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TEACHERS' PERCEPTIONS ON USING ONLINE STUDENT RESPONSE SYSTEMS IN CHILEAN EFL SECONDARY CLASSROOMS IN EMERGENCY REMOTE TEACHING

Undergraduate thesis for English pedagogy in high school and elementary school

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Dedication

This thesis is dedicated to our families who have supported us through this tough year. Without their support, this work would have been immensely harder. We also thank our classmates, teachers and friends who have been supporting and helping us in every way possible.

Javiera Alvarado, Paloma Ibarra, Javiera Olea, and Dario Rubilar

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Abstract

OSRSs (Online Student Response Systems) are tools that can be used to collect information about assignments given to students in a web-based manner. Due to the COVID-19 pandemic and the lockdown that it caused, teachers were challenged to find different ways to keep teaching under these new conditions, more prominently, Emergency Remote Teaching (ERT). Consequently, 36 in-service teachers that studied in a private university in Santiago, were asked to participate in a mixed method study in order to ascertain their perceptions on the use of OSRSs in ERT. To do so, a questionnaire and interviews were conducted. Findings showed that teachers had positive perceptions about the use of such platforms taking into account different factors that have an impact in such perceptions.

Key Words: Emergency Remote Teaching, Online Student Response System, In-Service Teachers' Perceptions.

CHAPTER 1
Introduction

Educators have been seen as the main characters and pillars in education, becoming the principal agents in charge of guiding, helping, and teaching students in order to reach different objectives according to students' necessities or main goals. However, most of the studies have focused on students' perceptions (Cancino & Capredoni, 2020), students' performance (Casinillo, 2018), their emotional impact, and motivation (MacIntyre, 2017).

Several studies have been made about these topics, mainly focusing on individual differences that affect the learning process (Mapuranga, 2015). These studies have sought to improve educational settings and give students a good learning experience by taking into consideration new learning tools such as Online Student Response System or also known as OSRS (Cancino & Capredoni, 2020). Additionally, evaluating teachers' efficacy in their teaching methodologies (Casinillo, 2018) could also influence their educational context. The emotional aspect also needs to be considered because of its direct correlation with student learning (MacIntyre, 2017).

Ever since the acquisition of a second language (L2) has been studied, scientists and educational researchers have come up with new methodologies and techniques that enhance learning. The 21st century has digital natives that are using the term gamification as a tool for learning; a tool that was once used in the business world (Flores, 2015). The increased use of gamification in teaching has had an impact on the learning experience of students due to how accepted it has become over the years, as it has better results than traditional learning methods employed in the past (Wang & Lieberoth, 2016). Taking into consideration that using game-based has had positive outcomes when implemented in language learning teaching (Chiang, 2020). Finding motivation and trying to engage students in a lesson can be quite challenging. Moreover, with the wide-ranging technology that is used nowadays, the number of technological tools to be used in teaching has increased. One of these tools is gamification.

During the last couple of years, gamification has been a subject of interest as a means of supporting user engagement and enhancing positive patterns such as increasing user

activity, quality and productivity or social interaction. The popular interest in the topic is reflected in the academic context, as the number of papers published on gamification is growing (Hamari et al., 2014). The driver for using such systems is to engage students who are not interested in traditional pedagogical approaches. Student response systems have been promoted as having the potential to enhance student engagement in the classroom (Muir, 2020). Implementing gamification in the classroom will tighten the relationship between teachers' effectiveness and students' academic performance are closely related, positive and significant (Sanchez and Marti, 2017). With the advancement of technology through time, many different ideas and approaches have appeared. Moreover, methodologies to improve student's learning that also help teachers be more creative and help them with their workload have emerged. These tools provide students to use their technological devices with internet access to receive teachers' designed homework and quizzes, requiring online participation and immediate feedback (Wang & Tahir, 2020). OSRSs are web-based tools used to collect and share language assessment data, and represent an effective way to provide immediate feedback, according to Bruff (2009). Considering that studies show that technology can enhance student engagement (D'Inverno et al. 2013) and the use of it comes as a natural element for the new generation, it is a fact that these systems must be utilized at their full potential for educational purposes.

Together with gamification, the advance of digitalization in education has brought different challenges to teachers that attempt to integrate this new technology in the classroom. Teachers must make decisions about how to use it properly in the education field. A technological tool that has been used in educational settings are clickers. Electronic response systems or traditional clickers are described (Valiente, et al., 2016) as devices that allow teachers and students to ask questions about necessary prerequisite knowledge, either orally or through pre-designed questionnaires, being able to do it individually or in groups, anonymously or identifying the respondents, as required.

A more sophisticated technological system arises, which overcomes the difficulties of the aforementioned clickers as owing more elements that provide useful information in the form of descriptive statistics and percentages, as well as individual responses (Cancino and Capredoni,

2020). None of the aforementioned papers studied the perspective of teachers regarding ORSRs and how the current pandemic has influenced its use. Rather, we can find research on the impact of migration from traditional in-class to face-to-face education changes to online education due to the widespread Coronavirus (Moorhouse, 2020). OSRSs are in fact well-rated among teachers and considered to be an improvement in student engagement, the present study will have the goal of corroborating the inclusion of these systems in education, according to teachers' perspectives.

1.1 Relevance of OSRS

Education has evolved since the very beginning of time, and in fact, that is how human beings first demonstrated to be apt in the face of constant change of their environment. Improvements in science, arts, technology, and education give the chance for human beings to keep growing and discovering new tools to keep enhancing their evolution. However, there are two of those concepts that are presented in this study: education, and technology.

Over the last century, teaching in an e-learning context had been growing at an average rate of 15.4 yearly, however the scenario changed dramatically during the pandemic considering the fact that over 60% of the students and instructors were forced to teach remotely (Alqahtani & Rajkhan, 2020). Teaching methods have evolved giving mostly positive results as times goes by, especially regarding game-based learning (Chiang, 2020). As growth keeps occuring, students' needs are being profoundly based on their current setting; modernity, improvements, and different approaches towards learning; therefore, teachers should be motivated to become digitally aware of the resources available. Teachers should use all the resources in order to foster creativity and critical thinking among their students. (Campillo-Ferrer, et al; 2020).

Gamification proposes the idea that contexts that are meant to be serious and based on traditional approaches, can turn into a more dynamic, or gamified context to catch the student's attention and interests. Gamification is defined as a game-based approach that uses game elements to promote desired behaviour and drive corporate learning outcomes (Zainuddin, 2020). It can also be considered to be a process of including game-like elements into pedagogical practices with non-game settings (Wong, et al., 2020). The logic behind including games in the

classroom is that psychological states obtained through games increase motivation, engagement, and performance (Sánchez & Marti, 2017).

It has been stated that gamified environments increase student motivation, skills, critical thinking, autonomy and cooperation, and encourage behaviors such as teamwork (Campillo-Ferrer, et al., 2020). Using systems such as badges, leaderboards, points, educators have proved that there are many ways of increasing learning other than traditional methods because these mechanisms, known in gamification as 'elements', stimulate learners to achieve greater goal orientation by increasing their persistence, learning by repetition, engaging in collaboration and evoking fun and friendly competition with peers (Ding, 2019).

The most widely used OSRSs play a relevant role in the different teaching methods, and are positively perceived by the users, such as the case of Socrative (Cancino & Capredoni, 2020) or Kahoot! (Chiang, 2020). The current global context has made education move towards the inclusion of e-learning systems, which is defined as the inclusion of electronic media in education (Alqahtani & Rajkhan, 2020). Especially nowadays given the current sanitary emergency the population is going through, the need for staying at home and remote-teaching has required teachers to enrich their teaching resources and adapt to an online teaching environment, showcasing the vulnerability there was in the educational system (Ali, 2020). Another situation that has occurred is that participation together with motivation has decreased due to the fact that online teaching created long distance from peers and their learning environment (Sharma & Bumb, 2021). This study, conducted by Sharma and Bumb, reflected that some students avoid participating because of anxiety. This condition is a common factor manifested in students, manifesting itself in the form of physical symptoms such as headaches, tiredness, stomach ache and tension (Tuncay & Uzunboylu, 2010). Other symptoms are that they feel nervous days before their online lesson, and some others avoid the class.

By using clickers or OSRSs, teachers have tried to make their lessons more participative and collaborative, looking for ways to make their students part of a meaningful learning process within the complicated instances COVID-19 has created around the globe (Herrada, Baños, Alcaide 2020).

In the past few years, the use of online platforms has increased within tertiary education (Muir, 2020). There are many online platforms to support this learning approach; Kahoot!

Socrative, etc. Those well-known platforms, which will later on be described, give the teacher support for their lessons as well as increase engagement in the students through activities that escape the traditional way of teaching by integrating technology-based learning strategies (Muir, 2020).

Systems popularly known as Kahoot! Socrative, Duolingo, among others are creating a new way of seeing education, causing a big relevance in the field, being as effective as traditional methods and showing better results among students' perceptions, study experiences, learning outcomes and academic achievement (Poon, 2012). The use of these platforms known as OSRS's are directing the educational world to a whole new dimension. The employment of these technological tools has helped to find the balance between using old strategies combined with new approaches and methodologies that might get the best out of every student and also to provide the teacher a relief in terms of workload. However, many things are yet to be solved. As there are many positive effects on the usage of OSRSs, teachers' need to go through a series of challenges in order to use the full potential of these platforms.

1.2 Background of the study

Over the years, internet-based technology has evolved to the point of being a necessity in most people's daily lives. Also, the mass production of affordable devices to access the internet (like laptops, tablets, and smartphones) have given most of the population a chance to experience the internet in a way that was never thought of before. Currently, even young children have the ability to navigate the web since they own or at least have access to smart devices, and they have been doing it from a very young age, which leads to them being proficient with those devices. A study done by Wang and Tahir (2020), showed that 54.2% of children from 9 to 11 years old exceeded the screen time proposed by experts. This newfound avenue has been used in the field of learning with the aforementioned tools that have been developed over the years. On the other hand, while also being exposed to the same technology, teachers have been burdened with the necessity to quickly adapt and learn a myriad of new resources. Just as human beings move further to reach new goals and to leave old-fashioned lifestyles in order to stay updated, teachers cannot stay behind. Working with children and teenagers requires teachers to be up-to-date with

the latest technological trends as a virtual world keeps increasing and becoming part of their lives (Graafland, 2018)

The concept of gamification has been present in people's lives due to the impact of video games and their accessibility, providing the user a sense of fun and achievement. In video games, the main goal is to reach for new levels, get rewards, and moreover, enjoy time when comprehending the game context that the user is involved in, with gamification in the classroom, similar phenomena occur. According to Garland (2015) , the concept promotes positive impact on learning and motivation, by extension this impact can also be extended to second language acquisition. Using systems like leaderboards, fast feedback, badges, and keeping the learner away from the feeling of failing insomuch as users would acknowledge empowerment together with a positive engagement and results within the gamified lesson. A study conducted by Alabbasi (2017) concluded that teachers think that gamified approaches enhance student's desire for learning, making them enjoy the learning experience in a more significant manner.

According to several studies (Al-azawi et al., 2016; Hwang & Choi, 2019; Wang & Tahir, 2020) using gamified approaches not only motivates and engages students or in some cases participants, it also gives the teachers a better experience dealing with online environments when it comes to teaching. The variety of different platforms they can find is extremely wide, and they can also find one that complements the way of teaching, or they can adapt it depending on their teaching style, and the level of their students. One of these platforms, known as online student response systems, can be found all over the web, providing dynamic sounds, energetic colors, attractive fonts, and most importantly, those characteristics are applied to the lesson itself, facilitating the job for the teacher.

1.3 Statement of the problem

Teachers have always been the core of the educational system; however, the main focus has always been students and their experiences while enhancing student learning experiences has gained importance since the mid 1990s (Poon, 2012). Pupils' needs have to be addressed by the teacher–if help is needed, what tools are the best for their specific needs, and what are the

methodologies needed to be applied in order to make the learning process more significant. Due to these factors, teachers' perceptions towards the use of different tools and methodologies have stayed in the background as to be seen as non-relevant by the overall educational system.

The gamified approach and its interactivity demonstrated that classes became an active instance with active participation, developing empathy among the students. Also increase their motivation towards learning, and therefore it became a main motivator for the educator. When talking about gamified approaches, use of OSRSs in EFL classroom, there is a lot more to be said and to be studied. The significance of this study is to asses teachers perceptions on using Online Student Response Systems (OSRSs). For example, in research done by Sánchez and Marti (2017), four main drivers were found. Those drivers, also known as motivators, increased the student's attention to the materials given for the lesson. The previously mentioned study aims to find the main drivers and demotivators that may exist in a Chilean EFL classroom, with a probability of having the similar results to the ones found in Sánchez & Martí (2017). The previously mentioned research might guide this study to compare the differences, if they arise when it comes to motivating factors or complications in a gamified learning environment in the Chilean classroom.

From a theoretical perspective, the expected findings would form the basis for the creation of recommendations in the development of learning and teaching practices regarding the perception of the use of OSRS that will influence the students' learning experiences to better achieve objectives and performance.

Little has been done about the perspectives on OSRSs in the Chilean environment, specifically in EFL classrooms e.g. pre-service teachers' perceptions regarding an OSRS (Cancino & Capredoni, 2020). Other studies about students' perceptions of gamified learning (Buckley, 2017), the impact of gamification in student motivation (Campilo-Ferrer, at al 2020) and benefits of using OSRSs in Japanese EFL classrooms (Mork, 2014) focus on the same research topic but in a different environment. It is important to take into consideration that this new generation of students need a large amount of attention because of their unique characteristics, as they were born in a world where technology is ubiquitous, and as they prefer interactive and experiential learning approaches (Phillips, 2014) when it comes to learning methodologies. Moreover, this new generation of students has gone through a pandemic of

COVID-19 that has its footprints on the education field by forcing institutions to close their physical doors, and to flourish in online methodologies.

Due to the current pandemic, It becomes necessary to understand the perceptions of EFL in-service teachers regarding OSRSs in online environments, to characterize the challenges and difficulties. Also, research addressing these specific topics has been scarce and teachers' perceptions during face-to-face and emergency remote teaching has not been studied in correlation.

During the pandemic, educational institutions had to switch to online instructions without having the precedent to do so. Therefore, emergency remote teaching became the new norm (ERT). ERT is defined as the unplanned practice that forced teachers to use any online and offline resources available to them (Bond et al., 2021). We can differentiate this from traditional online classes because of how it contrasts in their nature, as online classes are defined as the use of electronic applications that are made with an educational purpose. Online learning allows a flexibility that makes those who are committed with these systems (Alqahtani & Rajkhan, 2020). In contrast, ERT forces students and educators to go into an e-learning environment. Whereas, online learning is a non-compulsory choice made by educators and/or students.

1.4 Purpose of the study

What this research aims to do is study is what teachers perceive and feel from the usage of Online Student Response systems (OSRSs) when applying them in an online or face to face environment and emergency online teaching. Furthermore, it is important to acknowledge the drivers and difficulties for teachers to implement OSRSs in the classroom. Additionally, this research will investigate, from the perspective of the teachers, the most commonly used and preferred online response systems. As the goal of this research is exploratory in nature, another objective is to be able to identify teachers' profiles and find if there is a relationship between their perceptions and the inclusion of OSRSs.

Not much research has been done regarding teachers' perceptions in the overall usage of OSRSs and gamification in online and face to face classes; therefore, this research consists of the following questions:

RQ1: What are Chilean EFL high school teachers' perceptions regarding the implementation and use of OSRSs in emergency remote teaching environments?

The purpose of this research question is to asses and know teachers' perceptions on the use of Online Student Response Systems in the emergency remote teaching context. The context of the inclusion of these ORSRs will be considered in an online and face-to-face teaching environment. The perceived drivers go from trying to enhance students' motivation and results, together with giving teachers a more friendly way of doing their job in this new globalized context (Sánchez & Marti, 2017). However, the difficulties that appear along this research can include not knowing how to implement those new technological tools, or sticking to the old methods of teaching.

