(Section 4.1). When respondents talked about their feelings and perceptions of using ICT in the interviews, however, enjoyment appeared to be a secondary emotion, as they did not report positive emotions so vehemently, as seen in Table 4.16 (Section 4.2). Also, enjoyment and other positive emotions haven't been reported spontaneously by respondents. They only reported positive emotions when directly asked about that and for some of them it was not easy to recall concrete situations when they felt motivated, satisfied or happy for using ICT in their teaching practice. ICT-related situations that cause some enjoyment seem to come more from having positive feedback from students and achieving aims than from using ICT itself.

On the other hand, anxiety, which was the second most frequent emotion reported by these teachers in the questionnaire, in the qualitative data was the most frequent one. Respondents have mentioned several situations when they feel anxious, worried and under pressure (among other negative feelings). Negative emotions, compared to positive ones, were more frequently, spontaneously and emphatically reported by respondents and seemed to be more directly triggered by ICT using events.

Anxiety has been the most frequent negative emotion expressed by the respondents, while anger itself hasn't been explicitly mentioned, but by reporting other feelings such as feeling distressed and very frequently frustrated, which is not aligned with the questionnaire findings, when, for instance, none of the respondents has reported feeling frustrated regarding using ICT.

Our qualitative data findings suggest that respondents either do not recognise those feelings as anger or do not feel comfortable to admit being angry. However, even angry being the less frequently reported emotion, in the questionnaire data we could find some anger self-report, especially when the concept in the statement was "being mad" while using ICT (28.6% agreed and 4.8% strongly agreed). But, for the statement to report feeling frustrated, in the questionnaire, none of the respondents agreed/strongly agreed. On the contrary, the most frequent answer for that statement was strongly disagree: 71.4%, as presented Table 4.4 (Section 4.1).

Among the anxiety causes related to ICT use, respondents listed mainly feeling under pressure, uncertainty, worry that something goes wrong with their teaching and feeling unprepared, which are also the most common causes expressed for feeling frustrated. Findings suggest that anxiety and anger (frustration) come from the same triggers, which lead us once more to the impact of lack of training as these teachers mainly report being anxious and frustrated regarding feeling unprepared and insecure regarding lack of training and/or failure itself (when some tool or device does not work and the aim is not attained or even the idea of failure).

Most of the respondents declared to be aware of the impact that their emotions have on the teaching and learning process, which is crucial, as recent neuroscience research has shown that

emotions, feelings and self-consciousness are highly impacting on the learning process. Frenzel, et al. (2009, p.1) point out that “findings from interview studies with teachers provide evidence that instructors’ emotions can affect learners’ emotions and behaviors (sic)”. In this regard, Alvarenga & Domingos (2020) suggest that the teachers and students’ emotions can and should be analysed, to foster a pleasant environment with positive emotions: motivation, good surprises and discoveries. Hence the importance of this theme is included in the teacher training curriculum. According to Frenzel et al. (2009), not only “students can learn that a topic or learning task is valuable by teachers’ comments, as well as by observing their teacher’s enjoyment of the topic or learning task”, but also that

empirical evidence supports the notion that teacher enthusiasm in turn is positively related to both students’ motivation and their evaluative reaction to school classes (...) In sum, the findings of qualitative interview studies suggest that there are positive links between teacher enjoyment and student enjoyment in the classroom (p. 706).

As mentioned before, the COVID-19 pandemic has strongly impacted these teachers’ perceptions of using ICT as educators would become more aware of the possibilities and therefore added value of the use of technology (Spoel et al., 2020). It has also impacted their emotions towards ICT use in their teaching practice. Anxiety and frustration have increased, triggered by being forced to suddenly move to remote teaching and, hence having to use ICT as it became the only way to keep teaching during the schools’ closure period. Respondents reported that such context was distressing, tough and overwhelming. Negative emotions have been boosted by feeling unprepared, which, again, leads us to the utterly need of ICT-related training, once, as stated by Spoel et al. (2020), “apart from a sense of urgency and therefore experienced added value of ICT, the short transitioning period due to the Covid-19 pandemic has left many teachers unprepared” (p.625).

5.1. Constraints and Recommendations

As with any other study relying on practitioner teachers empirical, this study was severely disturbed by the COVID-19 pandemic and the succession of lockdown periods leading to the closure of educational institutions. This disturbance not only limited the gathering of empirical data but may also somewhat biased the results since it probably added anxiety, depression and stress to the professional environment as recent studies show (eg. Ozamiz-Etxebarria et al., 2021)

Nevertheless, we find that though the results cannot be generalized there are several interesting pointers worthening future studies on teachers’ emotions and perceptions regarding ICT use in teaching once the pandemic is overcome and we regain “normality”, particularly regarding the

openness and full functionality of educational institutions and also considering the ICT use in the educational context is now large steps ahead because of the demands from the new world scenario. Remote teaching has gained a status never seen before. Thus, training and supporting teachers to be skilled and confident to use ICT in their teaching context is urgent and indispensable, since lack of training appears to be a relevant trigger for negative emotions, which meaningfully impacts on teaching practice.

As remote teaching became, at a given time, the only option for educational institutions to function, using ICT became mandatory. At the time of data collection for this study, this was still a very new reality, and despite being impacted by such an experience, teachers were still not fully clear on how long it would be and what real difficulties would be faced. Therefore, a recommendation for a future study would be to reapply the questionnaire to the same participants once out of the pandemic context, in order to be able to face comparable the data to better understand the impact of the remote teaching experience in such circumstances on the perceptions and emotions of these teachers.

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Appendixes

Appendix A - Questionnaire

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Appendix A. Online Questionnaire

31/03/2021

Teachers' Perceptions on Information and Communication Technologies (ICT) use in Teaching English as a Foreign Language (EF...

Teachers' Perceptions on Information and Communication Technologies (ICT) use in Teaching English as a Foreign Language (EFL): a neuroscience approach.

INTRODUCTION

Dear Teacher,

This survey is part of a research project being conducted as part of a Master's degree in Education and it should take approximately 10 minutes to complete. This study is exploratory in nature and will investigate teacher's perceptions on use of Information and Communication Technologies (ICT) in teaching English as a Foreign Language (EFL). Answers may be used in academic publications while always keeping them anonymous. At the end of the survey you will be asked if you are interested in participating further. Your experiences and opinions are very important to us. Thank you for taking part.

Miriam Figur
Student at UNL/FCT Master Degree in Education Course

Professor João Correia de Freitas, PhD.
Master of Education course coordinator at Department of Applied Social Sciences, Nova School of Sciences and Technology

Professor Karly Alvarenga, PhD.
Professor at Department of Mathematics at Universidade Federal de Goiás

*Required

SECTION 2

ABOUT YOU, YOUR EFL TEACHING EXPERIENCE AND QUALIFICATIONS

1. 1) Nationality *

Mark only one oval.

- Argentina
- Bolivia
- Brazil
- Chile
- China
- Colombia
- Greece
- Peru
- Portugal
- Singapore
- Spain
- United Kingdom
- United States of America
- Venezuela
- Other

2. 2) Age *

Mark only one oval.

- 21 -25 years old
- 26 -29 years old
- 30 - 35 years old
- 36 -39 years old
- 40+ years old

3. 3) Gender *

Mark only one oval.

- Female
 Male
 Other

4. 4) Country where you teach *

Mark only one oval.

- Argentina
 Bolivia
 Brazil
 Chile
 China
 Colombia
 Greece
 Peru
 Portugal
 Singapore
 Spain
 United Kingdom
 United States of America
 Venezuela
 Other

5. 5) Years of experience in EFL teaching *

Mark only one oval.

- less than 5 years
 5 to 10 years
 more than 10 years

6. 6) Current work setting (click all that apply) *

Tick all that apply.

- Private School
- Public School
- Pre-school
- Primary School
- Secondary School
- Private language school - teaching children (4 to 12-year-old students)
- Private language school - teaching teenagers (13 to 18-year-old students)
- Private language school - teaching adults (+18-year-old students)
- Private 1 to 1 lessons

7. 7) Highest relevant qualification in EFL teaching *

8. 8.a) Have you received any in-service training (training while at work) in using ICT in classroom? *

Mark only one oval.

- Yes
- No

9. 8.b) If YES (above), please state what training in using ICT in classroom you have received.

10. 9) How many students are there in your classroom on average? *

Mark only one oval.

- under 10
- 11-20
- 21-30
- 31-40
- 40+

SECTION 3

YOUR EXPERIENCE IN USING ICT IN EFL TEACHING:

11. 10 a.) Does your school provide you with ICT tools/equipment to use for teaching? *

Mark only one oval.

- Yes (go to 10.b)
- No, I bring my own equipment (Please, state below what equipment you bring.)

12. If you answered NO (above), please type here what tools/equipments you bring to your lessons.

13. 10.b) What technology can you access in your school? Tick all that apply. *

Tick all that apply.

- a computer in all my classrooms
- a computer in some of my classrooms
- a digital projector in all my classrooms
- a digital projector in some of my classrooms
- a portable digital projector
- a portable DVD/CD player
- internet access in all my classrooms
- Internet access in some of my classrooms
- a computer room for students to use
- a computer room for teachers to use
- tablets for students to use
- interactive whiteboard/smartboard in all my classrooms
- Interactive whiteboard/smartboard in some of my classrooms

Other: _____

SECTION 4

YOUR PERCEPTIONS AND FEELINGS IN USING ICT IN EFL TEACHING

Below you find a list of statements describing your experiences in using ICT as an EFL teacher. Please indicate your personal response to each of these statements by choosing the number that best represents your answer.

Consider: 1- STRONGLY DISAGREE 2- DISAGREE 3- AGREE 4- STRONGLY AGREE

14. 11) I generally enjoy using ICT when teaching. *

Mark only one oval.

	1	2	3	4	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

15. 12) Preparing to use ICT in my lessons often causes me to worry. *

Mark only one oval.

	1	2	3	4	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

16. 13) I often feel annoyed while using ICT to teach. *

Mark only one oval.

	1	2	3	4	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

17. 14) I feel uneasy when I think about using ICT to teach. *

Mark only one oval.

	1	2	3	4	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

18. 15) I am often worried that my teaching isn't going so well when I use ICT in lessons. *

Mark only one oval.

	1	2	3	4	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

19. 16) I generally feel tense and nervous while using ICT in classroom. *

Mark only one oval.

	1	2	3	4	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

20. 17) I generally have so much fun using ICT in lessons that I gladly prepare and teach with ICT tools. *

Mark only one oval.

	1	2	3	4	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

21. 18) I generally use ICT in my lessons with enthusiasm. *

Mark only one oval.

	1	2	3	4	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

22. 19) Sometimes I get really mad while I use ICT in classroom. *

Mark only one oval.

	1	2	3	4	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

23. 20) Using ICT to teach generally frustrates me. *

Mark only one oval.

	1	2	3	4	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

24. 21) I often have reasons to be angry while I use ICT in my lessons. *

Mark only one oval.

	1	2	3	4	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

25. 22) I often have reasons to be happy while I use ICT to teach. *

Mark only one oval.

	1	2	3	4	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

Thank you very much for taking the time to answer this survey. If you have further comments about ICT use in EFL teaching or any feedback, please, use the space below. We are looking forward to read your comments and/or feedback.

26. Please, provide you comments/feedback here.

CONTACT DETAILS

In case you are interested you may participate further in this study by providing your contact information. Please note that if you choose to provide contact information such your email address, your survey responses may no longer to be anonymous to the researcher. Nonetheless, no names or identifying information would be included in any publications or presentations based on these data and your responses to this survey will remain confidential: no individual's answer can be identified. If you are willing to further participate and to be contacted by us, please provide the following details: name and e-mail address. If you have any questions, please contact the first author. Miriam Figur -
m.figur@campus.fct.unl.pt
Student at UNL/FCT Master Degree in Education Course

27. Name:

28. E-mail address:

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Appendix B. Presential Semi-structured Interview guide

INTERVIEW GUIDE (SEMI-STRUCTURED INTERVIEW)

1. INTRODUCTION

- Thank you for agreeing to take part in this research. We are interested in your perceptions and feelings regarding your experience using Information and Communication Technologies (ICT) in teaching English as a Foreign Language (EFL).
- Before we start our discussion, I'd like to ensure you are fully informed that our discussion is going to be recorded, as it is part of data collection for an academic research and it may be used in academic publications while always keeping your personal details anonymous. This way, I'd request you not to reveal personal details such as your name, school name, colleagues' names etc. during this conversation. For this purpose I must now ask for your formal consent. Do you agree with these conditions?
- Once this study is finished we will share it with you, since you are interested in receiving it.

2. SETTING THE PROFESSIONAL CONTEXT

- First of all, could you, please, briefly tell me about your teaching practice? (Private or Public sector; students age, students EFL level, number of students in class, years of experience, etc.)

3. TECHNOLOGICAL ENVIRONMENT/ICT ROLE/TRAINING

- Does your school provide all the tools/equipment you need, such as internet access, PC/speakers, digital projectors, etc?
 - **Probe =>** If yes: Does it make you feel more comfortable/confident?
If no: Would you feel more comfortable/confident if you had such tools/equipment provided by the school?
- How do you feel about the teaching and learning environment created by using ICT?
 - **Probe => Do you feel comfortable/confident about that?**
- Have you received any in-service training regarding ICT for teaching purposes?
 - How do you feel about that?
 - **Probe => if yes:** Has it helped you somehow? How has it impacted on the way you feel about ICT use in EFL?
=>If no: Do you think it would make any difference? Would it change the way you feel about using ICT?

4. EMOTIONS AND PERCEPTIONS ON ICT IN EFL TEACHING

- How do you feel when using ICT tools and devices to teach?
 - **Probe** =>What makes you feel that way when using ICT to teach EFL?
- Think about specific situations when using ICT to teach made you feel... (if any)
 - Prompts** (switch words)
 - Frustrated
 - Anxious
 - Angry
 - Tense/nervous
 - Having fun
 - Annoyed
 - Worried
 - Happy/joyful
 - **Prompt** If the respondent can't say, for specific activities, tools, skills (projector; internet; listening activities)
 - **Probe:** Can you, please, tell me more about that?
- In your opinion, may those emotions/feelings impact somehow on teaching and learning process? Why/why not?

5. ICT USE IN THE PANDEMIC SCENARIO

- How has the pandemic scenario impacted on your perceptions regarding ICT use?
- Teachers have been forced to teach remotely. How was that for you? How did/do you feel about that?

6. CLOSING

Thank you for sharing your perceptions, which are going to be valuable for our research. Do you have any additional comments regarding ICT use in EFL teaching?

Appendix C. TES – The Teacher Emotion Scales

Running head: THE TEACHER EMOTIONS SCALES (TES)

English and German Items of the TES

		English	German
		General Scales	
	Short name		
Instruction		Below you find a list of statements describing your experiences as a teacher. Please indicate your personal response to each of these statements by circling the number that best represents your answer.	Im Folgenden finden Sie eine Reihe von Aussagen, die sich auf Ihre Erfahrungen als Lehrkraft beziehen. Bitte kreuzen Sie diejenige Antwort an, die Ihr persönliches Erleben am besten beschreibt.
Enjoyment	joy1	I generally enjoy teaching.	Im Allgemeinen macht mir Unterrichten Freude.
	joy2	I generally have so much fun teaching that I gladly prepare and teach my lessons.	Im Allgemeinen macht mir Unterrichten so viel Spaß, dass ich den Unterricht gerne vorbereite und durchführe.
	joy3	I often have reasons to be happy while I teach.	Während des Unterrichts habe ich oft Grund, mich zu freuen.
	joy4	I generally teach with enthusiasm.	Im Allgemeinen unterrichte ich mit Begeisterung.
Anger	ang1	I often have reasons to be angry while I teach.	Während des Unterrichts habe ich oft Grund, mich zu ärgern.
	ang2	I often feel annoyed while teaching.	Während des Unterrichts bin ich oft genervt.
	ang3	Sometimes I get really mad while I teach.	Beim Unterrichten werde ich gelegentlich richtig sauer.
	ang4	Teaching generally frustrates me.	Im Allgemeinen frustriert mich das Unterrichten.
Anxiety	anx1	I generally feel tense and nervous while teaching.	Beim Unterrichten bin ich in der Regel angespannt und nervös.
	anx2	I am often worried that my teaching isn't going so well.	Ich mache mir oft Sorgen, dass das Unterrichten nicht so richtig klappt.
	anx3	Preparing to teach often causes me to worry.	Die Vorbereitung des Unterrichts bereitet mir Sorgen.
	anx4	I feel uneasy when I think about teaching.	Wenn ich an das Unterrichten denke, bin ich beunruhigt.
Student-Group Specific Scales			
Instruction		When answering the items below, please think of the students in your class this year. If you teach more than one class, please think of your typical Tuesday morning. Envision yourself walking into your first class on Tuesday morning and think of the students in this particular class when answering the following items	Bei der Bearbeitung der folgenden Fragen beziehen Sie sich bitte auf die Klasse, die Sie zurzeit unterrichten. Sollten Sie mehrere Klassen unterrichten, denken Sie bitte an einen typischen Dienstag Morgen. Bitte beantworten Sie die Fragen in Bezug auf diejenige Klasse, die Sie dienstags morgens in der ersten Stunde unterrichten.
Enjoyment	joy_s1	I enjoy teaching these students.	In dieser Klasse macht mir Unterrichten Freude.
	joy_s2	I have so much fun teaching these students that I gladly prepare and teach my lessons.	In dieser Klasse macht mir Unterrichten so viel Spaß, dass ich den Unterricht gerne vorbereite und durchführe.
	joy_s3	I teach these students with enthusiasm.	In dieser Klasse unterrichte ich mit Begeisterung.