1.5 General Organization of the Research chapters

This thesis holds 6 chapters, the first chapter is the introduction of the whole piece and includes the Relevance of OSRSs, background of the study, statement of the problem and purpose of the study. In the second chapter, the literature review explains definitions regarding gamification, specific OSRSs, the Unified Theory of Acceptance and Use of Technology (UTAUT), findings on gamification, OSRSs, and finally, UTAUT. The third chapter addresses the methodology with which this study was carried out. It also presents the research design, participants, qualitative and quantitative instruments, procedures, pilot study and study sessions. The fourth and fifth chapter discuss the quantitative and qualitative results and discussion respectively. Lastly, the seventh chapter includes the conclusion of this thesis research, the research question, and implications of the study.

CHAPTER 2

Literary Review

2.1 Overview

The theoretical framework of this study will focus on studies that revealed that including technology in higher education can enhance student engagement (Blasco-Arcas et al., 2013). There are different ways in which we can include technology in the classroom. In order to have a better understanding of this research, some concepts need to be defined. This chapter will comprise definitions of gamification, gamification in EFL, online student response systems, types of OSRSs, for example: Kahoot, Socrative, Quizizz, Mentimeter, and Verso.

2.2 Gamification

2.2.1 Defining Gamification

Gamification has been defined as the practice of using game design elements, game mechanics and game thinking in non-game activities to motivate participants (Al-Azawi et al., 2016). The implementation of game designs, mechanics, and thinking of games into any non-game activities may or may not be related to education. The purpose of gamification is to include a game aspect in a non-game environment. Huotari and Hamari (2013) mention that the role of gamified approaches is to invoke the same physiological effect of games into pedagogical experiences; for example, in video games, the main goal is to reach for new levels, get rewards, and of course have a good time when comprehending the game context that the user is involved in. With gamification in the classroom, similar phenomena occurs; the main goal of this concept is to promote participation, using systems like leaderboards, fast feedback, badges, and keeping the learner away from the feeling of failing insomuch as users would acknowledge empowerment together with a positive engagement and results within the gamified lesson (Ding, 2019).

Hamari, Koibisto and Sarsa (2014) studied the amount of articles published for gamification and the number has exponentially increased over the past years. The latter study shows how in a time span of four years, between 2010 and 2013 the results from Google searches for gamification grew exponentially. As of 2010, articles that talked about if gamification worked or not, were only 60 in Google Scholar, four years later, in 2013, over 4,500 articles were available in the aforementioned platform. Another study by Kasurinen and Knutas (2018) identified that publications on the topic have been steadily growing, thus it was

expected that publications in the following years would be more than 120 than the previous year average.

The general aspects of the gamified frameworks like colors, forms, dynamism, motivation, dedication, and integration tend to help the teachers reduce the student's workload and also as a tool for motivation, which in the end, motivates the teacher too. Inside the gamified framework, board games, hand-crafted material, Total Physical Response (TPR) could be taken into consideration. Taking advantage of these new resources, together with the implementation of new methodologies that are affordable and easy to learn, can greatly benefit students and teachers. The lack of different aspects such as time or resources can go against these resources and desires of generating a new and gamified teaching environment. Lack of time, lack of resources, lack of knowledgeability, disagreements with colleagues, are demotivators that today's teachers are going through (Sánchez & Marti, 2017). Facing these demotivators can become an incredibly hard step to overcome, especially when vocation seems affected by not having the resources or the time to give the best for students. Nonetheless, research that aims to seek a teacher's perspective might create consciousness and motivation within the teaching world and give teachers the tools they need to overcome those daily challenges.

Toda et al. (2018) conducted a systematic mapping, which is a method to collect and show the evidence from the research. In this case, systematic mapping was used in order to analyze the negative effects of gamification when included in an educational setting. Their findings brought to light that gamification can have a negative effect on students in general education that range from loss of performance caused by a misinterpretation of the rules and instructions given which leads to loss of motivation and a diminished focus on the task at hand that could be attributed to how distracting the gamified activity may be. It can become easy for students to focus on different aspects when a lesson is gamified. However, it can also have a negative effect on their learning; showing indifference, declining their school performance, or having undesired behaviors, are factors that turn gamification into a distracting situation. Hence, not giving the student what they need to learn, or what they need to fulfil for the planned lesson (Toda, et al., 2018).

Sometimes the implementation of the activity may lead to a negative effect on the learner, similar to when an activity with a bonus system is introduced but the incentive to

complete the bonus task is not satisfying enough for students to complete (Erenli, 2017). By not feeling motivated enough, students will not pay attention to the gamified lesson, and as mentioned above it can be seen as a waste of time. When planning a gamified approach, it is important to do it carefully, according to the topic that is being taught, engaging and attractive enough for students to feel the need of participating and at the same time, to feel they are learning through that new approach (Lavoue, et al, 2018).

On a bigger umbrella, the term gamification can bring along positive effects, and negative effects as it was mentioned in the previous paragraphs. However, gamification is making its way into a new and globalized world in which the new technologies are the tools meant to be used in a learning and teaching environment. Seeking to leave behind old traditions, methods, and approaches, gamification aims to get the same positive results as the old methods worked back in the day, but using different techniques to engage students who are, certainly, walking next to everyday development and technological advancements that are rising every day, and together with it, students will keep learning in different ways, so teachers should use motivating tools to support their learning (Campillo-Ferrer, et al., 2020).

2.2.2 Gamification in EFL

English as a Foreign language (EFL) or in some countries, English as a Second Language (ESL) stands for the learning process and the usage of English as an acquired language in a non-English speaking country. Many teachers in EFL contexts still find themselves struggling when it comes to finding new approaches, uncertain results, or ways of teaching and engaging their students in their learning process. (Sánchez & Marti, 2017). Over the last months, complex situations have affected the population around the globe, one of the consequences that it has brought with it is that many teachers had to leave their classrooms and work environment, making their homes their new workplace. Therefore, being English a foreign language in Chile, teachers were obligated to find new alternatives to use in this new context.

Gamification encompasses multiple ways of creating activities, such as board games, flashcards, TPR, and OSRSs, which will be discussed in a separate section. In this global context, gamification together with online resources have gained strength, making teachers use a

combination of both, resulting in the usage of gamification of EFL being implemented in online lessons.

According to Mork, "foreign or second language classes tend to include smaller numbers of students" (2014), but this is a scenario that is not applicable to Chile, where the average students per classroom is more than 30 (OECD, 2020) and the number does not change when students transitioned towards online classes, where gamification takes a vital role in the class.

In today's society, it is important for educators to be aware of how the new functionalities and technology integrated practices such as online gamification can enhance the modality of lessons, not only for their own comfort by making the creation of their lessons easier, but for a developmental reason. Today's world keeps moving forward, and along with it, new technologies are being created. Teenagers are the ones who are closer to these new advancements, therefore, an important part of a teacher's job is to be constantly updating on the new improvements of the technological system, to keep their students engaged and motivated, and also to keep providing better tools for their learning.

2.3 Online Student Response Systems

Online Student Response Systems (OSRSs) are tools designed for learning, helping teachers to diversify their lessons and step away from the classic usage of the whiteboard. An OSRS works by showing the students a multiple choice question, among a range of other interactive options that were originally created by the teacher with the decided OSRS in order to test specific aspects of the taught lesson (Cancino and Capredoni, 2020).

Online Student Response Systems have also been referred to as personal response systems, audience responses systems, and electronic voting systems in Ranieri (2018), this technological platform has been an enormous help for teachers and pre-service teachers during the COVID-19 pandemic because according to Herrada, et al., (2020), 94% of the students worldwide have had to move from having face-to-face to online lessons.

One of those OSRS platforms is Kahoot! This platform is designed around students, so they can answer multiple choice questions made by the teacher regarding the topic taught. Engaging the students with attractive colors, music, and testing their knowledge, Kahoot! has

become one of the most popular OSRS up to date. As stated in the literature review done by Wang and Tahir (2020), Kahoot! proved to have a positive effect on the performance of the students using it, together with classroom dynamics, and the attitudes towards the lesson. Another platform that gained popularity is Quizizz. This platform is a creativity software that can be used in class, group works, tests, reviews, and quizzes. As it was stated in a study done in 2021, this method can turn a lesson in a creative instance of learning, ‘‘The implementation of online interactive games such as Quizizz can be seen as an exhilarating, creative, and impactful means of shifting from the conventional way of imparting knowledge, especially to millennials’’ (Yunus, 2021, p. 107)

OSRSs are frequently used in large classrooms in order to simplify teaching by providing easy and immediate feedback to students (Cardoso, 2012) and also to create an interactive environment among students and teachers. Research by Ranieri et al. (2018) supports that the basis of a Student Response System is to have hardware components: an interactive remote control or a receiver unit and a classroom computer that projects the platform. Interactive response systems have not been available for longer than 16 years, as the first low-cost radio-frequency (RF) audience response system (ARS) was introduced in 2005, by Barber and Njus (2007). Furthermore, free online student response systems (OSRSs) eventually replaced “clicker” systems. To access an OSRS, teachers and students simply log on to a website or app on their own devices (e.g., a computer, laptop, tablet, or smartphone) to interact and respond to questions in real-time via the Internet (Muir, 2020).

These tools allow teachers, guides, and mentors to gather students in a common virtual platform during a lecture, or an exam, or as a practice section to review some of the contents taught during the lesson. These systems can result very friendly for teachers since the interfaces are simple to use. Those platforms are available for Android System and iOS. They show charts and graphs, so the answers can be known. Many of them share statistical and percentile reports which can be very useful for the teacher to know in which area the students are failing; moreover, engage and motivates students is the fact that most of these systems allow the decision of nicknames (Ranieri, 2018), so they can stay under anonymity and participate in the class unless the teacher says the opposite in a punctual case.

Several findings have suggested that the use of these OSRSs tend to have a positive impact on both teachers, and students. Data collected from Chen, Lambert, and Guidry (2010) illustrates

that the use of OSRSs made college students using web-based learning technologies score higher than their peers in evaluations of specific content than peers who only attended face-to-face classes. By 2009, most students had access to or owned computers and knew how to operate them and most colleges had campus-wide Wi-Fi which lowered the accessibility threshold to students that wished to use web-based tools for learning.

By providing different alternatives as multiple choice, true or false, open-ended questions, statistics, and analysis of progress, OSRS are innovative pieces of software that are giving learners and teachers the chance to change the way education is seen Salavuo (2008). The teacher is able to control the lesson by 'clicking' on the platform, control timing by skipping questions or by setting an amount that is appropriate for the activity, it is also possible to give students the chance to share their opinions, thoughts, and possible answers on an activity, making the learning environment more active and interesting for the students, as well as for the teacher in charge (Lavoue et al, 2018).

2.3.1 Types of OSRSs

There are many types of OSRSs; some are just focused on entertainment and address no learning or academic outcomes (Wang, A., 2015), while others focus more on learning and gathering statistics of students' answers, for example, how many answers were correct on average, which student answered, and which of the answers were correct or wrong–platforms that have such systems are Kahoot and Quizziz.

The world of teaching encompasses different ways of implementing them. Face to face lessons have always been the norm for most learners; however, through the years, new methodologies have been implemented in order to adapt to students' needs. Rethinking the learning environment will consequently make a transformation in education (Cebrian et. al., 2020) and eventually a different way of teaching.

A globalized world requires globalized platforms and approaches to keep moving forward, and as teachers are in charge of the teaching process of the young part of the

population, they must search for different options to keep them connected to the world. The objective of education is to mold a person, inculcating social responsibilities and help with the process of learning (Radha, 2020), Human beings learn through different methods, and making them feel they are walking side by side with the new advancements of technology is imperative. To do so, developers have made their way into the educational world and created tools to help teachers and to engage students in their learning process. OSRS are increasing their popularity thanks to the wide variety of options they can provide to the users, making them appealing and useful for educational purposes.

Today's global context has forced educators to leave aside their old face to face teaching modality, making them become friends with technology integration practices. The world of teaching and learning is working thanks to the advancements of methods, making online classes a precious resource thanks to lockdowns because of COVID-19. However, due to the same sanitary emergency, problems such as lack of resources, bad infrastructure to guide online lessons, an increment of workload for teachers, stress and uncertainty are challenges teachers have to face (Sharma & Bumb, 2021).

There are teachers who have attempted to take advantage of the resources available in the online market. Most of the OSRSs platforms are free to use, offering various features that can make a lesson more entertaining, easy to follow, attention inducers, motivators and interesting for students (Alabbasi, 2017). OSRSs provide innovative templates, attractive colors, interactive presentations and activities, competition modalities, to enhance learning environments, and provide different options. However, with a monthly subscription, educators can have access to more advanced and complete features, using the OSRS with the 100% of their potential.

Some of the most commonly known OSRS's or online platforms to create gamified lessons are Kahoot!, Socrative, Wordwall, Nearpod, Mentimeter, and Seesaw. All of them tend to share the same characteristics; full of color, attractive images, and a catchy sound to keep the learners interested and motivated on the lesson, the quiz, or the activity. On the other hand, some of them are more utilitarian, they share the fact that they are easy platforms to solve quizzes, exams, and share opinions. Edmodo, for example, shares colors and features with Facebook, the difference is that Edmodo has only academic purposes, and through their profiles students can

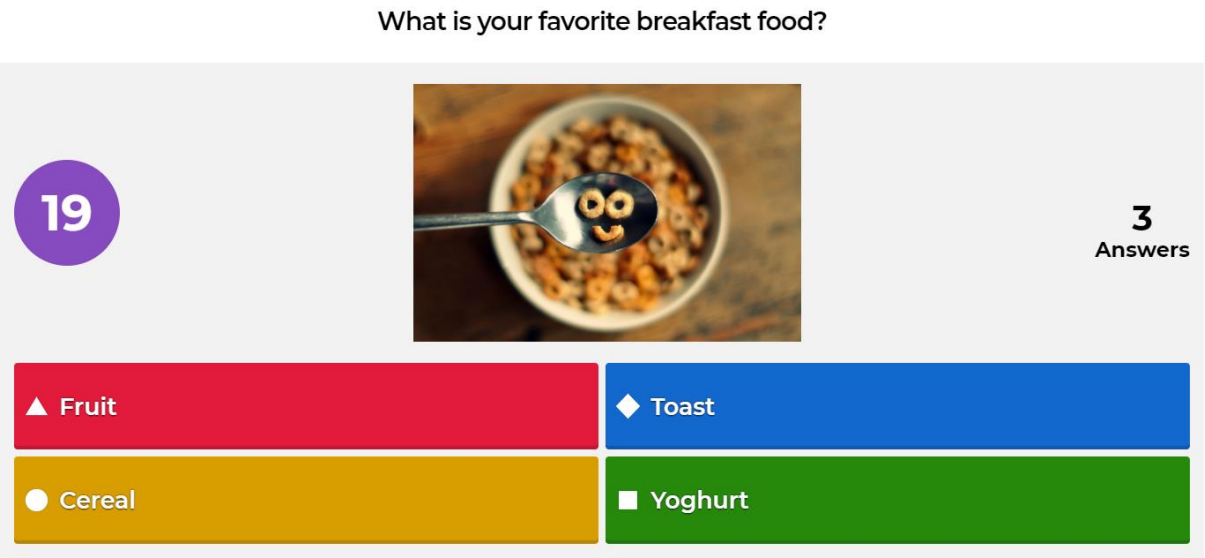
see content the teacher is sharing, see progress of their activities, upload files, and add comments either to share opinions, or to active participate on an activity.

The purpose of these platforms is to set up traditional activities in different ways with a competitive mood to generate motivation among students. Even though the usage of them might be hard at first for older teachers as they might find possible demotivator and enablers to their intention to use technology; for example, personal characteristics such as, age, experience with computers for educational purpose and the attitude towards them (Raman, 2014) but they are friendly to learn and facilitate their job.