Running head: THE TEACHER EMOTIONS SCALES (TES)

	joy_s4	I often have reason to be happy while I teach these students.	Während des Unterrichts in dieser Klasse habe ich oft Grund, mich zu freuen.
Anger	ang_s1	I often have reason to be angry while I teach these students.	Während des Unterrichts in dieser Klasse habe ich oft Grund, mich zu ärgern.
	ang_s2	I often feel annoyed while teaching these students.	Während des Unterrichts in dieser Klasse bin ich oft genervt.
	ang_s3	Sometimes I get really mad at these students.	In dieser Klasse werde ich gelegentlich richtig sauer.
	ang_s4	Teaching these students frustrates me.	In dieser Klasse frustriert mich das Unterrichten.
Anxiety	anx_s1	I feel tense and nervous while teaching these students.	Beim Unterrichten in dieser Klasse bin ich angespannt und nervös.
	anx_s2	I am often worried that my teaching isn't going so well with these students.	Ich mache mir oft Sorgen, dass das Unterrichten in dieser Klasse nicht so richtig klappt.
	anx_s3	Preparing to teach these students often causes me to worry.	Die Vorbereitung des Unterrichts in dieser Klasse bereitet mir oft Sorgen.
	anx_s4	I feel uneasy when I think about teaching these students.	Wenn ich an das Unterrichten in dieser Klasse denke, bin ich beunruhigt.

Note. We recommend presenting these 12 items in random order within the questionnaire. It is

also possible to mix in other scale items that fit into the context (e.g., general TES items can be mixed with burnout items).

Appendix D. Interview Transcriptions

INTERVIEW TRANSCRIPTIONS

I= INTERVIEWER

R1= Respondent 1; R2= Respondent 2; R3= Respondent 3; R4= Respondent 4

INTERVIEW 1

I: Thank you for agreeing to take part in this research. We are interested in your experience, opinions and perceptions regarding Information and Communication Technologies (ICT) use in teaching English as a Foreign Language (EFL).

R1: Ok.

I: Before we start our discussion, I'd like to ensure you are fully informed that our discussion is going to be recorded, as it is part of data collection for an academic research and it may be used in academic publications while always keeping your personal details anonymous. This way, I'd request you not to reveal personal details such as your name, school name, colleagues' names etc. during this conversation.

R1: That's all right.

I: Firstly, I'd like to hear about your working setting... private or public school; students age, number of students in class, years of experience, etc.)

R1: I work in a private institution. And I'm in a specific program... the bilingual program in this school. I teach several subjects... different subjects in English. We use a very complete material which involves several subjects but we teach students all of that in English. These students have daily classes... two hours a day. And I work with year 3 students... so they are between 8 and 9 years old.

I: Okay. We are now living an exceptional moment... and I guess the technologies have been playing a different role currently, compared to the previous scenario when lessons weren't remote. I'd like you to think about what is the role of ICT in your teaching practice, not only at this exceptional moment but previously... let's say in that "normal" scenario?

R1: Well... in my case... since I've started working as a language teacher... I'm talking about teaching foreign languages, specifically, which is what I do.

I: Right.

R1: I think they are essential, because when you are teaching a subject in your mother tongue, ICT is already necessary. The kids are very "advanced" (savvy)... so it seems like we have to be in contact with all of those technologies. But, for EFL teaching it's essential because we need much more resources to make them better understand everything. Thus, I think technologies play a huge role in teaching a language because you need to work with the four skills... you need listening, you need writing, reading...

and you'll need audio-visuals all the time. So, I think this kind of resource is essential. And now, at this moment, there wouldn't be another way to make it happen if we didn't have all of these technologies, platforms, you know? That's it. It's essential.

I: Would you say you enjoy using ICT in your lessons or you do that because it's a need?

R1:: [DEEP BREATHING] I like it... [PAUSE] partly. Because when we deal with technology there is always a chance of not working, you know? of something to happen, because above all you are dealing with technology, with the internet, etc... and these things not always depend only on you and your good will to work. But, at the moment I see the students are enjoying it, I start enjoying it too. So, that's it... from the moment I see they enjoy it I feel more comfortable to work with it as well. That's why I partly like it. There is always that uncertainty... what if it doesn't work... what if I didn't achieve it as I wish... but I think this is important too. So, I end up enjoying it... at least a little.

I: How that uncertainty makes you feel?

R1: A bit anxious... yes, anxiety indeed... worried because it must go well, it must work... then it causes me some anxiety.

I: I see. Our focus here is exactly on such feelings and emotions. So I'd like you to think about some specific situations which cause you these emotions/feelings I will say.

R1: Okay.

I: A situation that makes you feel frustrated.

R1: Regarding what?

I: Oh, sorry... regarding using ICT in your teaching practice.

R1: Ok [PAUSE] That makes me feel frustrated [LONG PAUSE/DEEP BREATHING] when the internet doesn't work.

I: I see... what about feeling tense or nervous?

R1: [DEEP BREATHING] I think it is the same case [PAUSE] when some device doesn't work during the lesson [PAUSE] the students are waiting for something and for some reason [PAUSE] some failure [PAUSE] anything [PAUSE] and then I can't use the projector as I wish, or deal with the laptop [PAUSE] this type of situation causes me tension [PAUSE] when the students are waiting and it's not working.

I: And motivated?

R1: Wow! [DEEP BREATHING/LAUGHTER] That's difficult.

I: Happy?

R1: Well [PAUSE] I think [PAUSE/PENSIVE] actually regarding technologies I can't say that [PAUSE] I don't know. In the classroom [PAUSE] well, it is when I see my teaching is going well [PAUSE] it's reaching students in a positive way [PAUSE] when I get positive results [PAUSE] that's the same for technologies. It's when I can use technology which results in something positive [PAUSE] some positive feedback.

I: Overall, how do you feel regarding using ICT in your lessons: more satisfied, motivated, happy or more frustrated, insecure, anxious?

R1: I think I'm more anxious.

I: What exactly makes you feel this way? Is there anything in your teaching context which triggers that?

R1: No [PAUSE] I don't think so. I think it's more about uncertainty [PAUSE] you know? It may not work [PAUSE] I may not achieve my goal... what am I going to do if it happens [PAUSE] if it doesn't work? It's uncertain indeed. It's more about worry.

I: I see. And in your opinion, Do all of these emotions impact the teaching and learning process somehow ?

R1: No, I don't think so. The teaching and learning process [PAUSE] well [PAUSE] no. Not really.

I: Ok. Well, that was my last question... I'd like to thank you for sharing your perceptions, which are going to be valuable for our research. Do you have any additional comments regarding ICT use in EFL teaching?

R1: No. Nothing.

I: Okay. So, thank you very much. I'm closing the recording now.

Once the recording was over, the R2 started talking again...

R1 When will this study be finished?

:

I: It must be concluded by November.

R1 And could I see it then?

:

I: Sure, it will be my pleasure to share it. I just don't know exactly when I will be able to share it once I have to present it first. But I'll be happy to share it as soon as possible.

R1 Great! Well [PAUSE] it's been really hard for us teachers now, as we have no choice but teaching online [PAUSE] remotely or recording lessons.

I: It was quite unexpected...

R1 Yes [PAUSE] most of us weren't prepared for that at all. I've never taught online before. I had to learn everything by myself. It's overwhelming. It was like watching tutorials and more tutorials to learn how to record and edit videos [PAUSE] how to use those platforms [PAUSE] it's been really hard. And the worst is not to know when it will be over. We don't have a deadline for that. I just tell myself it will be over at some point [PAUSE] just to feel less anxious.

I: I see. Do you think using ICT makes you more anxious now?

R1 It's not the ICT itself [PAUSE] it's about doing something you don't really know how to do. Too much pressure. There is no choice and no perspectives. We are all tired [PAUSE] teachers, kids [PAUSE] parents.

END OF PART 1

PART 2

I: Have you received any in-service training regarding ICT for teaching purposes? And how do you feel about it?

R1 My institution has offered online training on how to use Google Classroom platform, you know? Which is the platform we use to post activities. However [PAUSE] so, I felt prepared in relation to Google Classroom, because I could have that online training before starting to use that platform. I felt calm, relaxed and prepared indeed regarding using this platform. However, do not use only Google Classroom. We have been using several other platforms [EMPHATICALLY]! You know... many other ways, many other technologies to record lessons, to create games. And this is something that the institution has been asking for very often, for us to be innovative, to look for new alternatives, for us to be creative. Anyway [PAUSE/PENSIVE], so [DEEP BREATHING] putting all together, this pressure [CHUCKLES] that the institution put on us to [PAUSE] let's say look for these different things for the classes, I feel a bit frustrated because there is no preparation, no training for us to be able to use that, these other platforms. So, for example, to use Loom, which I use for recording my lessons, to use Quizizz, which I use to prepare games and, well, many other platforms I use to create games and several other activities. So [DEEP BREATHING] I felt frustrated and unprepared and [PAUSE] most part of the time very anxious because I felt like I had to learn that, so [PAUSE] I spent much time learning how to use this type of technology, learning how to get used to these platforms for, then, being able to use them. I watched videos to learn how to use them, then when I learned I used them and then finally to use them in my lessons. So, most of the time [DEEP BREATHING], I felt [LONG PAUSE/PENSIVE] frustrated and very anxious.

I: I see.