2.3.1.1 Kahoot!

In October 2010, an innovative new trend emerged to improve participation of students in classroom activities and promote particular behavior. Kahoot is a platform that promises learning games that drive compelling engagement to everyone. As mentioned before, this is a free platform that unlocks more advanced features with a premium subscription. The activities composed in Kahoot boils down to a series of questions that the teacher creates in advance and the students must select an answer with their devices to continue the activity as is shown in Figure 1.

Figure 1. Sample of a Kahoot! Activity.

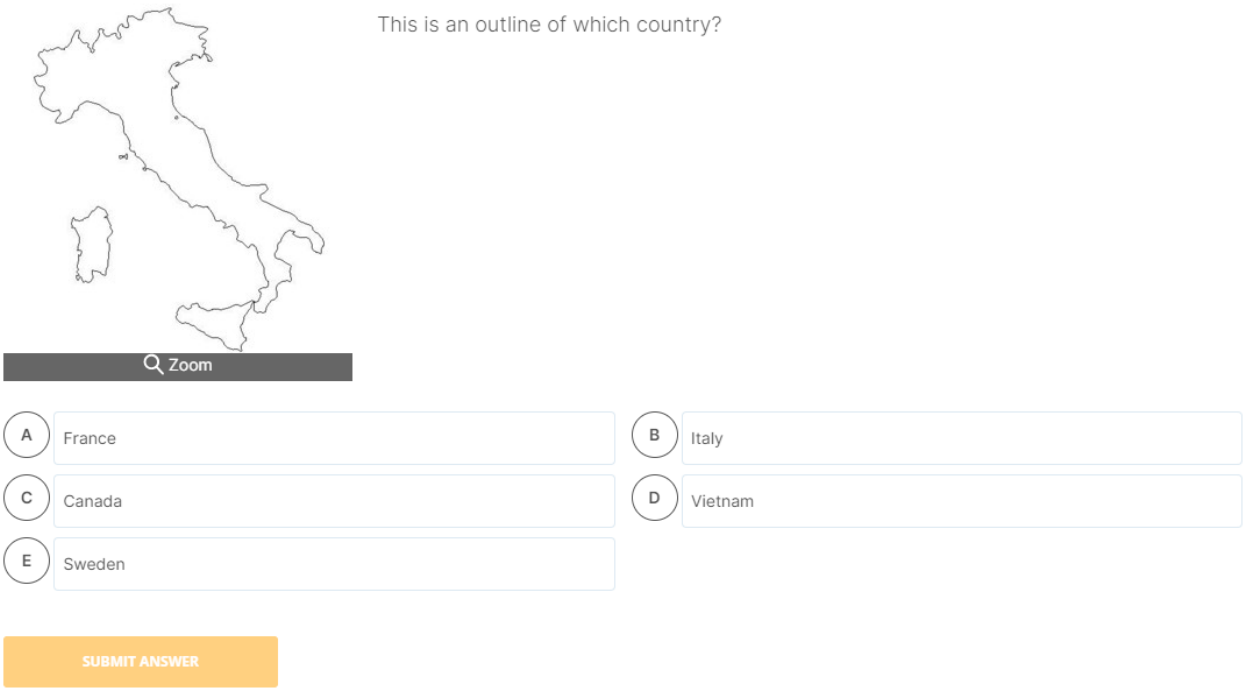


The participants engaging in the Kahoot can play from any device that has internet access such as laptop, iPad or smartphone. The main challenges that OSRSs platforms face is that students can have technical difficulties or internet connectivity problems (Wang & Tahir, 2020).

2.3.1.2 Socrative

Socrative is one of many OSRS that are available. This OSRS allows teachers to ask questions about a topic seen in the class or pre-seen knowledge that wants to be assessed. The student will have access to the result immediately. With those results, learners can assess themselves and take appropriate action in their pedagogical performance. Socrative is accessible from a web browser, laptops or mobile devices. For students to log in, the teacher must create an online room, with a room name that will be written down for the student in order to enter, and then they must start answering the quiz as it is shown in Figure 2.

Figure 2. An example of a Socrative test.

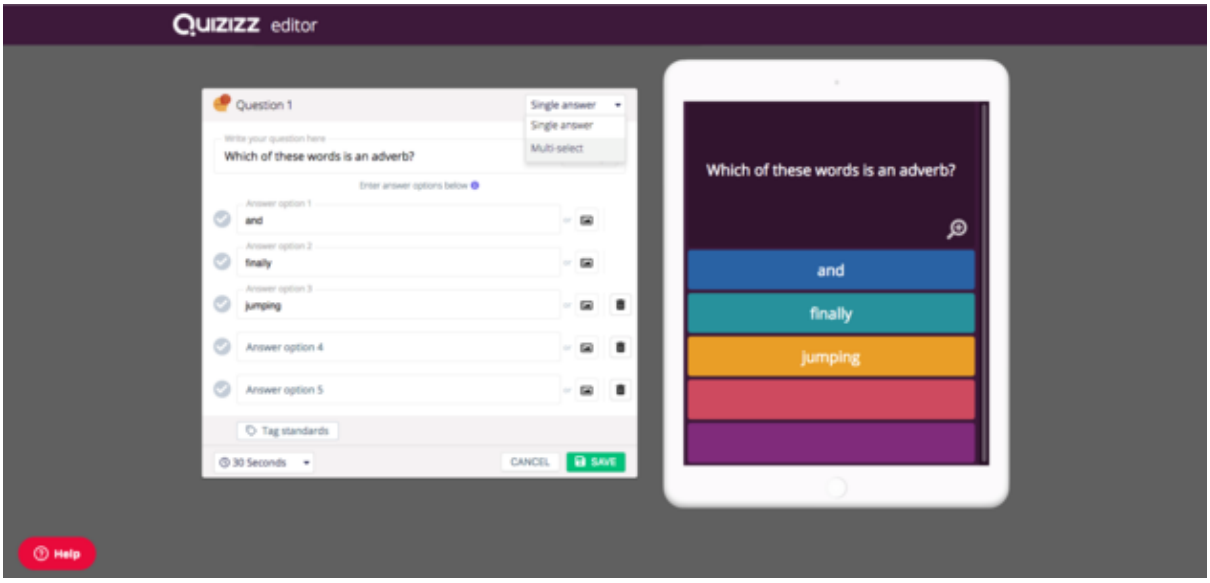


Socrative is a time friendly tool, making lessons or assessments easier and faster to review, making classes more interesting to students (Cancino and Capredoni, 2020).

2.3.1.3 Quizizz

Quizizz is a platform available for the design and start of a quiz as a game. It gives teachers the opportunity to design quizzes in different formats, for example: true or false, multiple choice, among others techniques. Teachers can choose if they want to make the quiz public or private. Students are given a game code generated by the website automatically, so they can join and play from their mobile devices. Every student will have a unique avatar, so they can differentiate each other. Teachers are able to monitor every step. The main attraction of Quizziz is how personalized questionnaires can be created with custom elements designed by the teacher as can be seen in Figure 3.

Figure 3. Quizizz questionnaire interface

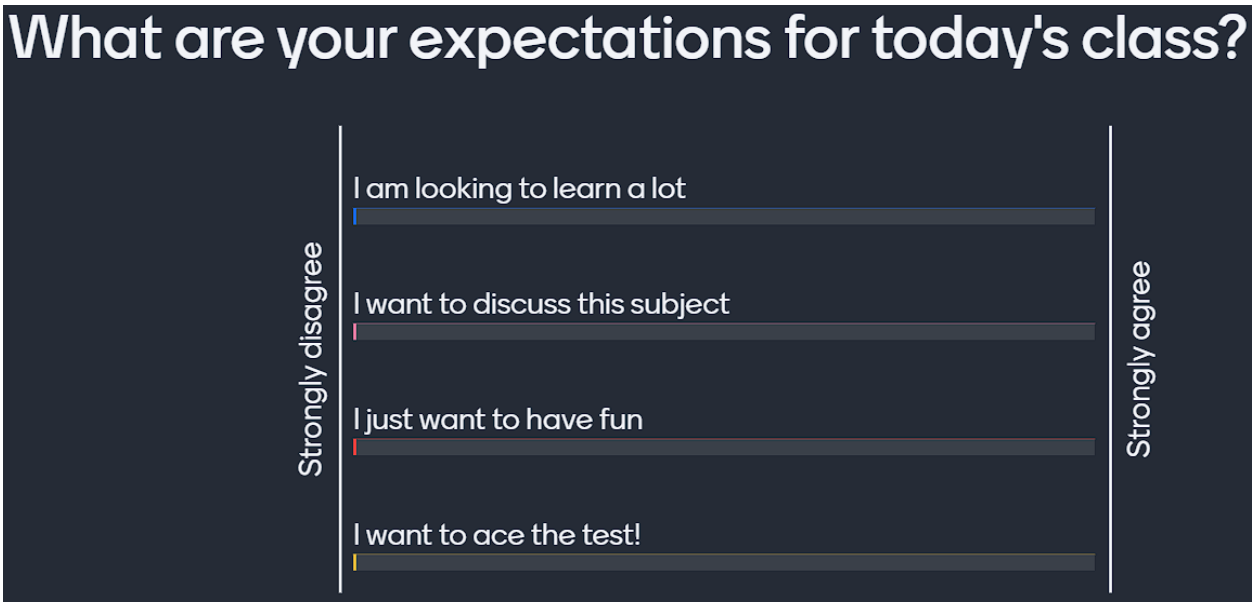


The application gives immediate feedback in the form of a meme or funny pictures, which make students feel more relaxed and motivated to answer further questions.

2.3.1.4 Mentimeter

Mentimeter is a collaborative platform that allows teachers and students to log into the same session with the use of a code in order to share the same ideas, discuss the current topic, and brainstorm ideas in the forms of visible word clouds that can be used in the context of the current class to spark discussion among the teacher and students. The most visually attractive offering of Mentimeter is that it provides students with real-time feedback in order to increase the dynamism and overall engagement of the lessons. With this application, teachers can create the appropriate virtual environment to create discussion among students with virtual tools as can be seen in Figure 4.

Figure 4. A Mentimeter activity survey interface.



2.3.1.5 Verso

This platform allows the teacher to create activities and ask for feedback. Teachers can also create classrooms, upload material from their Google Drive account as videos, links and pictures. The number of answers expected can be modified by the teacher to control how many responses they want to get from their students. Also, students can follow their progress on the dashboard account. Teachers can be informed on how engaged their students were after each activity with a comprehensive graph as it is shown in figure 5

Figure 5. A Verso graphical display of student's engagement.



2.4 Unified Theory of Acceptance

As this study intended to study teacher's perception in regards to online students' response systems, the UTAUT model aims to investigate the factors that promote the use and application of OSRS.The Unified Theory of Acceptance and Use of Technology (UTAUT) was first introduced by Venkatesh et al. (2003). Eight models were first introduced and indicated that only four components (facilitating conditions, effort expectancy, performance expectancy, and social influence) would determine the impact of user acceptance and behavior towards technology (Venkatesh et. al., 2003).

This theory holds four different constructs that compose it; performance expectancy, effort expectancy, social influence and facilitating conditions. According to Cheung et. al., (2018) the first component, performance expectancy, is about the consequences that tend to be associated with the use of technology in instrumental matters. The second component, effort expectancy, is about the burden on a cognitive level when it comes to learning how to use and work with technology. Social influence, talks about the beliefs others have to have an impact on the ones who use technology in their lessons. Lastly, the component facilitating conditions is about the beliefs that exist in the organization and methodologies that give support to the use of technology. The four components are direct indicators of behavioral intention, which are additionally influenced by four key moderators: gender, sex, experience, and voluntariness of use

(Williams et. al., 2015; Venkatesh et. al., 2003). However, the five components will be studied individually.

2.5 Empirical Studies

Empirical studies show that the UTAUT models have been used to study and predict users' advocacy for technology (Al-Saedi et. al., 2020). To create the UTAUT model Venkatesh et al. (2003) unified eight technology acceptance models in which it is found Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), the technology acceptance Model, the Combined-TAM-TPB , Model of PC Utilization (MPCU), Motivational Model (MM), Social Cognitive Theory (SCT) and Innovation Diffusion Theory (IDT), which provides a deep explanation of how UTAUT is composed and constructed.

The Unified Theory of Acceptance and Use of Technology examines users' beliefs and its impact on behavioral intention and use of technology (Cheung, Wang and Chan, 2018). A study conducted by Cheung et al. (2018) studied 17 participants' efficient use of Clickers using a close-ended survey. The study used the five constructs that affect use behavior. Results obtained from the aforementioned study indicated that the mean from the UTAUT construct were between 3.30 and 3.88. Additionally, the highest means were found in the components of facilitating conditions ($x = 3.88$) and behavioral intention ($x = 3.88$), whereas the lowest mean was social influence ($x = 3.30$).

A study conducted by Gruzd, Staves, and Wilk (2012) on how social media use for educational purposes is perceived by the teachers. The study analyzed 51 participants in total and used the UTAUT model to analyze the interview data based on Venkatesh's model who had proposed the main four factors that influence intention and usage of information technology. This study conducted semi-structured interviews with 13 guiding questions to elaborate on their use of the tools. It was found that scholars were frequent and varied users of social media tools and that UTAUT analysis of data collected used the four most relevant categories of the model associated with the one of use and perception. UTAUT was applied by examining each of the four components (performance expectancy, effort expectancy, facilitating conditions and social influence) to facilitate the critical evaluation of the data and draw the study further conclusions.

2.5.1 Findings on Gamification

Several studies have shown how gamification can be beneficial when using them in the classroom. The number of studies regarding this topic has grown over the years and researchers have analyzed the advantage of using a gamified approach in a non-gamified environment. A quantitative study done by Campillo-Ferrer (2020) studied the effects of using Kahoot! in a Social Sciences program. The online platform was used by 101 students (25 men and 76 women) for their own benefit. The data on the effects of this OSRS were collected through an ad hoc questionnaire, a widely used technique, for better administration of information. The questionnaire consisted of three sections and 21 items, the first part regarding participants' perceptions on technical expertise and use of the tool. The second consisted of four statements to evaluate motivation regarding the platform. The last one, comprised 13 items related to respondents' perceptions on the help that the systems can provide in problem-solving skills and social competencies. Likerts scale from 1 to 5 was used. The students in the science class were asked to create Kahoot!s in their class to make their peers participate in them after having sessions that included explanations, descriptions and reflection on the main concepts of social science. Results showed that the motivation and perception students had when using Kahoot grew significantly. Students considered that using this platform allowed them to learn in a different way. The authors underscore the benefits of introducing digital platforms into the classroom because they can help learners develop creativity and become critical thinkers (Campillo-Ferrer et al.,2020).

In research done by Sánchez and Martí (2017) it was found that the implementation of gamification in the form of educational video games worked to get students' attention, and it also facilitated their learning better than more traditional methodologies according to teacher's perceptions. However, in this research it was also found that teachers thought gamified approaches were challenging in different ways, such as having lack of knowledge on the concept of gamification and not having a good environment to conduct their lessons, together with the lack of time. This research was conducted using a phenomenological approach in order to understand the experiences of the participants. Data was collected through several interviews on

a sample of 16 teachers. This approach aims to describe the existence of a phenomenon through the perspectives of the ones that have experienced it.

The literature review study conducted by (Wang & Tahir, 2020) mentioned that Kahoot! serves as an engaging and motivating tool for teachers, since it was entertaining, improved their learning and therefore the students' learning outcomes seemed to be benefited. Moreover, studies conclude that it increases students' attention and concentration (Yapici & Karakoyun, 2017). The aforementioned study showed that out of forty-eight studies investigated kahoot! as a game-based learning, blended learning and technology-supporter that improves learning outcomes.

Another study done by Alabbasi, (2018) teachers felt that including gamified approaches gave students levels of autonomy and the chance to be on track of their learning processes and advancements. This study used a survey as a data collection tool with a likert scale. 31 Item total divided into six sections including positive effects of game elements, psychological effects, positive effects, cognitive effects, formation of learning habits as a result of games and lastly, the negative effects.