R1 And regarding face-to-face teaching I feel the same way frustrated and anxious related to technologies and different platforms use. Because [PAUSE/PENSIVE] the pressure from school is the same for us to use them, we have to use them, they want us to be always connected and bringing these new technologies and different tools for the lessons, but [PAUSE] besides the fact that there isn't [PAUSE] some kind of investment in technologies for my classroom, I mean from the institution side, also there isn't this type of training. So, even with this pressure from school, even with some suggestions they make, there is no [PAUSE] there is no training, there is no direction. Many times, even related to the material we use, there is a lack of training regarding the use of technologies. We receive a lot of training related to this material, which is a material that comes from [PAUSE/REPHRASING] I mean the book we use. It comes with very well explained instructions, there are detailed instructions and directions for how to use it, what to do or not to do. But related to other technologies, like audio-visual resources, etc and other platforms, no. We don't have this kind of training. So, when it's time to use them, I feel anxious, afraid that it will go wrong [PAUSE]. Many times I preferred not to use them. Not to use, not to work with some tool because I was afraid that would go

wrong, if I didn't know how to use it, how to do it. So [PAUSE] that's it.

END OF THE INTERVIEW 1

INTERVIEW 2

- I:** First of all I'd like to thank you for agreeing to take part in this research. We are interested in your perceptions and feelings regarding your experience using Information and Communication Technologies (ICT) in teaching English as a Foreign Language (EFL).
Before we start our discussion, I'd like to ensure you are fully informed that our discussion is going to be recorded, as it is part of data collection for an academic research and it may be used in academic publications while always keeping your personal details anonymous. This way, I'd request you not to reveal personal details such as your name, school name, colleagues' names etc. during this conversation. For this purpose I must now ask for your formal consent. Do you agree with these conditions?
- R2:** Yes, I agree.
- I:** First of all, could you, please, briefly tell me about your teaching practice?
- R2:** I work for a school language, preparing students for the Cambridge exams and in two other schools, teaching at different levels and ages.
- I:** For how long?
- R2:** I started teaching seven years ago.
- I:** I see. Now, about using ICT when you're teaching... how do you feel?
- R2:** I feel confident about it. I think using ICT adds value to my lessons. In one of the schools where I work there are lots of different ICT tools and devices, such as smartboard, tablets, digital projectors, and computers. I use them very often.
- I:** Now, I'd like to understand what makes you feel this or that way when using ICT in your lessons. I'll ask for some specific emotions and feelings and, please, think about concrete situations, a specific activity which involves ICT use that makes you feel that, if there is any.
- R2:** Okay.
- I:** Frustrated...
- R2:** When I have an activity to be done and I can't get access to some material or device to do it as planned. For example, some days ago... my students had a test and there was listening skill involved. I wanted to print the audio scripts out, in case I couldn't play the audio file for some reason, but it wasn't possible. There was no paper at school for the printer. Such issues frustrate me because when you use technology you always have to be prepared, you may need a plan B. The scripts

were my plan B, because if something went wrong with the audio file or if the projector didn't work, or, you know... something like that, I could read it aloud instead of playing the recording.

I: And is there any other situation ICT related that makes you anxious or tense/nervous?

R2: The same situation made me tense and anxious because I went to my lesson thinking of that. If something went wrong with the technology... I don't know, maybe some issue with the internet or any other problem could happen. But in that case it ended up all well. I didn't have any issue, but it could happen. It always can. I've already had many issues like that. That's why I like to be always prepared. That makes me more confident, because if I have my plan B, even if the technology fails, I will be able to reach the lesson's aim.

I: Right. Did you feel angry or annoyed when that happened?

R2: Not exactly angry. maybe annoyed. But I'd say more frustrated and anxious.

I: Does such a situation happen often?

R2: Yes... [long pause] but we need to deal with that.

I: And what about more positive emotions when using ICT? Any situation that makes you happy? Do you have fun using ICT?

R2: Sure! For example, last week I was teaching countries and nationalities. And one student didn't know where a specific country was. As I had a computer with internet access and a digital projector in that classroom, I just opened Google Earth and showed the country and we explored that. It was really nice. If I didn't have those technology tools on hand, it would be frustrating. I'd have to get a world map, which I didn't know if we had there or where it was... you know, probably I wouldn't be able to do that. I would have to explain to her. But it's not the same.

I: You've mentioned you've got easy access to ICT tools and devices in one of the schools where you teach. Is it different in the other ones?

R2: Oh... yes. It's not the same for all. There is one where I have to take my own computer because they don't have any in the classrooms.

I: I see. And how do you feel about that... is it a problem? Do you feel more comfortable at the school where they provide you all the tools and equipment?

R2: Yes and know. If on one hand it's an issue to carry my stuff to work, on the other hand I'd say I feel more confident when I use my own equipment, as I know well, I know my files are there, I don't get dependent on internet access, etc. Not always we know exactly how to use all those devices... sometimes students know it better and that's helpful because they're always happy to help with that.

I: Did your institution offer you any training on ICT use?

R2: No. Never. I've never received any training. Even this school that offers all of this range of ITC has never offered any training. Once they provide all the ICT they do, they expect us to use it a lot. But all I know about that I've learnt by myself or from a colleague. Or even from students, as I said, they know a lot about ICT. But, you know, we don't have to use ICT in all the lessons. Sometimes it's nice to use other

resources and materials. To get closer to students. Especially with the youngest ones. They need some activities with movement, acting, dancing, singing to develop motor skills. And it's an opportunity to get closer to them, to make emotional connections.

I: Do you think if you have received some training it would change the way you feel regarding using ICT?

R2: Yes, because I'd feel more confident. I'd spend less time trying to learn by myself and could use that time to plan lessons and activities to explore all the technology can give me. Training is always important.

I: Right. And how has the pandemic impacted the way you feel about using ICT?

R2: Oh! That was overwhelming, you know. We just had no option. Suddenly they anticipated our Easter recess and then, we were simply told we would teach remotely and should do it on this or that platform. We had one or two days to learn how to do it by ourselves. Actually we learned while teaching... while using the platform because there was no other option. We had to do that. They had time to think and plan how it would be and offer us some guidance. but they didn't. they just told us and that's it. It was tough. I had to use my own equipment. My computer wasn't that good to support video conferences. I had to use my husband's PC and he took mine to work. But it wasn't nice, it wasn't easy... it was really trick because sometimes he needed some files which were on his computer but he had mine and the same for me. But also, I can tell in some ways I felt closer to some students and I guess some of them felt the same. Suddenly we were in each other's homes. It was a different approach. A completely new situation for all of us. But overwhelming indeed. The pandemic itself has been hard to bear. I like going to school, you know... I've never experienced that before... working from home. Now we're back to school, however it hasn't ended. We still have to deal with that. There's always some students at home because of COVID. Then they watch the classes remotely. We have a camera in the classroom and we do it via Zoom. That's the new reality.

I: In your opinion, may those emotions/feelings impact somehow on the teaching and learning process? Why/why not?

R2: It impacts a lot. Students feel at first sight if you're anxious or tense or worried about something. If you don't feel confident, if you feel anxious or nervous you may not reach your lesson's aims or you may miss a good opportunity to explore something that happens during the lesson or you may miss some language issues, like structure or pronounce that you should correct at the moment. So, yes, the way we feel has a great impact on our practice.

I: Would you like to add any comment or share any experience or opinion regarding our conversation?

R2: No, I think that was all.

I: Right. I'd like to thank you for sharing your perceptions, which are going to be valuable for our research. Once this study is finished we will share it with you, since you are interested in receiving it.

R2: That will be great. Thank you.

END OF THE INTERVIEW 2

INTERVIEW 3

- I:** First of all I'd like to thank you for agreeing to take part in this research. We are interested in your perceptions and feelings regarding your experience using Information and Communication Technologies (ICT) in teaching English as a Foreign Language (EFL).
Before we start our discussion, I'd like to ensure you are fully informed that our discussion is going to be recorded, as it is part of data collection for an academic research and it may be used in academic publications while always keeping your personal details anonymous. This way, I'd request you not to reveal personal details such as your name, school name, colleagues' names etc. during this conversation. For this purpose I must now ask for your formal consent. Do you agree with these conditions?
- R3:** Yes, I agree.
- I:** First of all, could you, please, briefly tell me about your teaching practice?
- R3:** I work in three different schools, teaching at different levels and ages. In the school I have the most part of my classes I teach preschool and primary school and there are about 25 students in each class. I also work in an institute of language, where I teach older students, preparing them for the Cambridge exams and the third one is only preschool and there are only about 12 students in each class.
- I:** For how long?
- R3:** Since 2005... so, for 15 years.
- I:** Great. Now, I'd like to focus on your feelings regarding using ICT when in your teaching practice. How would you describe how you feel about that?
- R3:** For me it is essential. It would be too difficult to teach without technology tools, especially at school. At the institute of language, there is less technology available and at the preschool there is a lot. But, for me in primary school not to use ICT would be dramatic. We need it... the support for the books we use is digital, songs, videos. Everything. For me it's very important to use ICT in the classroom.
- I:** Now, I'd like to understand what makes you feel this or that way when using ICT in your lessons. I'll ask for some specific emotions and feelings and, please, think about concrete situations, a specific activity which involves ICT use that makes you feel that, if there is any.
- R3:** Okay.