Further research (Wong, et al., 2020) aimed to determine pre-service teachers' perceptions towards using gamification to improve young learners' language skills with gamified language activities, however, specific applications or platforms were not mentioned in that study. The study analyzed the perceptions of 33 senior-year students of Teaching English as a Second Language (TESL) that were having a 16-week internship in their last semester of university. Data was collected with a total of 22 questions and using a Likert scale from 1 to 5 that analyzed the effectiveness of gamified language learning activities in the classroom. The results suggested that integrating gamification in secondary language learning, improved the skills of the learners, such as creativity and critical thinking.

2.5.2 Findings on OSRSs

Research done by Sanchez & Marti (2017) studied the perceived drivers and demotivators teachers have regarding using OSRSs. When it comes to demotivators, four main factors were identified. The first one, lack of resources showed that lack of time, training, economic support, and an inappropriate classroom setting was one of the main demotivators

teacher's perceived when it comes to using gamified approaches. Another demotivator found students' apathy, making students think that gamified approaches were a waste of time rather than a learning instance. When it came to subjects, some topics were harder to gamify than others, and most of the time it was hard to make for teachers due to the lack of time or a complicated schedule. The third demotivator found in this research was classroom dynamics, this demotivator dealt with how the outer atmosphere was affected by teachers creating gamified lessons, such as disturbing near classrooms, and for the latter reason it caused conflicts with other teachers.

Cancino and Capredoni (2020) research assessed pre-service EFL teacher's perceptions in regards with online student response systems, in which 23 pre-service teachers studying at a private university of Santiago provided their perceptions towards online application usability. In this study the data analysis instruments were a CRiSP questionnaire, and a focus group interview holding positive perceptions toward the usability of OSRS and reported that attitude hold towards technology is improved.

2.6 Conclusion Literature Review

This study is conducted in order to assess the perceptions of EFL in-service teachers regarding the use and implementation of Online Student Response Systems (OSRSs). Furthermore, COVID-19 pandemic's effect on the educational context that led to the implementation of ERT in the Chilean EFL classroom environment.

The literature review has suggested that the use of OSRSs tend to have a positive impact on EFL classrooms, together with the fact that most teachers agree with these tools to motivate and support their lessons (Cancino & Capredoni, 2020). Results showed that many teacher communities support themselves on the use of tools as the OSRSs due to their positive impact on both students and educators. Game based learning is reported to increase student's efficacy, engagement, quality of learning, and perceptions of OSRSs when they are included in the classroom (Campillo-Ferrer, et al. 2020). However, none of the articles included in the literature review focus on the perception that teachers have when it comes to the use of OSRSs in results.

CHAPTER 3

Methodology

3.1 Overview

The qualitative instrument chosen for this part of the research was a semi-structured interview (SSI). This instrument allows interviewers to discover specific responses regarding the experience of the participants. SSI are open-ended questions that allow the interviewee to deviate and expand their answers and the interviewer to ask follow-up questions to extract the desired information (McIntosh & Morse, 2015). Before conducting the aforementioned SSI, the answers of the first session of the pilot interview were studied and analyzed in order to gather the most relevant subjects. The selected participants were the ones that demonstrated to be outliers according to what they answered in the questionnaire, for example, a teacher who is over fifty years and has absolute positive comments on OSRSs, or a twenty-five-year-old teacher who has zero relation with these systems and also has a negative perception towards them.

This research aims to investigate high school teachers' perceptions when using OSRSs in their classrooms in the emergency remote teaching context. A pedagogical implication of getting to know the perceptions, motivators and demotivators of teachers in the use of OSRSs is to create awareness on the teachers' perspectives of the positive or negative effects of using these resources when applied in the EFL classrooms (Cancino & Capredoni, 2020). However, despite the existing research supporting the increase of engagement students have when they use OSRSs (Muir, et al., 2020), one of the main purposes of this research is to identify if teachers see these results as studies show. In this way, teachers who are struggling with the searching of new ways of teaching within the online environment might consider OSRSs to fill that educational gap.

3.2 Research Design

To carry out this research and to further analyze the data collected, a mixed-method paradigm was used. This method of research focuses on deepening the more general understanding that quantitative research provides. Including the qualitative approach will create

more general outcomes of what this type of research will do by itself (Strijker et. al. 2020). The quantitative part of the research was applied to provide descriptive statistics and define parameters for relevant teacher profiles. The qualitative paradigm, according to Huston & Rowan (1998) is meant to observe social interaction and understand the individual perspective, providing insight into what people's experiences are. The fundamental goal of the approach is to arrive at a description of the nature of the particular phenomenon, seeking to develop an in-depth, embodied understanding of the participant's perspectives on this experience (Creswell, 2002). This research gathered results on using gamification in EFL classrooms in order to have a better understanding on their use and to get to know the perceptions of teachers on the use of these systems. However, not only a qualitative research design was used, but also a quantitative one. Using a mixed methods approach is warranted when researchers want to gather the most accurate of the qualitative and quantitative methods in order to have a better understanding of the problem (Klassen et al., 2012) to assess the perceived use of OSRSs in in-service teachers, and identify factors that hinder or facilitate OSRS use in the classroom. The quantitative part of this study is mainly deductive, which is ideal for measuring previously known data, collecting evidence through surveys and diagnostics tests. On the other hand, a qualitative style is mainly inductive and allows the researcher to get to know the process, together with the explanations of how to do it (Klassen et. al., 2012).

3.3 Participants & Context

This study was conducted in Chile, carried out in two sessions. The first session was a survey done through Google Forms, and the second session was a semi-structured interview conducted online and via the platform Zoom. A determining factor in order to be part of this research was that teachers had to have transitioned from a face-to-face to an online teaching environment because of the current COVID-19 pandemic; thus, it was mandatory for the participants to have at least one year of teaching experience in a face-to-face environment. Furthermore, the teachers had to have had this experience with EFL high school students.

For this research, 160 graduated English teachers from all UNAB's campuses were contacted to participate in a research questionnaire. The list of alumni had graduated between 2016 and 2018 to ensure they had worked in a face-to-face and online environment. Participants

from this study were not differentiated because of their language proficiency, nor it was an excluding factor for participants in order to be part of this study.

3.4 Instruments and Materials

This research focuses on obtaining information from teachers' perspectives on their use of OSRSs in the classroom, for this reason, a set of specific instruments were chosen to carry out this study. The research was divided in two parts: the first part of the research consisted in a quantitative survey that included a demographic survey and questions using the UTAUT model. The survey was created in a Google form and the total repertoire of questions in the two instruments were done in their first language: Spanish. The demographic survey asked the participants personal information such as: name, email, gender; academic information such as: graduation year, campus in which they studied; employment information about: years of experience, type of school in which they teach or taught, and how much time they have taught face-to-face.

The instruments selected for the quantitative part of this research aims to gather in-service teachers' perceptions regarding the use of OSRSs. At this stage, a quantitative paradigm was chosen in order to reach a larger number of participants. Afterwards, a qualitative approach was chosen to interview a small group of teachers whose profiles who agreed to participate in the semi-structured interviews.

3.4.1 Quantitative Instrument

The first part of the instrument is a demographic survey that asked the participants personal information. The quantitative instrument consists first of a closed-ended survey using the UTAUT model that includes 20 items to investigate OSRSs in various dimensions and the Unified Theory of Acceptance and Use of Technology (UTAUT). Items were taken from Cheung, et al. (2018), adapting the questionnaire questions in order to contextualize them given the current pandemic. The 20 items adapted from the UTAUT model included the four

components of said model: performance expectancy, effort expectancy, behavioral intention, teaching behavior, and facilitating conditions.

The questionnaire asked participants to rate the extent to which they use or not use OSRSs in the classroom by classifying them in a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Starting with the definition of OSRSs and other examples in order to contextualize our participants, as it was stated above. Also, the following questions that were asked in the instrument aimed to gather data regarding how many years they have taught; what were the most popular ORSRs that they used; their views as teachers; the knowledge they have about these platforms and if they view these systems in a positive or negative way.

Table 1. Components of UTAUT in the quantitative instrument

Construct	Question	Objective
Performance Expectancy	1. I would find the Student Response System ("Clickers") useful in my teaching.	This first set of questions aims to find out how teachers feel about how OSRSs enhance their job performance.
	2. Using the Student Response System ("Clickers") enables me to accomplish teaching tasks more quickly.	
	3. Using the Student Response System ("Clickers") increases my teaching productivity.	
	4. If I use the Student Response System ("Clickers"), I will increase my chances of becoming more competent in teaching.	

Effort Expectancy	5. The procedures of using the Student Response System (“Clickers”) would be clear and understandable.	The following set of questions aims to measure the level of easiness or complications when using these systems.
	6. It would be easy for me to become skillful at using the Student Response System (“Clickers”)	
	7. I would find the Student Response System (“Clickers”) easy to use.	
	8. Learning to operate the Student Response System (“Clickers”) is easy for me.	
Social Influence	9. People who influence my teaching behavior think that I should use the Student Response System (“Clickers”) 10. People who are important to me think that I should use the Student Response System (“Clickers”)	The following set of questions aim to determine the outside factors that intervene in teachers’ use of OSRSs in the classroom.
	11. My faculty/department/school has been helpful in the use of the Student Response System (“Clickers”).	
	12. In general, members of my teaching community support the use of the Student Response System (“Clickers”).	
Facilitating Conditions	13. I have the tangible resources necessary (e.g. equipment, accessories) to use the Student Response System (“Clickers”).	This set of questions points to gather information on the preparedness teachers have or feel they have in order to apply OSRSs in their classrooms.

	14. I have the knowledge necessary to use the Student Response System ("Clickers").	
	15. The Student Response System ("Clickers") is compatible with other e-learning systems I use.	
	16. A specific person or group is available for assistance with using the Student Response System ("Clickers")	
Behavioral Intention	17. I am a keen user of the Student Response System ("Clickers")	The last set of questions aims to categorize teacher's have a positive or negative bias regarding the implementation of OSRSs in their classroom.
	18. All things considered, I think it is positive to keep using the Student Response System ("Clickers")	
	19. All things considered, I think it is good to keep using the Student Response System ("Clickers")	
	20. All things considered, I think it is beneficial to keep using the Student Response System ("Clickers").	

3.4.2 Qualitative Instrument

The qualitative instrument chosen for this part of the research was a semi-structured interview (SSI). This instrument allows interviewers to discover specific responses regarding the experience of the participants. SSI includes questions that allow the interviewee to deviate and

expand their answers and the interviewer to ask follow-up questions to extract the desired information (McIntosh & Morse, 2015). The interview protocol was done in the participants' native language but translated for the purpose of this study. Some of the questions included in the interview protocol were “How do you think OSRSs can improve your class performance?” This question focused on obtaining information regarding performance expectancy. A question used to identify teachers’ effort expectancy said “How hard was it for you to understand how to use OSRSs at the beginning?”. Additionally, a question used to obtain more information regarding social influence was “How do you think your colleagues see the use of these platforms?”. “Does your workplace give you the necessary technological resources to use the OSRSs?” was to know more in depth about the availability of facilitating conditions that affected teachers’ perceptions. Lastly, one of the questions used to analyze teachers’ behavioral intentions was “Do you think that OSRSs affect the learning process positively or negatively?”

Before conducting the aforementioned semi-structured interview (appendix 3), the answers of the first session were studied and analyzed in order to identify the answers of the participants in the SSI. The selected participants were the ones that demonstrated to be outliers according to what they answered in the questionnaire, for example, a teacher who is over fifty years old and has absolute positive comments on OSRSs, or a twenty-five-year-old teacher who has zero relation with the systems and also has negative perceptions towards them.

3.5 Procedures

In order to gather demographic information, and in order to create a profile of teachers that will be helpful further in the study, a Google form was sent to the target subjects, which were alumni from the EFL program from Universidad Andrés Bello. The questions regarding personal details included: name, email, age, gender, type of school in which they taught, years of experience as a high school EFL teacher, and if they have changed from a face-to-face to an online teaching environment. Together with the demographic information survey, a questionnaire was selected for this research in order to perform questions in the survey. This questionnaire included a set of questions in the survey that were part of the UTAUT model. Once it was found, the questions were adapted in order to fit the purpose and the objectives that were sought in this study. Once the questions were set (see appendix A) they were added to a Google Forms

document. On that questionnaire, questions such as name, email, and age were asked in order to gather information regarding the subjects that took part in the pilot part of the research. Subsequently, pilot participants had to answer questions ranked on a Likert scale based on their knowledge and acquaintance on OSRSs.

3.5.1 Pilot Study

For the purpose of this research, a pilot study was carried out in order to receive feedback from the participants' experience in the quantitative and qualitative instrument. The participants for the pilot study were EFL pre-service teachers coursing their last year of university or just graduated, without years of experiences in high-school. The quantitative instrument was the demographic survey (appendix B) together with the instrument adaptation from (Cheung et al., 2018) done in Google Form. Once participants completed the survey, an open-ended question was available for them to answer. This question asked the participants to give their opinion about the survey–complexity of the questions, logic on the sequence of the questions and length of the questionnaire.

The pilot participant carried both parts of the study, the questionnaire and an interview based on the interview protocol (see appendix C). The duration of the piloted interviews went from forty to forty-five minutes. The main purpose of these questions was to have a better understanding of the participants' thoughts about the procedure of the questionnaire, clarity of the questions, to get to know if the questions were confusing, tedious, or if they presented any issues while responding to each instrument. Also, these questions were made with the objective of finding out if the subjects had used OSRSs in any form in the past and after the outbreak of the COVID-19 pandemic. Finally, a question was aimed to identify the subject's perceptions regarding their understanding of the OSRS instrument used. It was found out that the questions did not answer what was expected and that one of the questions presented difficulties in understanding, needing clarification. Some follow-up questions tended to be repetitive, since they answered them within a previously asked question. Therefore, at the moment of conducting

the official interviews, special attention was given to the participants' answers in order not to make redundant follow-up questions.

3.5.2 Study Sessions

The selected system for this research is a mix-method approach that was carried out in two sessions, being those, as stated above, quantitative and qualitative. The approach was applied in two sessions. The former consisted of a survey to obtain quantitative data based on questions regarding their experience, and how participants feel about the OSRSs, and the latter consisted of an interview session to receive data for the qualitative approach. These interviews, together with the interviewees, were selected based on the most remarkable results given on the first session.

3.5.2.1 Session 1

The first part of the quantitative part of this research consisted of an adaptation of the Unified Theory of Acceptance and Use of Technology (UTAUT) instrument designed and validated by Cheung, et al. (2018). Then, questions regarding demographic information and a survey with statements about use, knowledge, and attitude toward the use of OSRSs. The instrument was designed based on the instrument created by Cheung, et al. (2018). (See Appendix A) This instrument uses a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

The first part of the data collection procedures consisted of the explanation of the analysis, purpose and use of data followed by a consent form of confidentiality and anonymity, which will be explained more in depth in a further section. The first data collection session was carried out in order to identify interesting profiles of teachers that have transitioned from face-to-face to an online teaching environment, with at least one year of experience, and that have shown interest or indifference in the use of OSRSs. However, this was not doable due to the fact that the outlying participants were not available for the semi-structured interview. Thus, this will be explained in the limitations of the study. Moreover, to gather perceptions towards the theory of acceptance of use and its components. In-service EFL teachers were asked to participate through a structured email. The interesting profiles were selected to have an understanding of the factors

that encourage teachers to apply OSRSs or find the reasons behind them not using or enjoying them at all.

3.5.2.2 Session 2

The second part of the data collection involved semi-structured interviews. Once all the quantitative questionnaires were sent and analyzed, all participants were contacted in order to obtain more interviews, hence only eight responses were gathered. The parameters to decide which profiles were of interest were focused on strength of answers; for example, a teacher who disagrees with the use of OSRSs, and a teacher who uses them on a daily basis and thinks they are an imperative part of teaching. After all the participants were contacted for the interview, another consent form was sent to them. In this new stage of the data collection procedure, the schedule was set, and then a link for a Zoom meeting was created. Those interviews lasted forty-five minutes.