- I: Okay. Now, I'd like to know about in-service training. Have you received any training on ICT use?**
- R3:** Never. I have never received any training. All we've been using was self-taught. I've learned by doing. We just started using it because it was the way we teach currently, but there was no training.
- I: How does it impact the way you feel regarding using ICT?**
- R3:** Well, fortunately for me it doesn't have much impact because when I have to do something new I learn it. I search and learn by myself. But I think it would be important because these things change every year... these digital tools, the way we can use digital tools in the classroom. There are many ways but sometimes we get used to only one because we haven't had any training on it. I mean, actually there is some impact because I think I could do even more. But fortunately, even though I think I do it well. I can use it well in the classroom.
- I: Right. And what about the pandemic? How has the pandemic impacted the way you feel about using ICT?**
- R3:** For me it has changed a lot, especially in the beginning. Because it was a big shock when we left the classroom to start teaching from home, in a context where nobody was prepared for that. It was new for everyone... for students and for teachers. In the beginning it was too hard to manage a class with 27 students through my computer, from home. It was really hard. In the beginning I thought I would not be able to do that. I got anxious, nervous, tired, even depressed. Then eventually it works. We slowly get used to that... how it works and the students too. Then it went well. But in the first month it was really tough. But there it is. If we didn't use ICT it would be impossible to get through this. It would be impossible to do what we did from March to June. How would the students have classes if not remotely, via computers? It's very important.
- I: Now that you are back to school, do you think the way you perceive and feel related using ICT has changed after experiencing teaching remotely during the lockdown?
In your opinion, may those emotions/feelings impact somehow on the teaching and learning process? Why/why not?**
- R3:** It has changed. Not exactly the way I use it but now, every time a student has to be at home, for any reason, if they miss a lesson, there it is... they can watch the class remotely, on a computer. Each time a student doesn't come to school and you have to send them some homework, you do it on your computer. If the school closes due to pandemic, you teach through the computer. It has changed a lot. Before it was different. If a student missed a lesson, that was it. Next class he would catch up, asking colleagues and the teacher about the lesson he missed. There wasn't another option. There wasn't this readiness to use digital tools in the classroom. So, this has changed a lot.
- I: How do you feel about this?**
- R3:** Frustrated. Frustrated because there are some things, for me... the presence in a classroom... the teacher's presence, the students... especially in the pandemic context... these things that can't be replaced. Teaching from home, on the computer... through the computer isn't the same as being in the classroom. So, we always miss something... the students' attention, the way the teacher explains... in the classroom we can explain things better. I think we always miss something.

I: Considering all of those emotions, sometimes more positive, sometimes less, do you think your emotions and feelings impact your lessons somehow? How do they impact the teaching process?

R3: Yes. Absolutely yes. And I experienced that this week when I had a lesson in year 4. There were two students who would watch the lesson from home. First the internet wasn't working. Then Zoom... I logged in but the camera wasn't working. I couldn't make it work. Then they couldn't hear me. I spent at least 15 minutes on it. I wasn't able to do anything for 15 minutes... I couldn't start my lesson, I didn't manage to make the students who were learning from home get access to the classroom. All of that just in the beginning of my lesson. It had a huge impact on that lesson because then I had to rush, my mood was not the same anymore, I couldn't achieve the goals I had planned for that lesson... so, it impacted in a very negative way.

I: I see. I don't have further questions but I'd like to know if you have any comments to add related to your perceptions and feelings regarding using ICT in your teaching practice.

R3: No. I just think that facing the current scenario we are experiencing it's becoming more and more that teachers receive training on this. Whatever the reason for, the pandemic or any other issue... you may be in another country, learning a foreign language, whatever... ICT are more and more important. Thus, if there is no training in this area, teaching will become outdated. There should be investments on training teachers to use ICT in the classroom. That's the most important from my view. Honestly, I can't see myself teaching without using ICT.

I: Right. I'd like to thank you for sharing your perceptions, which are going to be valuable for our research. Once this study is finished we will share it with you, since you are interested in receiving it.

R3: Thank you.

END OF THE INTERVIEW 3

INTERVIEW 4

I: Thank you for agreeing to take part in this research. We are interested in your experience, opinions and perceptions regarding Information and Communication Technologies (ICT) use in teaching English as a Foreign Language (EFL). Before we start our discussion, I'd like to ensure you are fully informed that our discussion is going to be recorded, as it is part of data collection for an academic research and it may be used in academic publications while always keeping your personal details anonymous. This way, I'd request you not to reveal personal details such as your name, school name, colleagues' names etc. during this conversation. Do you agree with that?

R4: That's all right.

I: Firstly, I'd like to hear about your working setting... private or public school;

students age, number of students in class, years of experience, etc.)

R4: I'm a English teacher, belonging to the 120 group (certified to teach primary and elementary school). I've got a Masters degree in EFL Teaching. Currently, I work in a private school, teaching from year 1 to 4 (7 to 10 years old students). I have about 20 students per class. Actually the largest group I have is 21 students. The school's policy is to work with smaller groups, because it is more dynamic for the kids and it is also easier for the teachers to attend to their students. It's basically that. Regarding the number of lessons a week, for years 3 and 4, that English is mandatory in the curriculum, it's 3x 45 minutes a week. But on the other days, when they don't have the curricular lesson, they have what we call "Fun Time", which is a meeting where they only speak English. It is for singing English songs, playing games, doing activities with flash cards... which means those 45 minutes are really to practice speaking. We have been having fantastic results. Parents have been giving very positive feedback, feeling about the benefits from this "Fun Time" as kids get home and start speaking English with parents, like "Dad, when is your birthday?" and keep asking until the parents reply. It really works to boost their speaking. They have been speaking english much more. We can see the improvement in their speaking, which is exactly the expectable: the improvement in their speaking skills. The results have been very positive, as it's supposed to be at this level, more focus on the speaking and less on the writing. So, this the context in our school. The same happens to years 1 and 2. Actually years 1 and 2 have more "Fun Time" days than years 3 and 4, because in years 1 and 2 they have only 2 45 minutes lesson a week, 90 minutes weekly, and on the other days they have "Fun Time". Now they are studying the parts of the house and they have been able to list about 15 words related to home, such as lamp, table, chair, TV, taps... which is a range of vocabulary we would not be able to teach if they have only those 90 minutes a week. So, that's a very promising project. So, that's our educational context.

I: I see you offer the students plenty of fun time, which is very important at this stage. Now, I'd like to know for long have you been teaching ?

R4: I concluded my Master's in EFL last October. Officially I've been being a teacher since last month. But, as you know, I've been teaching since last year. I have 1 year of experience and it's been such an enriching experience. But I can only tell about private schools because I've never taught in a public one but I know the reality in public school is very different from the private ones, as you know. So, yes, I've been a teacher for a year. I think I still have a poor view of what education is because I only know the private sector, which is a bit narrow. We know that in public schools we will face different realities. We will find all kinds of diversity in a public school. In our school we [PAUSE] have only one African girl in all the primary school... Only this girl. I think it's bad for a child's development. We can notice that. The children, because they have only other white children around, they end up... well, even the African children resent because all the other children around are white. There is this girl in year 1 that keeps saying she doesn't like her own hair, because her hair is pretty curly while all the other girls in her class have got straight hair. So, she says "I don't like my hair"... then I say "don't say that" and she replies "Oh teacher, I really wish my hair were like yours. Your hair is so beautiful!" and I say "I'd like to have my hair like yours... but it doesn't matter. She keeps saying she doesn't like it. That's it. When children live in a excludent environment, a poor context, they develop some behaviours that aren't proper for their age... stereotypes like if my hair is different it's not beautiful. Well, all of that is to explain how it's maybe a narrower experience teaching in a private school... I mean, it's poorer for me as a teacher... for my career. But that's it. We have to do our best wherever we are.

I: Right. Now I'd like to talk about the Information and communication technologies

- ICT - I will always refer to them as ICT, right? Could you tell me about how you feel when you use ICT in your lessons?

R4: I think I should start talking about my master's curriculum. If we think that the ICT is inherent in the teacher's work, it doesn't make sense that ICT isn't in the curriculum in a course for teachers. There's no sense at all. If they are tools that I will need to use every day, for teaching, for preparing PPT presentations, for using Zoom, because now we need it, to teach students who are at home with COVID, or whatever. We work with a computer every day. In my case, I use ICT specially for songs. I think I could use them even more but regarding my limitations I don't get all the benefits from the ICT use because I'm not 100% prepared to use them. I'm aware there are many apps and other tools I could use, but I don't use them because I don't know how. For example, Excel, I don't know how to use it properly. I just know the very basics and I know Excel could be very helpful, but I don't know how to use it 100%. I may know better how to use Word. Anyway, I think it should be mandatory in a Master's course in teaching that they taught ICT applied to the teaching context. It doesn't make sense at all that they do not offer it. It's the same as to be in a Master's course in teaching and not learn about childhood psychology. I think all these elements must be integrated. There is no other way. All of that must be taught and discussed because then we get into the classroom and face all sorts of psychological and learning disorders and think Oh my god, I am not prepared for that. Nobody has prepared me for that. And these are issues that must be discussed. I've got a Master's in teaching and it hasn't been even mentioned during the course. It's the same for ICT. It must be part of any teaching training. And all kinds of teaching training because ICT we are becoming more and more technological. We use technologies for everything. So, it doesn't make sense that teachers do not get trained. It doesn't make sense at all. I'll be quite honest... I think I could make my classes more interesting... and maybe funnier, if I knew how to work better with ICT. I use Youtube, I play the animated stories from the class e-book... but, that's it. I can't go any further than that because I don't have the knowledge to use ICT better than that. But I'll have to fix that this year. And also, it's part of the schools' role to train their teachers. Each school is a community. A teacher does not work isolated. Teachers work as a team. They must work as a team. It will only make sense to be part of a team if we want to make this team better. Each one has to improve in a way that the school can offer the best to the students. There's a lack of strategy for training teachers in most schools. So, teachers end up getting some training for themselves, somewhere else, because the school does not provide any training.