From the 30 quantitative instrument results obtained, eight participants were selected and interviewed via Zoom and subsequently, they answered a set of 24 pre-designed questions regarding their perceptions towards the use of gamification through OSRSs in the classroom, what motivates them or not when it comes to using or not using those platforms, making the researcher aware of the reasons that could be found within the two teaching environments. Also, questions about performance expectancy, effort expectancy, teaching behavior, facilitating conditions, and behavioural intentions. When the respondents did not answer what was aimed, follow-up questions were made in order to get an accurate answer for what is being studied.

3.6 Data Analysis

This research consists of two research questions, both of which have the purpose of analyzing the reasons behind teachers' implementation of OSRSs, together with their motivation behind the implementation or cease to use them in the classroom. The quantitative data was analyzed with the results obtained with the Google Forms survey. The results were categorized in a table with the statements and number of answers given by each participant. As for the qualitative data, the answers of the interviews were transcribed and coded to categorize respondents' answers on themes.

3.7 Ethical considerations

Before starting with the interviewing process and selection of profiles, all subjects accepted a consent form by entering their names and email address into the Google form, which presented the procedure of the research, giving them context about important information and purposes of the study, the methodology and the use of their answers for further analysis. As it was directed to teachers, they were the ones to decide freely if they wanted to be part of this research, participation was entirely voluntary. It was explained that accepting the form is accepting to participate in further interviews to delve deeper into answers. Once their decision was taken accepting the use of the information given, the Google form interface immediately sent them to the next page containing the questions in the instrument.

Anonymity and confidentiality are also described to the subjects in the first page of the consent form, in which it is explained that their names were for research purposes and to organize the interviews, but they remain anonymous in the final version of the research. To talk about important comments, compare, or distinguished interviews, the participants were addressed as participant 1, participant 2, etc. As for confidentiality, data were gathered in one password-protected device, and were solely used for analysis purposes.

CHAPTER 4

Quantitative results and discussion

4.1. Overview

The purpose of this study was to discover teachers' perception regarding the implementation of OSRSs in their classrooms. For this reason, 35 EFL teachers answered a demographic survey including the UTAUT model that was used to understand the motivating factors that affect teachers' implementation of such resources. Amidst the responses, three participants were taken out because they had not taught online during the pandemic, and 3 completed the survey only with fives. Therefore, 30 responses were utilized for this analysis.

Results of this chapter are presented in three sections. In the first section, frequency data is presented to portray the demographics of the participants. The second section displays the descriptive statistics of participants results on the survey that used the UTAUT model. Lastly, the third section will present the quantitative discussion with an analysis of the results obtained in this study and comparing it with other results of similar and contrasting studies. The qualitative results will be presented in chapter 5, including the answering of the RQ1.

4.2. Quantitative results

4.2.1. Frequency data

The total participants of the quantitative study were 30. Out of those participants, the majority had graduated from campus Santiago, which is the largest campus of Universidad Andrés Bello, making a total of 63,9% of the participants. That percentage is followed by 27,8% belonging to campus Concepción of the same university. The smallest sample corresponds to campus Viña del Mar, showing a 5,6% of the participants.

Participants were asked the place in which they worked to analyze if this affected the way they perceived OSRSs in each of the components regarding the UTAUT model. Table 2 displays information regarding the participants' place of work. In the sample, 36,7% of the participants answering the questionnaire had mostly worked in private schools, whereas the lowest percentage can be found in participants who had worked in corporations and public schools, both having an individual percentage of 13,3%.

As for the years of experience of the participants, 66.7% of them had more than one year of experience working in an online environment. The other 20% of the participants only had one year of experience doing online classes.

Table 2. Frequency data for workplace

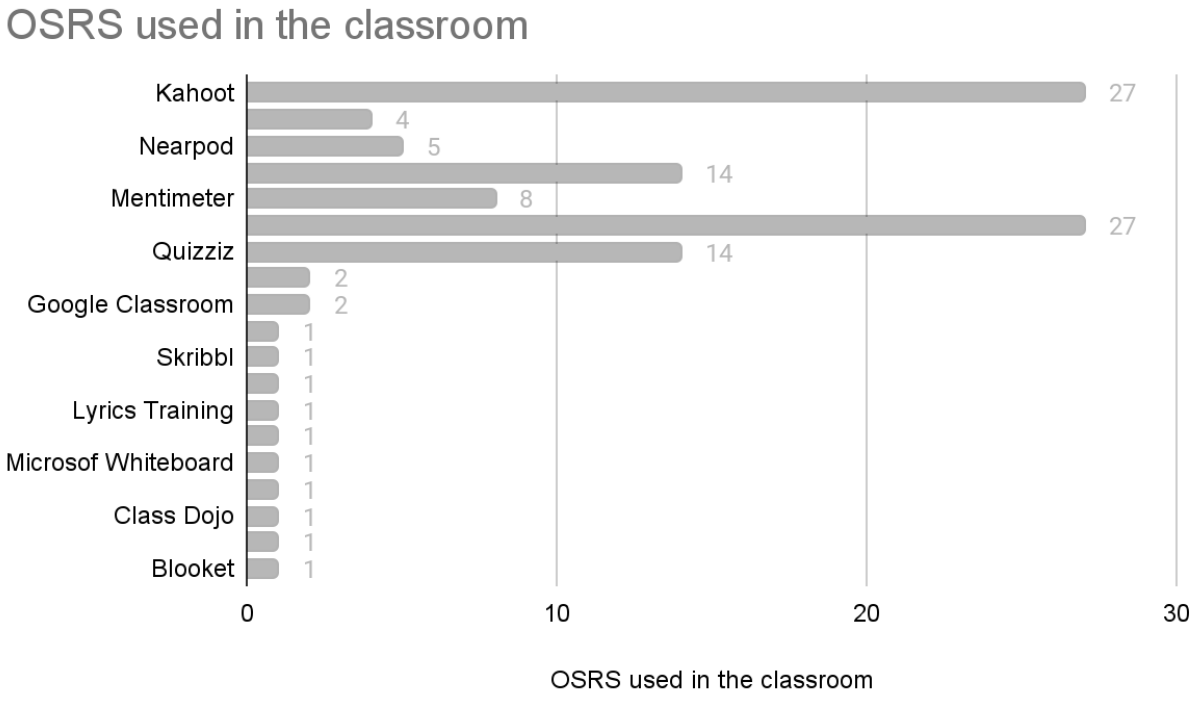
¿En qué tipo de escuela/colegio has trabajado mayoritariamente?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Corporación	4	13,3	13,3	13,3
	Particular subvencionado	6	20,0	20,0	33,3
	Privada	11	36,7	36,7	70,0
	Pública	4	13,3	13,3	83,3
	Subvencionada	5	16,7	16,7	100,0
	Total	30	100,0	100,0	

One of the questions in the demographic survey asked teachers which OSRS they had used or currently used in their classrooms. Results showed that the two most used OSRS were the platforms Google Forms and Kahoot, which were both used by 27 of the 30 participants (90%). The other following platforms preferred by the teachers were Wordwall and Quizziz with 46%, Mentimeter with 26% and Nearpod with 16%. Figure 6 shows the other OSRSs used by the teachers during their EFL classes.

Figure 6. OSRSs used by participants

¿Cuáles de estos sistemas de respuesta online usas o has usado en tu clase?



When teachers were asked about the number of times they implement OSRSs in their classrooms of any type, 43.3% of them answered they use them 5 or more times per month. As seen in table 3, only 6.7% of the teachers said to have used the OSRSs either less than 3 times per semester or always. The present results can be taken as a positive view towards the implementation of OSRSs in the classroom, thus it is a preferred tool by the majority of the teachers. In total, 86.7% of the teachers in this study use OSRSs at least 1-2 times per month.

Table 3. Frequency usage of OSRSs

Considerando un curso típico en donde haces clases ¿Cuán a menudo usas los sistemas de respuesta online? (Ej. Kahoot, Mentimeter, Socrative, Word Wall, etc)

	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	A menudo (5 o más veces al mes)	13	43,3	43,3	43,3
	A veces (3-4 veces al mes)	6	20,0	20,0	63,3
	Ocasionalmente (1-2 veces al mes)	7	23,3	23,3	86,7
	Raramente (1-3 veces en el semestre)	2	6,7	6,7	93,3
	Siempre (en todas las clases del curso)	2	6,7	6,7	100,0
	Total	30	100,0	100,0	

4.2.2 UTAUT Instrument Data by Item

The UTAUT model considers five constructs that influence behavioral intention (Williams, 2015). Each construct has four items that ask participants questions regarding the influence of each construct. The data collected is displayed in table 4 where each one of the items is presented with its mean and standard deviation. For the construct of performance expectancy, the item that mentions the usefulness of OSRSs to teach has the highest mean (x = 4.53). As for effort expectancy, the item that stands out the most is the one that asks participants about their ease to become skillful users of OSRSs, being the second highest result (x = 4.5). Social influence is the construct with the highest SD of all the items in the UTAUT model (SD = 1,303) (x = 3.4) where one of the items asked participants if their faculty or department had been helpful with the OSRSs in their classrooms. In the construct of facilitating conditions, participants mostly agreed on item 14, "I have the tangible resources necessary (e.g. equipment, accessories) to use the Student Response System" to use OSRSs (x = 4.4). However, the item with the lowest mean is also in the same construct: a specific person or group is available for assistance with using the OSRSs (x = 2.8). Lastly, in the construct of behavioral intention, the highest mean (x = 4.37) showed that participants found mostly positive to keep using OSRSs. Other results regarding each of the items can be found in table 4.

Table 4.

Results of the UTAUT model. Spanish version.					
	N	Minimum	Maximum	Mean	Std. Deviation
1. Encuentro que los sistemas de respuesta online serían útiles para enseñar.	30	3	5	4,53	,629
2. El usar los sistemas de respuesta online me permite realizar mis tareas educativas más rápidamente.	30	2	5	4,10	,885
3. Usar los sistemas de respuesta online aumenta mi productividad como docente.	30	2	5	4,10	,845
4. Al usar un sistema de respuesta online aumento mis oportunidades de ser más competente en mi enseñanza.	30	3	5	4,33	,711
5. El procedimiento para usar los sistemas de respuesta online es claro y entendible.	30	2	5	4,17	,747
6. Creo que sería fácil para mi el volverme un hábil usuario de los sistemas de respuesta online.	30	1	5	4,50	,900
7. Encuentro que los sistemas de respuesta online podrían ser fáciles de usar	30	2	5	4,30	,877
8. Aprender a operar los sistemas de respuesta online en la sala de clases es fácil para mi.	30	3	5	4,53	,681
9. Las personas que han influido en mi forma de enseñar piensan que debería usar los sistemas de respuesta online.	30	1	5	3,57	1,040
10. Las personas en mi comunidad educativa que son importantes para mi creen que debería usar los sistemas de respuesta online.	30	2	5	4,03	,850

11. Mi colegio/ institución educacional ha sido de gran ayuda con respecto al uso de los sistemas de respuesta online.	30	1	5	3,40	1,303
12. En general, los colegas en mi comunidad educativa apoyan el uso de los sistemas de respuesta online.	30	2	5	4,00	,947
13. Tengo las herramientas necesarias (ej. equipos, accesorios) para usar los sistemas de respuesta online.	30	1	5	4,07	1,143
14. Tengo el conocimiento necesario para usar los sistemas de respuesta online.	30	3	5	4,40	,675
15. Los sistemas de respuesta online son compatibles con otros sistemas de enseñanza online que uso.	30	2	5	4,30	,877
16. Ciertas personas están disponibles en mi institución para asistirme al usar los sistemas de respuesta online.	30	1	5	2,80	1,297
17. Uso a menudo los sistemas de respuesta online.	30	2	5	4,23	,898
18. En general, encuentro positivo seguir usando los sistemas de respuesta online.	30	2	5	4,37	,765
19. En general, es bueno seguir usando los sistemas de respuesta online.	30	1	5	4,33	,959
20. En general, es beneficioso seguir usando los sistemas de respuesta online en mi clase.	30	1	5	4,37	,928
Valid N (listwise)	30				

4.2.3 Descriptive statistics

Results from each item were classified with their components and presented in table 5. This table shows that the means for the components were rather high. The highest component mean is found in Effort expectancy (x = 4.38) which shows that participants mostly agree on the use of OSRSs being useful, understandable, and easy to learn and use.

This trend is similar for Behavioral intention (x = 4.32). This suggests that teachers held rather positive views with respect to the implementation of OSRSs in their classrooms in terms of finding the OSRSs a positive and beneficial tool to use in their classrooms.

Performance expectancy is the following construct with the highest mean (x = 4.27). The latter results indicate that participants think that the use of OSRS in their classrooms is a useful tool to implement in their classrooms. Additionally, it allows teachers to increase their teaching productivity and enables them to accomplish their teaching tasks more quickly.

The component of Facilitating conditions is the fourth highest result obtained (x = 3.89). Nevertheless, the data continues to show that there is yet a consensus among teachers regarding the facilitating conditions they have in their workplace. Such conditions can be referred to as computers, internet capable devices, Wi-Fi, and training courses in the use of OSRSs.

Finally, the lowest component is Social influence (x = 3.75), which implies that external factors such as people from their educational community or their institution do not play a significant role in participants' use of OSRSs, but their opinion is still an important factor that influences teacher's use of this technology.

Results from the overall means in each construct were rather high; however, there are some items that vary in this aspect and have lower means. This suggests that participants had more positive views towards specific aspects of technology. In the construct of facilitating conditions, the item "A specific person or group is available for assistance with using the Student Response System" has the lowest mean of all (x = 2.8). Moreover, the second lowest item in Social Influence, "My faculty/department/school has been helpful in the use of the Student Response System" (x = 3.4) suggests that not all participants had help from their institution, but

most of them did have support from it. Therefore, in spite of the latter items having the lowest means in the study, results are not under than the lowest half of the Likert Scale (x = 2.5)

Table 5. Results from individual UTAUT construct

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Performance expectancy	30	3,00	5,00	4,27	,59
Effort expectancy	30	2,75	5,00	4,38	,57
Social influence	30	2,25	5,00	3,75	,66
Facilitating conditions	30	2,50	5,00	3,89	,64
Behavioral intention	30	2,25	5,00	4,32	,70
TOTAL UTAUT	30	3,25	4,90	4,12	,44

4.3. Quantitative discussion.

In this study, teachers' perceptions in the implementation of new and current technologies such as OSRSs were mostly positive towards the different areas of the UTAUT model.

Results from this study indicate that teachers have a positive attitude regarding their effort expectancies (x = 4.38). This construct was the highest in terms of the influence effort expectancy has on teachers, different from what is seen on Mahande and Malago (2019) where the construct of effort expectancy had the fourth lowest mean among the five constructs. However, results from each of the items were predominantly high (x = 3.24). A study done by Lee, et. al. (2015) assessed the attitudes of pre-service teachers in the acceptance of smart learning. Smart learning is defined as the adaptation of technology or the inclusion of their smart features to make learners' environment more productive and efficient (Spector, 2014). The purpose of the study (Lee, el al. 2015) was to investigate the relationship of the 2016 participants' factors that influence their smart learning acceptance in South Korea. This study found that young adults in their study do not need to make extra effort to use smart technology because they have a higher digital literacy. These findings are in line with those obtained in the quantitative part of the study, where participants demonstrated to have the ability of managing

OSRSs with ease and implementing them in their classrooms. Cancino and Capredoni (2020) studied EFL teacher's perceptions regarding an OSRS. Results from Cancino and Carpedoni (2020) are also in line with the results from the present study as they indicate that participants had a net percent agreement (NPA) of 72.7% which implies that the pre-service teachers had mostly positive views regarding the implementation of the new technology.