I: This would be one of the following questions. As you have mentioned that, have you already received any training regarding ICT use for teaching purposes? I mean some in-service training. Has any of the schools where you have worked so far provided some training?

R4: No. Actually the only training I've received was from Porto Editora. But it was very specific to learn how to use their platform. That was not about ICT use in general. They taught us only to work on their platform and nothing more. They offer other types of training but not ICT related.

I: I see, and if I've understood well, you miss that. Maybe your perceptions related to ICT would be different if you received some training. Would how you feel about using ICT be different if so?

R4: Sure. Completely different. I think it is a school's role to get to know at which levels the teachers are in this regard... ICT use. They should get to know how well each teacher knows about Word, PowerPoint, Excel... I think if it were done at schools everyone would gain. Maybe the ICT teachers could train the other teachers at schools. But this

need must be noticed by the schools. Most schools haven't noticed it yet, or do not want to notice it. In the meantime, each teacher does how they can. Some will look for the knowledge, some will say they are not able to do it, others will take longer to get there. They are at different levels. Some teachers will easily use every kind of technology... some maths teachers can use that calculator on the interactive board, they can do everything, graphs, etc, while others have got very limited skills. So, there are such disparities regarding ICT skills at the same schools. And I put myself among the ones in the midway, I'm not completely ignorant related to ICT, but I'm not a savvy one. Let's say in the average.

I: Now I'd like to focus on how you feel related to ICT use. I'll mention some feelings and emotions and you, please, tell me what specific situation, ICT related, makes you feel that way, if any. I'm interested in concrete situations, like the moment you're doing a listening activity, or whatever that makes you feel this or that way. For example... frustrated.

R4: There is something that makes me feel, I would say anguished, which is using Zoom. I feel really really anguished when I have to use it. Because Zoom works very well if you have kids who respond well to what you're teaching. If they understand well what you're saying... which actually means if they are good in some subject or not. On the other hand, if some kid isn't good in your subject and you're teaching on Zoom, and if you do not master in using ICT, this ends up complicated for the kid and for you. For example, I have this student in year 4, who is at home and is quite apathetic. So, you can imagine how it is teaching an apathetic kid on Zoom. It's distressing. I can only tell you I hope this year we do not have to go back to remote teaching because if we do, it will be [CHUCKLING] really really complicated. Complicated because I do not master ICT and because of the anxiety that causes me. I think if I mastered ICT I wouldn't feel that way.

I: So it's again about training...

R4: Yes... there it goes... because remote teaching requires other skills. It's another way to teach. You're not face-to-face with students... actually you are but not... you're not. Teaching this way is different. It's not so dynamic, it's something static. And you have to have the ability... it's an ability indeed, to make something not interesting being interesting. One situation is a kid being in year 4 with me, when we are singing, reading, writing, doing worksheets, colouring... these things they like to do. Another situation is having them at home, and many times... Here comes another situation that I haven't mentioned yet, which is parents following the class. And sometimes you do not know who is on the other side. For example, one day I was teaching a lesson in year 3 and parents were all there, next to the students. So there's this side... it's like a Big Brother because someone is always watching you to teach your lessons. It's like being evaluated as a teacher. You're teaching and being observed. They will point out faults, maybe some of your qualities as well. But you don't feel totally comfortable because you know somebody is there. So, you will not be fully yourself. You're not able to be the same teacher you are at school. On Zoom you have to be much more aware of everything you will say... you have to think twice or three times before saying something. You have to be very cautious on this modality of teaching. Especially with parents like the ones at my school. It happens in private schools where the parents are doctors, lawyers, engineers, politicians... they are well educated people. They are people who many times recognize your work but many times do not. This is another disadvantage of online teaching. There will be people to support you but there are others that will not say a word... like spiers. As a teacher it causes much anxiety. This is a factor which nobody is talking about, but we know it happens. It is happening now at schools. And because of COVID, parents think their children can stay home for other reasons, not COVID, and watch lessons on Zoom. No... Zoom is not for that. But it

should be clearly stated by schools. Zoom should be used only in situations where there are reasons for that. Currently there is a kind of overuse of Zoom. Some parents just take their kids home... because the kid has got a stomachache or whatever, and think they can simply watch classes on Zoom. But if a child is ill, isn't feeling well it makes sense for the kid to go home and rest. If it were for the kid to watch the classes, they should stay at school.

I: Still about concrete situations regarding ICT use, can you report any situation that makes/made you feel angry?

R4: I wouldn't say angry, but frustrated. You have students that respond very well and can participate on Zoom, but there are others that do not. For some students it's just impossible to learn on Zoom. If you have students that are apathetic and have got difficulties face-to-face, imagine them in an online lesson. It's ten times worse. And the teaching practice itself... imagine... you're doing a worksheet with your students, but first you have to send it to them. Then, they can't open the file and start saying "teacher, I can't open it" etc... so, when you are trying to start a lesson, and you have to waste 10 minutes dealing with these issues, it is very stressful. It's very stressful because you know you have only 45 minutes a lesson and you have to do A, B, C in that lesson, but you see it won't be possible because the students are at home, some can't even open the worksheet file, etc. All of these little things cause anxiety and I feel frustrated because I can't deal with them and you won't be able to accomplish your lesson plan.

I: So far we have talked about not so positive emotions. And if I'm not mistaken, the remote teaching practice (classes on Zoom) is the main trigger for those emotions.

R4: Yes, That's it.

I: Now, thinking of some positive emotions such as satisfaction, happiness, enjoyment... are there any situations that make you feel that way, ICT use related?

R4: Last week, when we were talking about parts of the house, in year 2, and in the book, there is a lesson that presents a Van Gogh's painting and short information about him. I took this as an opportunity to work this cultural theme with them, as I love Van Gogh, I've been in Amsterdam already, visiting his museum. So I shared a bit of this information about Van Gogh's life and work with the kids... then some kids also shared some experiences, like I've been in Amsterdam too or I've visited Van Gogh's exhibition with my parents, I took some photos there, etc. It was spectacular. I wasn't expecting such interaction. Then I opened YouTube and put on the Starry Night song... starry, starry night... [SINGING]. They loved it! [EMPHATICALLY] They loved the song! They kept asking "teacher, can you put that Van Gogh's again, please?". There is this student whose grandmother is a Portuguese teacher at our school. But he is that kind of student who doesn't interact very much. He's very quiet. You never know if he is enjoying the lesson or not. Even his face isn't that expressive. You can't tell because he shows no clue if he is enjoying it or not. So, his grandmother came to talk to me: "teacher, have you taught a lesson about Van Gogh?" and then I replied: "how do you know that?" and she told me: "my grandson asked his mother to play that Van Gogh's song". My heart was so... I felt so happy because it's really nice when you feel your job goes beyond the classroom. When you motivate a student like that... one that rarely interacts in class, because he's afraid of that or too shy, you know... When she told me that I felt my heart blowing. And then this student asked her mother what starry, starry night means... he thought it was story, story night... It was nice! He tried to understand the lyrics meaning. It's really good for you as a teacher when you can stimulate such feelings in a student

like this. So, here it is how ICT can work for me... work for me, work for my classes and my students. It was excellent! Those are the little things you will keep as memories.

I: Great. And the students too. How would you describe your technological environment at work? Does your school offer you all the devices and tools you need? Or are there some missing?

R4: Well, in terms of technology, I'm not the best person to tell if the school is well equipped or not, because I do not master ICT. But, compared to what I've seen in other schools, computers, speakers, smart boards... I can tell we are very well equipped. Actually, there is a smart board in all of our classrooms. I think this is already a great value. Beyond that, I can't tell what devices are missing at school.

I: My intention is to understand if you miss some tool or device. Are your needs well addressed?

R4: I don't miss anything because what I want to use, I can use. I have it...I can access computers, speakers, smart boards to listen to the stories from the book... we do listening activities, we access Youtube for songs... I think for all of that the school is very well prepared. But, if there should be much more than this... I guess there are many other options... but I can't tell if for more than that the school is very well prepared. I can't tell that.

I: No problem. I'd like to know what your perception is. Thanks. If you have all you need for your lessons or you miss something... maybe you have to take your own devices to work.

R4: No, no, no [EMPHATICALLY]! nothing like that. It doesn't happen what used to happen in the school where I worked last year. Actually, my school, in terms of materials, everything you can imagine, like glue, paper... we also have that laminating machine [EMPHATICALLY] look at this! I can make my own flashcards! This year I made more than 50 flashcards. Sea animals... I have been teaching them in year 4... I have all the sea animals all around the board. They come to school every day and see that. Other day, in year 2 I asked for some vocabulary that I had just put on the wall in the classroom and a student said "taps"... I was amazed because it was just like that... older students may not know this vocabulary and a 2nd grade girl, just because she saw the flashcards every day on the wall, knows it. And that is an advantage at this school because they provide us with all sorts of material that we can do the best for the students. I can have flashcards for all the topics I will teach. When a school offers that, the results can only be the best.