Concerning the construct of Performance Expectancy, items of such construct vary in mean between 4.10 and 4.53, making a total mean of 4.27–the second highest of the UTAUT constructs. This suggests that teachers consider this tool to be useful, increases their teaching productivity, and is one of the motivating factors to implement OSRSs in their classrooms. Research from Mahande and Malago (2019) studied the acceptance of e-learning in 170 post-graduate students, using the UTAUT model to measure the variables that contributed to such acceptance. The study showed that Performance Expectancy was the highest variable that affected participants' acceptance of e-learning with a mean of 3.28, and participants agreed that the e-learning system enhanced their performance in lessons. Zhou (2011) conducted a study using UTAUT to identify the factors that affect mobile internet continuance. The study states that "when users form positive expectation[s] towards mobile Internet utility, they may continue their usage" (p. 209) which works the same way for the present study, where teachers did indeed show to have positive expectations towards performance expectancy.

Social influence, as defined by Venkatesh (2003) is the perception that people gather from their peers in order to use new systems, in this case, ORSRs. In this study, Social Influence had a mean of 3.75, which ranks it as the lowest of all the UTAUT constructs. What can be inferred by this is that Social Influence was not the most prevalent construct that determined user behavior compared to the results obtained in the other constructs. This is also supported by Vankatesh (2003) who stated that Social influence is a controversial construct and is mostly important to older workers. Due to the fact that most participants in this study were young teachers, his statements are consistent with the results obtained in the present study where the results were medium-high, meaning that social influence has relevance regarding behavioral intention but is not the most influential construct in that regard.

Facilitating conditions, with a mean of 3.89, which is considered to be on the low spectrum of the variables, being the second-lowest in this study. However, despite the results

obtained in this study, the results are comparatively high in the Likert scale. Facilitating conditions can be defined as the importance that the user gives to technological infrastructure to contribute to the use of such technologies in a determined system (Lewis et. at., 2013). The result of what was gathered regarding facilitating conditions in this study, show that are important when it comes to shape the behavioral intention of the participants, because not having access to online connectivity can affect the use of technological platforms (Cancino & Capredoni, 2020), in this case, ORSRs.

In this study, Behavioral Intention scored a mean of 4.32, which puts it right in the middle of all the UTAUT components. The aforementioned results are consistent with the result obtained in Mahande and Malago (2019), where the mean of Behavioral intention was also placed in the middle of the Likert Scale. We can infer from this data that all participants of this study have a similar outlook when it comes to how Behavioral intention affects their user behavior.

CHAPTER 5

Qualitative Results & Discussion

5.1 Overview.

As it was mentioned in the previous section, the main goal of this study was to discover teachers' perception regarding the implementation of OSRSs in their classrooms. Using relevant items from the UTAUT model, 8 interviews were conducted. Therefore, this section will include a qualitative analysis of the participants' answers regarding their perceptions towards the OSRS. The information given by the participants was gathered in their mother tongue (Spanish), thus, an English translation was provided for the extracts selected.

The analysis was made by basing on themes and subthemes, where the latter refers to the participants' perceptions, and the former are the identification of the themes. A table summarizing the themes and subthemes was provided (see annex 4). The themes of ***motivation*** include *comfortability using OSRSs*, *intrinsic and extrinsic motivation*, and *ease of use*. Within the theme **obstacles**, it was possible to identify *Internet connection difficulty*, *distractive element*, *competitiveness among students*, and *lack of preparedness*. As for **use of technology**, it was found as codes *easy access tool*, *feedback tool*, and *technology as an imperative mean.*

The concept facilitating conditions (FC) does not have a specific section among the codes, because it was considered as the conditions given by schools that affect the participants' perceptions either positively, or negatively. Therefore, the previous themes and codes mentioned, rely under the umbrella of the FC, illustrating that the perceptions of the subjects might change regarding the ways in which their work environment supports them, guides them, helps them, motivates them, and gives them or not the tools needed.

5.2 Results: Themes and subthemes

Motivation

Comfortability using OSRSs

Findings regarding the positive motivation when using Online Students Response Systems showed that factors such as intrinsic motivation, easiness on the teachers' job, ease of use, and training on the area turned their perceptions into productive and helpful tools.

Participant 1: ''From knowing the topic and getting into the in situ of the platform, there you notice that it is easy, entertaining. Students don't participate a lot, but when I tell them that we will start a game, they all appear and it calls their attention a lot.''

Participant 2: ''Digital systems are much more efficient to collect information rather than from a class book, a worksheet, or a test. Why? Because when you have to share a class book with 10 other teachers and the 10 have a lot of work with the book, it can become very tedious.''

Participant 4: ''It is very motivating to know if they remember things, if they understood something in order to answer correctly. Also, if the latter are not motivating, it can also be team work, it also motivates cooperation among them a lot.''

Participant 5: ''It motivates students that are not very participative because it doesn't require them giving an oral answer or a very complex answer. Sometimes online activities are with alternatives, sometimes writing a few things, but they have visual help to answer. They know if they do it right away, they will not have homework for later. So that is also motivating''.

Participant 6: ''In the pandemic, I noticed students were a lot more motivated in terms of participation or log in to classes. It is the motivation or the fact that you notice they are learning''

These results are convergent with a study conducted by Yapıcı & Karakoyun (2017) where it was shown that teachers' perceptions towards an OSRS were beyond positive, and it enhanced their motivation, it was entertaining, gained better attention from students, and it also improved the teaching.

Ease of use

An important factor on how Online Student Response Systems are used is how easily new users can learn how to master those tools appropriately. If teachers cannot use ORSRs with ease, they won't be able to obtain full advantage of these tools.

Participant 1: "Normally, we can easily answer a question with a click, even though if the answer is right or wrong. It is done instantly"

Participant 1: "We check the result and say where the mistake was or what were the weak parts, and that lightens work a bit''

Participant 4: "In all honesty, I feel very comfortable (using OSRSs). I find that it is not difficult for me to use them appropriately. However, when I started using them, it was slightly difficult."

Participant 5: "I also check tutorials, well, I almost never use them because I think these systems are very easy to use. This was trial and error, it took me a couple days to assimilate what to do, but in the end, I could make it work. It wasn't even a month, just some days.''

Participant 7: "As teachers, these systems facilitate the revision of answers, especially if they are multiple choice questions, because it is made in an immediate way''.

Participant 8: "Now is easier, is not as before when we had to carry a gigant radio, now you can use a smaller speaker, make a video and then take notes, give feedback online, so kids can just log in through their phones and see new updates about the class''

The participants agree on how the ease of use of these platforms is imperative when it is time to choose if they are going to be implemented in the classroom. While there is a learning curve at the beginning, these platforms have shown that they are accessible to most teachers working either remotely and in face-to-face classrooms.

***I**ntrinsic and extrinsic*

Motivation to use Online Student Response System can come from an external source such as it to be required by the curriculum, from a personal source, namely to expand their pedagogical abilities and to find ways to better the teacher's own professional profile.

Participant 1: ‘’I think it is external, I mean, because of the students. Because a teacher cannot forget that the old method were the teacher was the main actor is now obsolete. No its’ students, and they are the main characters, so, as a teacher you have to adapt to them’’.

Participant 1: “More than anything else, I think I had to learn because of external reasons, for example, the students. Because there is the issue that a teacher can never forget that old ways of teaching are becoming more obsolete by each passing year and that nowadays, the students are the focus of the lessons. So at the end of the day, we have to adapt to them and how they learn”

Participant 2: “Personally, I was using these kinds of tools back when I was still doing my internship as they were part of University’s curriculum. This was before the pandemic started. I found out how useful this technology was, and I experimented with it and learned that it was an excellent complement to my lessons.”

As it can be seen, both teachers have their own perception on what motivates them to use ORSRs but they differ in where the source of that motivation comes from.

Obstacles

Internet connection difficulty

Facilitating conditions, a component of the UTAUT model, refers to the extent to which a subject thinks that the organization and the infrastructure support the use of these systems. Even though FC was related to positive codes in this student, it can also exist a lack of these conditions, turning the concept into an obstacle.

These findings are in agreement with a study conducted by Sanchez and Marti (2017), the lack of facilitating conditions and resources are a barrier when it comes to the OSRSs.

Participant 1: ‘‘...At the teachers’ room, hearing teachers saying that their class didn’t work because they couldn’t use the available connection on their computers. That’s why my class didn’t work. Therefore, from there on it starts an aspect like, sabotage, negativity, that it is not working.’’

Participant 7: ‘‘There are connection issues if we go back to face-to-face classes, where the real issue is the Internet connection issue that is at school. Not all students carry a laptop, and a tablet can’t be given to everybody. Nevertheless, they all have a smartphone, but not all students have Internet data to use them. So I believe that, roughly, the main problem would be connection.”

Participant 8: ‘‘Now the issue is connectivity. Unfortunately, it is because we are in a more rural place, where Internet connections are weak. We have wifi, optic fibre, but it fails more often than it works. So it is a problem for stream classes”

As explained above, the lack of facilitating conditions, in this case Internet connection, can be seen as an obstacle when it comes to using these Online Student Response Systems, which can be in line with a bad classroom setting as it was stated in Sanchez & Marti (2017).

Competitiveness among students

Another aspect that showed up as an obstacle when using OSRSs, was the feeling of competition that is generated in the classroom. Even though it was stated that gamified approaches increase students’ motivation (Campillo-Ferrer, et al., 2020), there have been cases in which a negative feeling of competition appears.

Participant 6: ‘‘*I’m faster than you*. That is what I believe is negative, because it may affect students’ emotions if they are not answering as fast as other classmates, comparing who got the right answer. As they are more concerned about fitting in or what their classmates will think, is where emotions seem affected.’’

In a study conducted by Licorish et. Al (2018), a few participants mentioned they felt a negative competitive effect on their learning process, because students were more focused on having fun and the sense of competition rather than in acquiring knowledge, and as it was stated by P6, a negative aspect of OSRSs is that the sense of competition becomes for important for students than the learning goal.

Lack of preparedness

A teacher will not perform to their full capacity if they are not trained appropriately in the use of emerging technologies like Online Student Response Systems. This training can come from either the school faculty they are working at or the University where they took their teaching course.

Participant 1: “At first it was hard to use (ORSRs) because how unfamiliar I was with them and I used to do everything manually”.

Participant 6: “Unfortunately, the majority of my colleagues at school are adults, and the pandemic and online classes affected them a lot. In fact, just logging to Google was hard for them. I feel there was no support for those teachers who were not acquainted with technology, maybe they couldn’t even show a video in their lessons, and that is because they didn’t receive any job training during the pandemic.’’

Participant 7: “The only problem I find in this, is that there are indeed bad job training… I had to be in charge of training teachers that are older, and that are not used to those systems, they have their methodologies, and they result easier for them, but not new systems.’’

Within lack of preparedness, participants 6 and 7 are also aligned with the fact that bad job training or the lack of it also affects the way lessons flow. The places where teachers work have the responsibility to teach them how to properly use ORSRs if they plan on having educators capable of using them in the modern classroom (this is more important with older teachers, because these were non-existent when they studied their teaching courses.

Participant 6: “...Sadly for my older coworkers, the introduction of ORSRs affected them negatively. They struggled just trying to open Google Docs. So in that case, I feel that there was not enough support for these teachers that were not so savvy when it comes to tech. We were never shown a video teaching us how to use this stuff, and we did not get proper training from the school.”

Participant 7: “The only problem I have with this (the use of ORSRs) is the bad training programs. I have taken the role of teaching my colleagues on how to use the new platforms that

the school requires us to use. This is especially true with my older colleague, who takes considerably more time to learn how to do these tasks."

Similar to what was seen in the works of Sánchez and Marti (2017), not having proper training programs hurt both teachers that not know how to use ORSRs because they are left to their own devices to figure out how to use the tools, and the teachers that actually know how to employ them, because in a lot of instances, they have to teach their colleagues.

Distracting element

Despite how useful ORSRs are in the classroom, due to how gamified they have become, they run the risk of becoming too distracting for students to fully commit and concentrate in the current lesson or activity.

Participant 1: "The computer and the phone are a distracting element, and that is another point that, unfortunately, unlike normal classes, a lesson in situ at a classroom, one as a teacher knows what the students are doing, but behind a screen or behind a camera we don't really know what is happening with students.

Participant 4: "I believe we always run the risk that the students might get distracted. They can get out of their homework or the assignment that is being asked''

Participant 5: "In some sense, students might enjoy these activities so much because they only see the gaming part of it, to the point that they do not want to participate in the rest of the class after the activity has concluded. This was something that a class of sixth graders commented, they also added that they wish they could add more games to the lessons and you, as a teacher, have the time assigned for each part of the class, games included. For this reason, I need to make them work in a more serious manner, so we can work effectively, because these systems, I believe, are more for practice and reinforce previous knowledge."

Participant 8: "The truth is that I haven't had a bad experience using them. I see that students use them and know how, but they get distracted too easily. I think that regulating order a bit and the goal of the activity is quite easy for them, but for the teacher is obviously hard. It is hard for them having to use a phone and not get distracted while they have to finish a task.''

We can compare this result to a study made by Licorish et. Al (2018) where it was found that, due to the ludification of lessons, students tend to lose concentration and just focus on the game part of the class.

Use of technology

Easy access tool

The principal reason teachers are switching to ORSRs is to make teaching more streamlined and easy.

Participant 1: "...We can review the results and determine where students made mistakes quickly and easily. So it really takes a lot out of our workload"

Participant 1: "The Internet topic will always be a positive entity to me, because as I said before, it has everything. You just need to be an explorer and search for what you really need. I can say internet has everything, and I have noticed that through this period''

Participant 8: "Now we have it easier, we no longer have to carry a big radio around since we can use smaller speakers that function better. We can also make video capsules, give feedback and schedule classes online so young students can join the class with their cellphones. It is as simple as that."

Based on the quantitative part of this study, it is possible to relate these extracts with the answers given in the questionnaire by different participants. For example, 44,4% things that OSRSs allow them to perform their educative tasks fastly, 61,1% things that these system are easy to use, and 52,8% of the participants have the tools to use such systems, and therefore, made the learning process easier and reachable for them.

Technology as an imperative medium

The nature of technology of always moving forward is more clearly seen when it comes to education, where new techniques are always adopted and the old ones are discarded into Obsolescence.

Participant 6: "... So I feel that if we ignore these new technologies, it will create a world that no longer exists, and we cannot return to the past. So I feel like nowadays everybody has cell phones, and even if they do not, they can use their parent's. So I feel like I have to use videos, music or other small things related to technology."

Participant 7: "...So my biggest issue on the topic of connectivity and also the resources that students have. In that sense, we finally got some Chromebook for students and that's fine, because if we don't have those, we can not go forward with the lessons in an ideal manner."

Teachers agree that technology and technological tools are imperative when it comes to modern lessons, and it is a priority need for both teachers and students to have in their classes (Yunus, 2021).

Feedback tool

One of the most relevant uses for ORSRs is how they can give feedback to students automatically and remotely.

Participant 1: "…As I said before, the support that we get at the end of the class, that they see as a game where they can just vent their ideas and, in that way, give me an insight of the knowledge they have acquired during the lesson"

Participant 7: "...As I previously mentioned, the immediateness of feedback is important, more so to us teachers, because we have little time to review due to the number of students we have at any given time. For example, I have forty-five students per class and these tools help us lighten the load."

Feedback can be seen as a positive aspect of using OSRSs, because it can give instant, positive, and constructive feedback. One of the main positive aspects of OSRSs, is the fact that instant assessment can be given in a constructive way (Wang et al., 2018).

CHAPTER 6

Conclusion

6.1 Research question

There is a positive feeling and perception towards the use of OSRSs among secondary school teachers, demonstrating through interviews and a questionnaire that the majority of the teachers that were part of this study showed a positive perception towards these systems in an emergency teaching environment regarding the current pandemic situation, COVID-19. However, the negative aspects that were discovered, include obstacles, can be found in the limitations section, and the implication for pedagogy.