I: As you mentioned, you have already worked in a different context, where you didn't have all you need for your lessons. How does it change your perceptions about using ICT to teach, if so?

R4: It changes because, for example, at that school I worked last year, I didn't have access to a tablet [PAUSE] I didn't have access to a tablet and many times I had to use my phone and my internet data because I didn't have wifi internet access at school. I went to talk to the headmaster but it didn't work. I asked for a tablet but I didn't get it. So, what happened? I had to work twice more... I had to learn all the songs by heart, because the songs were demanded according to the curriculum and the institution ordered us to teach them. As there wasn't any device to play the songs I had to be a singer. So, now, I am way better than before. I think it is indispensable for the kids... if they are watching it on a tablet... seeing and listening to the words in English... it is completely different. You can sing but the kids' engagement is different. It's a totally different way to relate to the songs. Not having at least that for a preschool class, which

is super important [EMPHATICALLY] super important! For me that 's too bad... too bad. Then, sometimes the results aren't as expected and parents can understand why. They do not provide the tools for you to work and then they do not understand why some aims aren't achieved. It's because you can't work as you wish... you do not have the tools you need. When parents pay for a private school they expect their children will have the best possible... they will have all the materials and supplies they need. But it isn't always like that. I feel this year I am a better teacher for my students than I was last year because last year besides not having the necessary materials and equipment, I wasn't motivated. And when you don't feel motivated to make things happen and when there is no support around you, it makes the difference.

I: What about the opposite, when you have access to the devices and tools you need, it makes you more motivated?

R4: Yes, with no doubt. Totally. But you have got to be motivated. because if you do not have any motivation even if you have all the materials, it doesn't make the difference. You can have 20 picture books at school but do not use any one. Sometimes it isn't about the materials but what you do with them. The materials themselves don't mean anything. You have to know how to work with them.

I: I'd like to better understand how this pandemic context has changed your perceptions about using ICT in your teaching practice. And how do you feel regarding that?

R4: The pandemic made me see how much I have to learn about using ICT. The pandemic scenario has been showing me that I do not know very much about it.... I mean, I know less than I thought I did when I didn't have to use ICT as much as now. It showed me that I have to learn more how to use them. That's the biggest lesson from the pandemic.. to open my eyes for this..

I: Thank you. That was my last question but if you have anything else top add related to ICT use in your teaching practice, anything that we haven't discussed or you would like to discuss further, please, feel free to let me know. If not, we can close the interview here.

R4: That's it. I think the ICT use can either give us happy moments with our students, as that Van Gogh example, or moments of pure anxiety and frustration when I have some students that have some psychological issues when you try to work with these students online. The internet has these two sides of the same coin... it can be something wonderful but also, if you can't use these tools properly it ends up that way. Thus I think ICT must be taught at schools, including teachers, not only students. Teachers have to learn it. let's not forget that there are teachers with 40 years of career. Computers didn't exist when many teachers started their career... they didn't use computers. We can't ignore that on average, teachers in Portugal are very old. If we see from this point of view, there's a lot of work to be done on ICT training.

I: I see. And to close our discussion, I'd like to know how you feel when I say "using ICT in class". What is the feeling that comes to you when you think "I'll use ICT in my class today"?

R4: [HESITATING] I like it...but it is a "like" as a Facebook like. I like it because it allows me more interactive lessons. Very often I use Youtube, which kids love. A few days ago I remembered the itsy bitsy spider song... they listened to it twice or three times and now they always ask me for that. Other day I was passing by and heard year 2 singing the itsy bitsy spider song. This is the technology working for you. And the better you know how to use it the better it will work for you. There are always two sides of the same coin.

I: I'd like to thank you again. Your contributions are very valuable for this study.
And I will close the recording now.

R4: Ok. Thank you.

END OF THE INTERVIEW 4

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Appendix E. Initial themes

INITIAL THEMES

Code	Description	Subtheme	Description
T-USE	Types of ICT used in teaching practice	USE of ICT in teaching practice	What types of ICT are used; what teachers use ICT for; frequency of use; access to ICT.
USE-FOR	What teachers use ICT for		
FR-USE	Frequency that ICT is used in teaching practice		
ICT-A	Access to ICT		
ICT-IMP	How important it is to use ICT in teaching practice	Perceptions of using ICT	How important it is to use ICT in teaching practice; Reported reasons/motivations to use ICT in teaching practice.
ICT-WHY	Reported reasons/motivations to use ICT in teaching practice.		
TRAIN	Reporting of receiving training	Training	Reporting of receiving training; Impact of receiving training
TR-IMP	Impact/importance of receiving training		
LACK	Reported lack of training ICT related	Lack of Training	Reported lack of training ICT related; impact of lack of training; self-learning as a solution for lack of training
LT-IMP	Impact of lack of training.		
SELF	self-learning as a solution for lack of training		
MOT	motivated, enthusiastic	Positive emotions	Reported or latent positive emotions and feelings related to ICT use
CONF	confident		
JOY	satisfaction, feeling		

	good, enjoy, like, happy, pleased		
ANX	anxious, anguished	Negative Emotions	Reported or latent negative emotions and feelings related to ICTuse
TEN	tension, feeling nervous		
PRE	feeling under pressure		
FRU	frustration		
WOR	worry		
ANG	annoyed, angry		
STR	stressed, distressed, overwhelmed, depressed, uncomfortable		
INS	insecure, unprepared, uncertain, unsure, afraid, discouraged		
COV-IMP	How the COVID-19 pandemic impacted the use and perceptions of ICT in the teaching practice	Impacts of the COVID-19 pandemic ICT use and perceptions	How the COVID-19 pandemic impacted the use and perceptions of ICT in the teaching practice
COV-EMO	What emotions teachers reported regarding teaching remotely during the COVID-19 pandemic.	Emotions regarding remote teaching in the COVID-19 pandemic	What emotions teachers reported regarding teaching remotely during the COVID-19 pandemic.

Positive emotions	negative emotions	
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ICT in the teaching practice	Covid-19	Training and professi	Emotions/feelings	?
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					onal develop ment ICT related					
Use of ICT	ICT role	Reasons to use ict	ICT meaning	COVID		Feeling under pressure	anxiety	anger	enjoyment	other

	RESPONSE	IDEA
1	4	Has always used ICT
2	5	ICT are essential
3	5	EFL teachers must use ICT
4	5	students' demand
5	5	COVID-19 pandemic: ICT are the only way to make lessons happen
6	6	ENJOY?
7	6	ANXIETY: worry, insecure
8	6	ENJOYMENT comes from the satisfaction of seeing students' enjoyment.
9	6	more comfortable if students enjoy
10	6	ANXIETY: worry that something will not go well
11	6	Essential: must use; pressure
12	7	ANXIETY: pressure to make it work, insecure?
13	10	frustration regarding using ICT

14	11	ANGER and ANXIETY comes from the same reason	ANGER and ANXIETY comes from the same reason
15	11	ANX: pressure to meet students' expectations	
16	12	can't report motivation regarding using ICT	
17	13	happiness isn't directly linked to the use of ICT but for achieving a goal; receiving positive feedback; meeting students expectations; feeling less anxious.	
17	13	happiness isn't directly linked to the use of ICT but for achieving a goal; receiving positive feedback; meeting students expectations; feeling less anxious.	happiness isn't directly linked to the use of ICT but for achieving a goal; receiving positive feedback; meeting students expectations; feeling less anxious.
18	14	ANXIETY is the most present feeling regarding ICT use.	
19	15	anxiety regarding pressure to achieve goals.	anxiety regarding pressure to achieve goals.
20	16	Emotions have no impact on teaching learning process	
21	20	covid -19: teaching online is hard for teachers	
22	21	covid -19: lack of training;	covid -19: lack of training;
23	21	covid -19: feeling unprepared. OVERWHELMING	
24	21	COVID - 19 pandemic self-learning	
25	21	Using ICT during COVID-19 pandemic: hard; ANXIETY; uncertainty	
26	22	ANXIETY comes from the lack of training	ANXIETY comes from the lack of training
27	22	feeling under the pressure	

28	22	Covid-19: there is no choice but using ICT		
29	22	Feeling tired		
30	23	Training received from the institution (not enough)		
31	23	calm, relaxed, confident when receiving training		
32	23	what ICT is used for		
33	23	pressure from institution to use ICT		
34	23	ICT = creativity/innovation		
35	23	ANGER = frustration for lack of training	ANGER = frustration for lack of training	
36	23	ANXIETY AND ANGER; self-learning	ANXIETY AND ANGER; self-learning	
37	24	no difference from face-to-face FRUSTRATION and ANXIETY regarding lack of TRAINING	no difference from face-to-face FRUSTRATION and ANXIETY regarding lack of TRAINING	no difference from face-to-face FRUSTRATION and ANXIETY regarding lack of TRAINING
38	24	pressure from school vs. lack of training	pressure from school vs. lack of training	
39	24	ANXIOUS regarding lack of training	ANXIOUS regarding lack of training	
	24	avoid using ICT for lack of training		