Nevertheless, some negative perceptions were also found regarding, mostly, to the facilitating conditions, illustrating that the subjects that were part of this study lacked a good Internet connection, equipment to perform this gamified lessons, and not many of them had a good job training as to learn how to use those platforms, causing a lack of preparedness. There were also other obstacles found, which will be further mentioned in the paragraphs below.

The research question presented in this study: ***What are Chilean EFL high school teachers' perceptions regarding the implementation and use of OSRSs in emergency teaching environments?*** Aimed to know the teacher's perceptions. Through mixed research methods, it was found that those technological tools are a helpful for teachers the went throughout the COVID-19 pandemic, this finding is aligned with Herrada, et al., (2020), who mentioned in their study that 94% of the students were compelled to have online lessons because of this situation. Also, most of the teachers agreed on students having an easier time managing technology since they were practically raised with it, and creative learning approaches will captivate their attention as it was mentioned by Phillips (2014). These findings were valuable because students will continue learning in different ways, and the use of these motivating systems would support the students' learning, as it was stated by Campillo-Ferrer, et al., (2020).

These types of systems will keep developing and becoming important in the following years of evolution, and this research proved that most teachers feel confident by using them, have a positive perception towards them because of the motivation that students' showed

throughout the gamified lessons, and also a positive perception towards the UTAUT component in which the methodology of this study was based on.

Throughout this research, it was possible to come to notice that themes and codes held a relation, as shown in figure 7. The theme motivation was composed of 5 codes. Illustrating that motivation was driven by comfortability using OSRSs, intrinsic and extrinsic motivation, ease of use, the facilitation of teachers' job, and job training.

Figure 7. Teacher's Perception Diagram

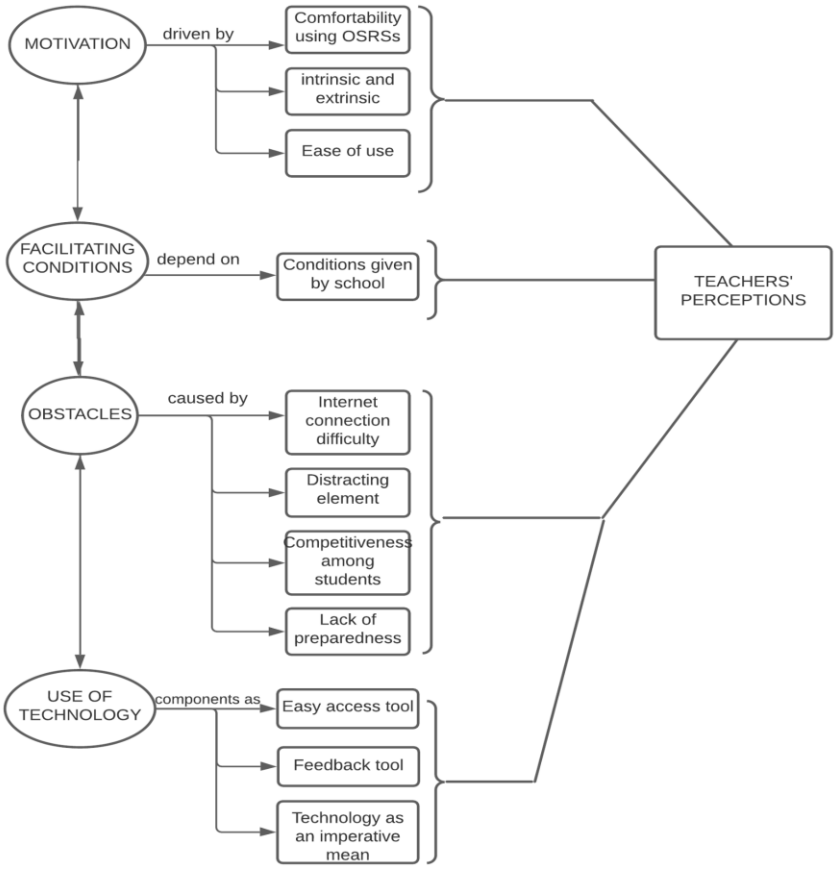


Figure 7 shows that motivation can be affected by the facilitating conditions if those are positive, meaning a good internet connection provided by school, instruments, job training, and the ease of use. However, facilitating conditions can turn into an obstacle when the conditions

given by school are an erratic internet connection, no job training or workshops are given, or when general tools are lacking. All of those relations are what consolidates teachers' perceptions.

When it comes to the use of OSRSs in a classroom, or when they open their microphones in an online context, there can be a sense of competition among students. Another factor that is an obstacle caused by the lack of facilitating conditions, is the lack of preparations teachers received on these systems.

Use of technology follows the same guidelines. It can be a positive component in terms of being an easy access tool, a feedback tool, and it was noticed that nowadays technology is seen as an imperative means. Nevertheless, it can turn into a negative component when there is a lack of knowledge on how to use it, or if the school doesn't have the right conditions to use them.

As it was stated in section 5.1, the theme facilitating conditions, comprises different aspects within the positive and the negative spectrum of this research and the data gathered. This depends solely on the conditions given by the school. Meaning this, the obstacles found have such roots because the schools where the teachers work are lacking these facilitating conditions. On the other hand, motivational factors are also aligned with these FCs, because having a good work environment motivates teachers and also students. And the use of technology may be either a positive or negative aspect regarding the facilitating conditions given by schools.

This research showed that most of the participants had positive perceptions towards the use of these systems, as it was stated in the case of Kahoot! By Chaing (2020) and Socrative (Cancino & Capredoni 2020). Also, teachers' perceptions showed that technology is indeed a needed and important tool, since students are getting more and more acquainted with the ease of technology, because for them, technology is ubiquitous, and interactive approaches are more interesting for them (Philips, 2014). It was also concluded that teachers had a favorable view towards the gamification of lessons and how that helps with student engagement, this aligns with what Huotari and Hamari (2013) concluded in their research. As it was stated by Yunus (2021) implementing OSRSs turns the lesson into a creative, yet meaningful learning experience, drifting away from the more traditional methods of conventional learning. This is especially seen with elementary and high school subjects. The subjects of this research align with these findings, pointing out that these new methods (OSRSs) create a better environment for the classroom.

6.2 Limitations

While complete data and information were gathered for this study, it must be acknowledged that there are some existent limitations that might affect the validity of the outcomes. Firstly, the number of participants was 36 from whose ages varied from 21 years old to 33 years old. These ages indicate that the subjects were relatively young, therefore, the perceptions of older teachers were not included, and that would have increased the scope of analysis.

Another factor that could have been done differently and that might affect the validity of this study is the small sample and low variety of participants. We structured this study around teachers that graduated from 2016 to 2018. Due to this, we believe that the experience those teachers have regarding the subject might be too uniform when it comes to the totality of teachers around the world.

6.3 Implications for pedagogy

From this study it can be drawn that OSRS are a tool that provides multiple positive outcomes, and it can be useful for future teachers to know the perceptions others have on these platforms, and what can be done in order to prepare better as to manage these systems that might be a challenge for teachers who still prefer old traditional teaching methods. That being said, one of the biggest hurdles to overcome in order to popularize the usage of ORSRs, is how teachers are taught how to use them. Said task must be solved by either the teacher's workplaces or added as a part of the pedagogy courses in the future.

The negative views towards OSRSs found in the interviews were the Internet connection, distractive elements, the feeling of competitiveness among students, and the lack of preparedness. The hardest strategy to find is related to Internet connection, because it is an entity that, even if it is present as a facilitated condition, might fail at levels teachers or school administrators can't fix. Nevertheless, strategies to overcome the other presented obstacles can be to limit the time of these systems so students do not get distracted, also, monitoring what they are doing could also be a possible solution to master such difficulty. The feeling of competition

when using OSRSs within a classroom, can be overcome by motivating a positive attitude towards the use of the systems, making students aware that competitiveness is not the main focus. Regarding the lack of preparedness, job training or workshops could be implemented in schools in order to prepare teachers to face these new teaching strategies and systems.

References

Alabbasi, D. (2017). Exploring Graduate Students' Perspectives towards Using Gamification Techniques in Online Learning. *Turkish Online Journal of Distance Education,* 180–180. https://doi.org/10.17718/tojde.328951

Al-Azawi, R., Al-Faliti, F., & Al-Blushi, M. (2016). Educational Gamification Vs. Game Based Learning: Comparative Study. *International Journal of Innovation, Management and Technology*, 131–136. https://doi.org/10.18178/ijimt.2016.7.4.659

Ali, W. (2020). Online and remote learning in higher education institutes: A necessity in light of COVID-19 pandemic. *Higher education studies*, *10*(3), 16-25. http://doi.org/10.5539/hes.v10n3p16

Alqahtani, A. Y., & Rajkhan, A. A. (2020). E-learning critical success factors during the covid-19 pandemic: A comprehensive analysis of e-learning managerial perspectives. *Education sciences*, *10*(9), 216. https://doi.org/10.3390/educsci10090216

Al-Saedi, K., Al-Emran, M., Ramayah, T., & Abusham, E. (2020). Developing a general extended UTAUT model for M-payment adoption. *Technology in Society*, *62*, 101293. https://doi.org/10.1016/j.techsoc.2020.101293

Barber, M., & Njus, D. (2007). Clicker evolution: seeking intelligent design. *CBE—Life Sciences Education*, *6*(1), 1-8 https://doi.org/10.1187/cbe.06-12-0206

Blasco-Arcas, L., Buil, I., Hernández-Ortega, B., & Sese, F. J. (2013). Using clickers in class. The role of interactivity, active collaborative learning and engagement in learning performance. *Computers & Education*, *62*, 102-110. https://doi.org/10.1016/j.compedu.2012.10.019

Bond, M., Bedenlier, S., Marín, V. I., & Händel, M. (2021). Emergency remote teaching in higher education: mapping the first global online semester. *International Journal of Educational Technology in Higher Education*, *18*(1), 1-24. https://doi.org/10.31219/osf.io/gsdu7

Bruff, D. (2009). *Teaching with classroom response systems: Creating active learning environments*. San Francisco, John Wiley & Sons.

Buckley, P., Doyle, E., & Doyle, S. (2017). Game on! Students' perceptions of gamified learning. *Journal of Educational Technology & Society*, *20*(3), 1-10. https://www.jstor.org/stable/26196115

Cancino, M., & Capredoni, R. (2020). Assessing pre-service EFL teachers' perceptions regarding an online student response system. *Taiwan Journal of TESOL*, *17*(2), 91-118. http://doi.org/10.30397/TJTESOL.202010_17(2).0004

Cardoso, W. (2012). Learner response systems in second language teaching. *The Encyclopedia of Applied Linguistics.* https://doi.org/10.1002/9781405198431.wbeal1317

Casinillo, L., & Guarte, J. (2018). Evaluating the effectiveness of teaching strategies: the case of a national vocational school in Hilongos, Leyte. *Review of Socio-Economic Research and Development Studies*, *2*(1), 65-80. https://ssrn.com/abstract=3804151

Campillo-Ferrer, J. M., Miralles-Martínez, P., & Sánchez-Ibáñez, R. (2020). Gamification in higher education: Impact on student motivation and the acquisition of social and civic key competencies. *Sustainability*, *12*(12), 4822. https://doi.org/10.3390/su12124822

Cebrian, G., Palau, R., & Mogas, J. (2020). The smart classroom as a means to the development of ESD methodologies. *Sustainability*, *12*(7), 3010. https://doi.org/10.3390/su12073010

Chen, P. S. D., Lambert, A. D., & Guidry, K. R. (2010). Engaging online learners: The impact of Web-based learning technology on college student engagement. *Computers & Education, 54*(4), *1222-1232.* https://doi.org/10.1016/j.compedu.2009.11.008

Cheung G, Wan K, Chan K. (2018) Efficient Use of Clickers: A Mixed-Method Inquiry with University Teachers. *Education Sciences*, 8(1), 31. https://doi.org/10.3390/educsci8010031

Chiang, H. (2020). Kahoot! in an EFL reading class. *Journal of Language Teaching and Research*, *11*(1), 33-44. http://dx.doi.org/10.17507/jltr.1101.05

Cresswell, J. (2002). Educational Research Planning, *Conducting, and Evaluating Quantitative and Qualitative Research.* Boston: Pearson.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). *User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. Management Science, 35*(8), 982–1003. https://doi.org/10.1287/mnsc.35.8.982

Ding, L. (2019). Applying gamifications to asynchronous online discussions: A mixed methods study. *Computers in Human Behavior*, 91, 1–11. https://doi.org/10.1016/j.chb.2018.09.022

D'Inverno, R. A., Davis, H. C., and White, S. (2003), Using a Personal Response System for Promoting Student Interaction. *Teaching Mathematics and Its Application*, 22, 163–169, http://doi.org/10.1093/teamat/22.4.163

Erenli, K (2017) The impact of Gamification. Recommending Education Scenarios. *International Journal of emerging technologies in Learning (iJET), 8(S1).* http://doi:10.3991/ijet.v8is1.2320

Flores, J. F. F. (2015). Using gamification to enhance second language learning. *Digital Education Review*, *27*, 32-54. http://greav.ub.edu/der/

Garland, Christopher M. (2015). Gamification and Implications for Second Language Education: A Meta Analysis.. *Culminating Projects in English*. 40. https://repository.stcloudstate.edu/engl_etds/40

Graafland, J. H. (2018). New technologies and 21st century children: Recent trends and outcomes. https://doi.org/10.1787/19939019

Gruzd, A., Staves, K., & Wilk, A. (2012). Connected scholars: Examining the role of social media in research practices of faculty using the UTAUT model. *Computers in Human Behavior*, *28*(6), 2340-2350. http://doi.org/10.1016/j.chb.2012.07.004

Griffiths, C. (2007). Language learning strategies: students' and teachers' perceptions. *ElT Journal*, *61*(2), 91-99. https://doi.org/10.1093/elt/ccm001

Hamari, J., Koivisto, J., & Sarsa, H. (2014, January). Does gamification work?--a literature review of empirical studies on gamification. In *2014 47th Hawaii international conference on system sciences* (pp. 3025-3034) http://doi.org/10.1109/HICSS.2014.377

Herrada, R. I., Baños, R., & Alcayde, A. (2020). Student Response Systems: A Multidisciplinary Analysis Using Visual Analytics. *Education Sciences*, *10*(12), 348. https://doi.org/10.3390/educsci10120348

Huotari, K., & Hamari, J. (2013). Defining gamification: a service marketing perspective. In *Proceedings of the 16th international academic MindTrek conference* (pp. 17-22). https://doi.org/10.1145/2393132.2393137

Huston, P., & Rowan, M. (1998). Qualitative studies. Their role in medical research. *Canadian Family Physician*, *44*, 2453.

Hwang, J., & Choi, L. (2020). Having fun while receiving rewards?: Exploration of gamification in loyalty programs for consumer loyalty. *Journal of Business Research*, *106*, 365-376 https://doi.org/10.1016/j.jbusres.2019.01.031

Kasurinen, J., & Knutas, A. (2018). Publication trends in gamification: A systematic mapping study. *Computer Science Review*, *27*, 33-44. https://doi.org/10.1016/j.cosrev.2017.10.003

Klassen, A. C., Creswell, J., Plano Clark, V. L., Smith, K. C., & Meissner, H. I. (2012). Best practices in mixed methods for quality of life research. *Quality of Life Research, 21*(3), 377–380. https://doi.org/10.1007/s11136-012-0122-x

Lavoue, E., Monterrat, B., Desmarais, M., & George, S. (2018). Adaptive Gamification for Learning Environments. *IEEE Transactions on Learning Technologies, 1–1.* http://doi:10.1109/tlt.2018.2823710

Lee, J., Chung, H., Moon, J., & Yoo, Y. R. (2015). Exploring preservice teachers' acceptance of smart learning. In *Emerging Issues in Smart Learning* (pp. 175-181). Springer, Berlin, Heidelberg. http://doi.org/10.1007/978-3-662-44188-6_25

Lewis, C. C., Fretwell, C. E., Ryan, J., & Parham, J. B. (2013). Faculty use of established and emerging technologies in higher education: A unified theory of acceptance and use of technology perspective. *International Journal of Higher Education*, *2*(2), 22-34. http://doi.org/10.5430/ijhe.v2n2p22

Licorish, S. A., Owen, H. E., Daniel, B., & George, J. L. (2018). Students' perception of Kahoot!'s influence on teaching and learning. Research and Practice in Technology Enhanced Learning, 13(1). https://doi.org/10.1186/s41039-018-0078-8

Mahande, R. D., & Malago, J. D. (2019). An E-Learning Acceptance Evaluation through UTAUT Model in a Postgraduate Program. *Journal of educators online*, *16*(2), n2.