CATEGORIES OF ANALYSIS		
THEMES	SUBTHEMES	codes
	Use of ICT	USE

ICT in the teaching practice (ICT) <i>How ICT is integrated in the participant's teaching practice: what type of ICT they use, what they use ICT for; what is the ICT role in their teaching practice; why using ICT (reasons);</i>	ICT role in teaching practice	ROL
	Reasons to use ICT	REA
Emotions/Feelings regarding ICT use (EMO) <i>What emotions and feelings are expressed regarding the ICT use in teaching practice.</i>	Feeling under pressure	PRES
	Anxiety	ANX
	Anger	ANG
	Enjoyment	JOY
	Emotions related to (not) receiving training	TR-EMO
	Other (?)	(?)
COVID-19 Pandemic Scenario <i>Reporting of the Pandemic scenario impacts on ICT use in these teachers' practice and how it has been impacting their emotions/feelings.</i>	Covid-19 impact on ICT use	COV-ICT
	Covid-19 impact on feelings	COV-EMO
Training in ICT <i>What perception these teachers have about training in ICT (relevance/role of training); what impact receiving training or not has on their teaching practice.</i>	Relevance of training	RE-TR
	Impact from receiving training	TR-IMP
	Lack of training	L-TR

Appendix F. Coding-frame

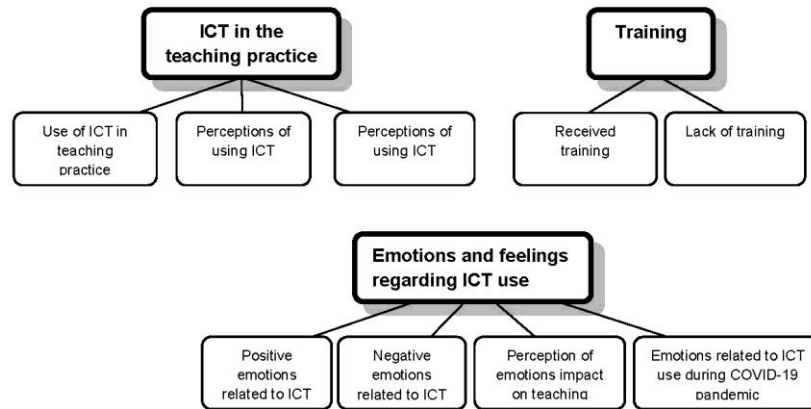
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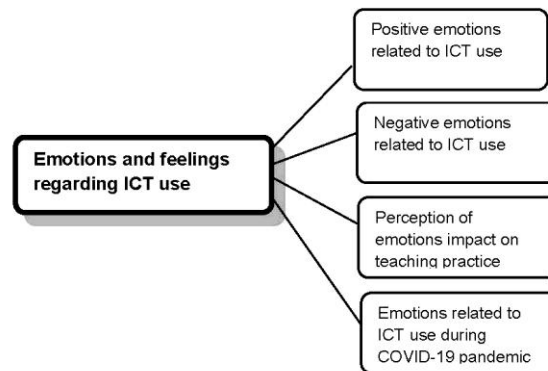
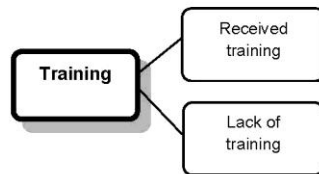
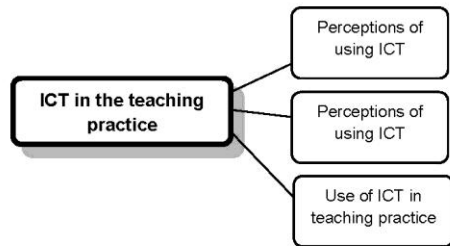
CODE	CONDENSED MEANING UNIT	DESCRIPTION	SUBTHEME
T-USE	Types of ICT used in teaching practice	Types of equipment, devices and tools, including applications and networking systems that the participants report using.	USE of ICT in teaching practice
USE-FOR	What teachers use ICT for	What the ICT is used for in the teaching practice (types of activities, objectives to use them, etc).	
FR-USE	Frequency of use	How often the respondents report using ICT in their teaching practice.	
ICT-A	Access to ICT	To what extent the respondents can access ICT to use in their teaching practice; how they access them (good access: schools provide them with ICT needed for their use; poor access: schools do not provide them with ICT needed or provide limited access to it, they have to use their own equipment.)	
ICT-IMP	ICT use impact on teaching practice	To what extent the ICT use impacts the respondents' teaching practice; how important the ICT use is in their practice.	Perceptions of using ICT
ICT-WHY	Why using ICT in teaching practice.	What reasons and motivations the respondents report for using ICT in their teaching practice.	
TRAIN	Types of training	What type of ICT-related training the respondents report they have received.	Received Training
TR-IMP	Perceptions of receiving training	How important and impacting receiving training is for their teaching practice; what are the respondent's perceptions of receiving training.	

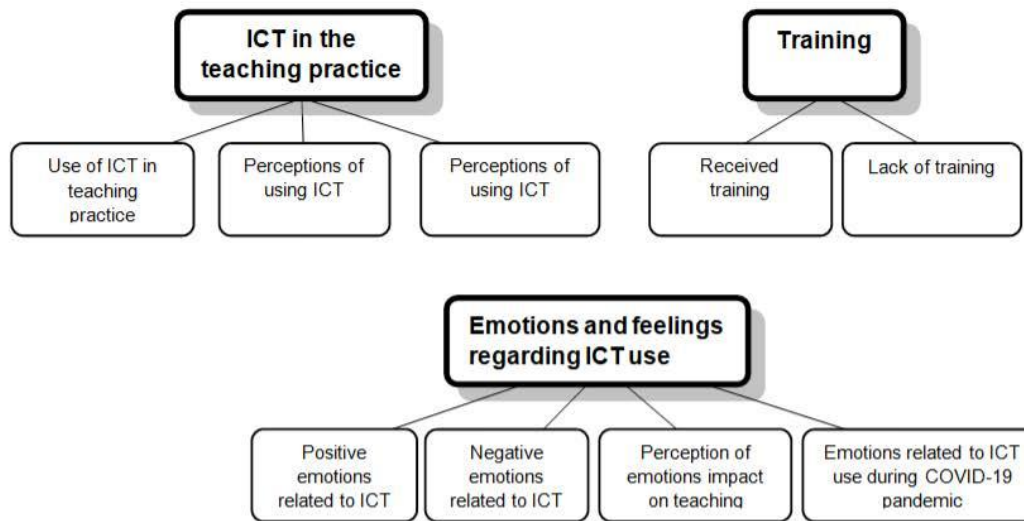
LACK	Lack of ICT-related training	Reported lack of training: no training or insufficient training.	Lack of Training
LT-IMP	Impact of lack of training.	To what extent lack of training impacts the ICT use in their teaching practice.	
SELF	Self-learning	Reported self-learning as a way to address the unmet need of training.	
MOT	motivation	Respondents report motivation by feeling motivated or enthusiastic regarding using ICT in their teaching practice.	Positive emotions related to ICT use
CONF	confidence	Respondents report confidence by feeling confident regarding using ICT in their teaching practice.	
JOY	enjoyment	Respondents report enjoyment by feeling satisfaction, feeling good, enjoying, liking, being happy and or pleased regarding using ICT in their teaching practice.	
ANX	anxiety	Respondents report anxiety by feeling anxious (or anguished) regarding using ICT in their teaching practice.	Negative Emotions related to ICT use
TEN	tension	Respondents report feeling tense or nervous regarding using ICT in their teaching practice.	
PRE	pressure	Respondents report feeling under pressure regarding using ICT in their teaching practice.	
FRU	frustration	Respondents report frustration regarding using ICT in their teaching practice.	
WOR	worry	Respondents report worry/feeling worried regarding using ICT in their teaching practice.	
ANG	anger	Respondents report anger by feeling angry or annoyed regarding using ICT in their teaching practice.	

STR	stress	Respondents report stress by feeling stressed, distressed, overwhelmed, depressed or uncomfortable regarding using ICT in their teaching practice.	
INS	insecurity	Respondents report insecurity by feeling insecure, unprepared, uncertain, unsure, afraid or discouraged regarding using ICT in their teaching practice.	
E-IMP	Emotions impact on teaching-learning process	Respondents think that their emotions impact the teaching-learning process.	Perception of emotions impact on teaching-learning process
E-NO-IMP	Emotions do not impact on teaching-learning process	Respondents think that their emotions do not impact the teaching-learning process.	
COV-ICT	Impacts of the COVID-19 pandemic ICT use and perceptions	How the COVID-19 pandemic impacted the use and perceptions of ICT in the teaching practice.	ICT use during/after COVID-19 pandemic
COV-EMO	Emotions related to ICT use during COVID-19 pandemic.	What emotions the respondents report regarding teaching remotely/using ICT in their teaching practice during the COVID-19 pandemic.	Emotions regarding remote teaching in the COVID-19 pandemic
26 condensed meaning units			9 subthemes

Themes	Subthemes
ICT in the teaching practice	Use of ICT in teaching practice
	Perceptions of using ICT
	ICT use during/after COVID-19 pandemic
Training	Received training
	Lack of training
Emotions and feelings regarding ICT use	Positive emotions related to ICT use
	Negative emotions related to ICT use
	Perception of emotions impact on teaching practice
	Emotions related to ICT use during COVID-19 pandemic.







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Appendix G. CD-ROM

This CD-ROM contains the following files:

- √ The PDF for this document
- √ All the Appendixes in PDF format