McIntosh, M. J., & Morse, J. M. (2015). Situating and Constructing Diversity in Semi-Structured Interviews. *Global Qualitative Nursing Research, 2*, 1-12. https://doi.org/10.1177/2333393615597674

MacIntyre, P. D., & Vincze, L. (2017). Positive and negative emotions in motivation for second language learning. Studies in Second Language Learning and Teaching, 7(1), 61-88. https://doi.org/10.14746/ssllt.2017.7.1.4

Mapuranga, B., Musingafi, M. C., & Zebron, S. (2015). Students Perceptions on Factors That Affect Their Academic Performance: The Case of Great Zimbabwe University (GZU). *Journal of Education and Practice*, *6*(18), 1-5. http://iiste.org/Journals/index.php/JEP

Moorhouse, B. L. (2020). Adaptations to a face-to-face initial teacher education course 'forced' online due to the COVID-19 pandemic. *Journal of Education for Teaching, 46*(4), 609-611. http://doi.org/10.1080/02607476.2020.1755205

Mork, C. M. (2014). Benefits of using online student response systems in Japanese EFL classrooms. *JALT CALL Journal, 10(2), 127-137*

Muir, S., Tirlea, L., Elphinstone, B., & Huynh, M. (2020). Promoting classroom engagement through the use of an online student response system: a mixed methods analysis. *Journal of Statistics Education, 28*(1), *25-31.* https://doi.org/10.1080/10691898.2020.1730733

OECD. (2020). Student-teacher ratio and average class size : Average class size by type of institutions. *Oecd.org*. https://stats.oecd.org/index.aspx?queryid=79502

Phillips, C. R., & Trainor, J. E. (2014). Millennial students and the flipped classroom. *ASBBS Proceedings, 21(1), 519.*

Poon, J. (2013). *Blended learning: An institutional approach for enhancing students' learning experiences. Journal of online learning and teaching, 9(2), 271-288.* http://hdl.handle.net/10536/DRO/DU:30057995

Radha, R., Mahalakshmi, K., Kumar, V. S., & Saravanakumar, A. R. (2020). E-Learning during lockdown of Covid-19 pandemic: A global perspective. *International journal of control and automation*, *13*(4), 1088-1099. http://sersc.org/journals/index.php/IJCA/article/view/26035

Raman, K., & Yamat, H. (2014). Barriers Teachers Face in Integrating ICT During English Lessons: A Case Study. *Malaysian Online journal of educational technology*, *2*(3), 11-19.

Ranieri, M., Raffaghelli, J. E., & Bruni, I. (2018). Game-based student response system: Revisiting its potentials and criticalities in large-size classes. *Active Learning in Higher Education*, 1469787418812667. https://doi.org/10.1177/1469787418812667

Salavuo, M. (2008). Social media as an opportunity for pedagogical change in music education. *Journal of Music, Technology & Education, 1*(2-3), 121-136. https://doi.org/10.1386/jmte.1.2and3.121_1

Sánchez Mena, A. A., & Martí Parreño, J. (2017). Drivers and barriers to adopting gamification: teachers' perspectives http://hdl.handle.net/11268/6683

Sharma, S., & Bumb, A. (2021). The Challenges Faced in Technology-Driven Classes During COVID-19. *International Journal of Distance Education Technologies (IJDET), 19*(1), 17-39 http://creativecommons.org/licenses/by/4.0/

Spector, J. M. (2014). Conceptualizing the emerging field of smart learning environments. *Smart learning environments*, *1*(1), 1-10. https://doi.org/10.1186/s40561-014-0002-7

Strijker, D., Bosworth, G., & Bouter, G. (2020). Research methods in rural studies: Qualitative, quantitative and mixed methods. *Journal of Rural Studies*, *78*, 262-270. https://doi.org/10.1016/j.jrurstud.2020.06.007

Toda, A. M., Valle, P. H., & Isotani, S. (2017, March). The dark side of gamification: An overview of negative effects of gamification in education. In *Researcher links workshop: higher education for all* (pp. 143-156). https://doi.org/10.1007/978-3-319-97934-2_9

Tuncay, N., & Uzunboylu, H. (2010). Anxiety and resistance in distance learning. *Cypriot Journal of Educational Sciences*, *5*(2), 142-150 https://www.researchgate.net/publication/296687386

Valiente, J. D., Cazevieille, F., & Jover, J. M. (2016). Online quizzes to evaluate comprehension and integration skills. *Journal of Technology and Science Education*, 6(2), 75. https://doi.org/10.3926/jotse.189

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, *27*(3), 425-478. https://doi.org/10.2307/30036540

Wang, A. I. (2015). The wear out effect of a game-based student response system. *Computers & Education*, *82*, 217-227. https://doi.org/10.1016/j.compedu.2014.11.004

Wang, A. I., & Lieberoth, A. (2016, October). The effect of points and audio on concentration, engagement, enjoyment, learning, motivation, and classroom dynamics using Kahoot. *European conference on games based learning*, 20.

Wang, A. I., & Tahir, R. (2020). The effect of using Kahoot! for learning–A literature review. *Computers & Education*, *149*, 103818. https://doi.org/10.1016/j.compedu.2020.103818

Wang, W., Ran, S., Huang, L., & Swigart, V. (2018). Student perceptions of classic and game-based online student response systems. *Nurse educator*, *44*(4), 6-9.http://doi.org/10.1097/NNE.0000000000000591

Williams, M. D., Rana, N. P., & Dwivedi, Y. K. (2015). The unified theory of acceptance and use of technology (UTAUT): a literature review. *Journal of enterprise information management*. https://doi.org/10.1108/JEIM-09-2014-0088

Williamson, B. (2017). Decoding ClassDojo: Psycho-policy, social-emotional learning and persuasive educational technologies. *Learning, Media and Technology*, *42*(4), 440-453. https://doi.org/10.1080/17439884.2017.1278020

Wong, M, Tengku Shahdan, T. S., Ismail, M. R., Abd Ghani, K., Pek, L. S., Von, W. Y., Rao, Y. S. (2020). Role of gamification in classroom teaching: Pre-service teachers' view. *International Journal of Evaluation and Research in Education (IJERE), 9*(3), 684. https://doi.org/10.11591/ijere.v9i3.20622

Yapici, İ., & Karakoyun, F. (2017). Gamification in biology teaching: A sample of kahoot application. *Turkish Online Journal of Qualitative Inquiry*, *8*(4), 396-414. https://doi.org/10.17569/tojqi.335956

Yunus, A., Callista, C., & Hua, T. K. (2021). Exploring a Gamified Learning Tool in the ESL Classroom: The Case of Quizizz. *Journal of Education and e-Learning Research*, *8*(1), 103-108. https://doi.org/10.20448/journal.509.2021.81.103.108

Zainuddin, Z., Wah Chu, S. K., Shujahat, M., & Perera, C. J. (2020). *The impact of gamification on learning and instruction: A systematic review of empirical evidence. Educational Research Review.* http://doi.org/10.1016/j.edurev.2020.100326

Zhou, T. (2011). Understanding mobile Internet continuance usage from the perspectives of UTAUT and flow. *Information Development*, *27*(3), 207-218. http://doi.org/10.1177/0266666911414596

Appendix

Appendix A

UTAUT model questions

1. I would find the Student Response System (“Clickers”) useful in my teaching.
2. Using the Student Response System (“Clickers”) enables me to accomplish teaching tasks more quickly.
3. Using the Student Response System (“Clickers”) increases my teaching productivity.
4. If I use the Student Response System (“Clickers”), I will increase my chances of becoming more competent in teaching.
5. The procedures of using the Student Response System (“Clickers”) would be clear and understandable.
6. It would be easy for me to become skillful at using the Student Response System (“Clickers”)
7. I would find the Student Response System (“Clickers”) easy to use.
8. Learning to operate the Student Response System (“Clickers”) is easy for me.
9. People who influence my teaching behavior think that I should use the Student Response System (“Clickers”)
10. People who are important to me think that I should use the Student Response System (“Clickers”)
11. My faculty/department/school has been helpful in the use of the Student Response System (“Clickers”).
12. In general, members of my teaching community support the use of the Student Response System.
13. I have the tangible resources necessary (e.g. equipment, accessories) to use the Student Response System (“Clickers”).
14. I have the knowledge necessary to use the Student Response System (“Clickers”).
15. The Student Response System (“Clickers”) is compatible with other e-learning systems I use.
16. A specific person or group is available for assistance with using the Student Response System (“Clickers”)
17. I am a keen user of the Student Response System (“Clickers”)

18. All things considered, I think it is positive to keep using the Student Response System ("Clickers")
19. All things considered, I think it is good to keep using the Student Response System ("Clickers")
20. All things considered, I think it is beneficial to keep using the Student Response System ("Clickers").

Appendix B

Demographic Survey questions

Personal information	Name, email, gender, region
Employment information	Type of school (private, subsidized, public, corporation)
Years of experience	Face-to-face and online experience

Appendix C

Interview Protocol Spanish Version

Interview protocol

Spanish interview Format: Profile 1

Semi-structured interview protocol

Estimado profesor/a, _____

Agradecemos que hayas aceptado ser parte de esta parte de nuestra investigación. La segunda fase de este estudio consiste en una entrevista semi estructurada con el fin de obtener datos cualitativos de los participantes sobre el uso y la percepción de sistemas de respuesta online en la sala de clases en formatos online y presencial.

Las siguientes preguntas serán usadas con propósitos académicos y sus respuestas serán guardadas con confidencialidad. Asimismo, sus datos personales no serán revelados de forma pública para mantener completo anonimato.

Parte B: Warm-up questions

1. ¿Cuál es tu percepción general acerca de los SRO? ¿Te sientes cómodo usándolo, es una herramienta pedagógica útil o tediosa de usar?
2. ¿Cómo sueles utilizarlos en tus clases?
3. (+) ¿Qué tan cómodo/a te sientes cuando implementas esto en tu sala de clases?

ó se siente comoda

hace clases en clases rurales

3. (-) ¿Sientes que le falta algo a tu clase con la ausencia de estos sistemas de respuesta online?

Part C: Preguntas de respuesta abierta:

El presente estudio está hecho para conocer la percepción sobre el uso de tecnologías. Para esto, todas las preguntas que respondiste en la plataforma de Google Forms pertenecen a una de estas categorías.

Performance expectancy

1. ¿Cómo crees que usar los sistemas de respuesta online pueden mejorar el desempeño de tu clase?

    -¿Piensas que tienen herramientas que sirven para tu clase o trabajo?

    -¿Qué aspectos de los sistemas de respuesta online te ayudan o refuerzan tu enseñanza?

2. ¿Cómo crees que el uso de SRO pueda afectar negativamente el desempeño de tu clase?

    -¿Qué aspectos o características de los SRO dificultan o perjudican tu enseñanza?

3. ¿Consideras que el dejar de usar sistemas de respuesta online sería beneficioso, perjudicial o no tendría efecto en tus clases? ¿Por qué?

4. ¿Qué razón haría que no usaras sistemas de respuesta online en tus clases?

5. ¿Crees que la pandemia afectó positiva o negativamente la forma en que utilizas los sistemas de respuesta online?

    - ¿En qué aspecto? ¿Por qué?

- ¿Crees que le puedes dar un mejor uso a los SRO

    - ¿De qué formas crees que te beneficio el uso de estos nuevos sistemas o si algunas tareas se volvieron más complicadas?

6. ¿Desde que curso crees que es adecuado implementar SRO? ¿Por qué?

Effort expectancy

1. ¿Te costó entender cómo utilizar los sistemas de respuesta online al principio?

    -¿La experiencia de aprender a utilizarlos fue fácil o difícil? ¿Por qué?

2. ¿Crees que podrías aprovechar de mejor manera las herramientas de los sistemas de respuesta online si estuvieras mejor capacitado?

    -¿Cómo sería la capacitación ideal para aprender a utilizar estos sistemas según tu opinión?

3. ¿Crees que la pandemia fue un factor motivante o acelerante para implementar más SRO a tus clases?

4.¿O crees que en general el uso de tecnologías en la sala de clase se hubiera implementado de la misma forma sin la existencia de una pandemia?

-¿Cómo te afecta a ti como profesor?

Social Influence

1. ¿Cómo crees que tus colegas ven el uso de estas plataformas? como algo positivo o negativo?

-¿Te interesa saber lo que piensan tus colegas con respecto a cómo le das uso a los sistemas de respuesta online en tus clases? ¿Por qué?

2. ¿Crees que utilizar estas plataformas te da un grado de "mejora" a tu perfil como profesor?

-¿En qué aspectos?

3. ¿Qué crees tú sobre el uso de estas plataformas en otros profesores?

-¿Crees que las utilizan como deberían?

-¿Crees que podrían mejorar su desempeño como profesor?

Facilitating conditions

1.¿El lugar de trabajo donde te desempeñas te facilita los recursos tecnológicos para que puedas utilizar los sistemas de respuesta online? (si/no)

-¿Cómo te hace sentir eso? esta no

(-) ¿Crees que si facilitaran recursos en tu trabajo sería mejor? ¿En qué aspecto? ¿Por qué? esta no

(+) ¿Crees que los recursos que te entregan son suficientes? ¿Qué recursos son indispensables para utilizar los SRO eficientemente?

2. ¿Qué recursos consideras necesarios para poder implementar los SRO en tus clases de manera eficiente?

3. ¿Cómo crees que el lugar donde trabajas podría facilitar la implementación de SRO?

- Puede ser sobre aparatos tecnológicos o capacitación.

4. ¿Te sentirás más cómodo usando sistemas de respuesta online si alguien estuviera disponible para ayudarte a la implementación de estas? ¿Por qué?

Behavioural intention

1.¿Piensas que el uso de sistema de respuesta online afecta positivamente o negativamente el aprendizaje?

-¿En qué aspectos? ¿Por qué?

2. ¿Piensas que el uso de sistemas de respuesta online afecta la motivación de los alumnos?

-¿En qué aspecto? ¿Por qué?

3. ¿Te sientes motivado para usar SRO en tus clases?¿Por qué?

-¿Sientes que la motivación que sientes por usarlo es personal o externa?

4.¿Antes de la pandemia, tu uso de SRO era mayor o menor? -¿Eso te perjudica o beneficia?

-¿Te agrada o desagrada?

Part D:

Te enseñaron a usar OSRSs en tus cursos de pregrado (en cursos pre-pandemia como los que tuviste)?

Si no te enseñaron, te sientes preparado para usarlas de buena forma en tus clases? Por qué?

¿Crees que las mallas de las futuras generaciones de profesores deberían incluir cursos de tecnología o SRO en la sala de clases?

Hemos llegado al final de la entrevista, muchas gracias por tu participación. Te recordamos que todos los datos personales son de uso exclusivo para estudio.

Appendix D: Themes and Codes Summary Table

THEME	CODES			
Motivation	Comfortability using OSRSs	Ease of use	Intrinsic and extrinsic motivation	
Obstacles	Internet connection difficulty	Competitiveness among students	Lack of preparedness	Distractive element
Use of Technology	Easy access tool	Technology as an imperative mean	Feedback tool	
Facilitating conditions	Conditions given by school			