

UNIVERSIDAD SAN FRANCISCO DE QUITO USFQ

Colegio de Posgrados

**Student perceptions of ICTs and their effects on learning in Virtual EFL
classes in Quito during the 2020-2021 year**

Mecanismo de Titulación: Proyecto de Investigación y Desarrollo

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Trabajo de titulación de posgrado presentado como requisito
para la obtención del título de Magíster en
Enseñanza de Inglés como Segundo Idioma

Quito, 24 de julio 2021

UNIVERSIDAD SAN FRANCISCO DE QUITO USFQ
COLEGIO DE POSGRADOS

HOJA DE APROBACIÓN DE TRABAJO DE TITULACIÓN

**Student perceptions of ICTs and their effects on learning in EFL classes in
Quito, during their 2020-2021 year**

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DEDICATION

I dedicate this research to a God who gave me the tools to complete this study. Also, I dedicate this study to my mother Victoria, my sister Priscila, my brother Edison, and the most important person in my life, my sister Carolina. She always encouraged me not to give up and continue with my dreams.

ACKNOWLEDGEMENTS

I have to say that my family was the most important pillar to study this master's degree in teaching English as a second language at Universidad San Francisco de Quito. I would not have this new challenge in my life without their support. Also, I have to say that God put me on the right path to fulfill my dreams and become a better English teacher. But my sister Carolina was the most important person during this process. She gave me all the strength I needed to continue in the program and told me to think about my nephews. I have to say thanks to them because they have given me all the inspiration.

Thanks to my director Scott Gibson for his support and guide during this research project. I would not have to know how to start and finish this study without his help. Also, I want to thank my high school where I work for giving me the opportunity to conduct this research at that place. Also, I want to thank the participants who agreed to be part of this research. This research would not have been possible without their help.

RESUMEN

Este estudio examina la percepción que tienen un grupo de estudiantes de edad entre los 11 y 13 años en Ecuador sobre el uso de las TICs como Kahoot o Nearpod en clases virtuales de inglés como segunda lengua, específicamente en clases de expresión oral y comprensión auditiva del idioma inglés. El propósito del estudio es conocer los efectos que perciben los alumnos sobre el uso de TICs en estos ambientes virtuales de enseñanza. El estudio usa un diseño de investigación observacional transversal, usando las percepciones de los estudiantes sobre las TICs expresadas en sus diarios de aprendizaje y encuestas anónimas. Los resultados muestran que los estudiantes perciben que los dominios generales del aprendizaje como la concentración, memorización, y agilidad mental son afectados positivamente por las TIC. Igualmente, los estudiantes mencionan que estas herramientas tecnológicas afectan positivamente a áreas del dominio de la lengua inglesa como el vocabulario, la gramática, la pronunciación de palabras, y la comprensión auditiva. Sin embargo, los resultados muestran que la mala conectividad al internet puede afectar el uso de las TICs desde la percepción de los alumnos. De esta manera, se puede mencionar que las TICs tienen aspectos positivos en la construcción del conocimiento cognitivo del idioma inglés y aspectos negativos que pueden afectar el aprendizaje del idioma.

Palabras claves: TICs, percepción, efectos, aprendizaje, tecnología, idioma inglés.

ABSTRACT

This study examines the perception that a group of Ecuadorian students ages between 11 and 13 years old have about ICTs such as Kahoot or Nearpod in EFL environments, specifically in Speaking and Listening virtual classes. The purpose of the study is to know the effects that students perceive on the use of ICTs such as Kahoot or Nearpod in virtual teaching environments. Thus, the study uses a cross-sectional observational research design, using students' perceptions of ICTs expressed in their learning journals and anonymous surveys. The results show that students perceive that the general domains of learning such as concentration, memorization, and mental agility are positively affected by ICT such as Kahoot or Nearpod. Students mention that these technological tools positively affect areas of English language proficiency such as vocabulary, grammar, pronunciation of words, and listening comprehension. However, the results show that poor internet connectivity can affect the use of ICTs from the students' perception. In this way, ICTs have positive aspects in the cognitive knowledge construction of the English language and negative aspects that can affect language learning.

Keywords: ICTs, perception, effects, learning, technology, English language.

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INTRODUCTION

"We need technology in every classroom and every student and teacher's hand because it is the pen and paper of our time, and it is the lens through which we experience much of our world," says David Warlick, an American educator. Technology is the best tool that students and teachers have in classes because, as Warlick says, technology has become the new pen and paper of this generation. It represents a new change in different sectors like education. For example, it is common to see classes where teachers and students use technological devices for teaching and learning new things. Some teachers make presentations using Information and Communication Technologies (ICTs) like PowerPoint, while other teachers use web-based platforms like Kahoot or Nearpod to have an interactive class. However, the rise of technology and ICTs was the innovation of computers and the internet. According to Jorgenson and Vu (2016), the use of computers in different sectors since the 1990s was the foundation for the progress of ICTs, the internet, and mobile technologies around the world. Likewise, different sectors started to use ICTs to create a friendlier work environment. For example, airlines must use systems to help customers find a flight. Supermarkets must use computers to check-in many products that clients buy every day. Today, commercial companies have turned to ICTs to communicate via Zoom or Teams with partners from around the world. It means that the current world is living in a new era where technology is the main character.

If the areas mentioned above are being affected by ICTs, the role of ICTs in foreign and second language teaching is no exception.¹ The digital world is changing the way to teach a foreign language. According to Cakici (2016), ICTs have transformed EFL learning environments because they help raise student's motivation and language awareness, and they

¹ The EFL paradigm (English as a Foreign Language) was used in this study because this study was conducted in a high school where English was taught as a Foreign Language.

make the English language environment interactive, flexible, and innovative for students and teachers.

The turn to ICTs has been even more important in schools due to the Covid-19 pandemic. Because of Covid-19, educational institutions from primary schools to universities had to close their doors and offer virtual classes to their students. It has been a big challenge for teachers and students because virtual classes are very different than face-to-face classes. In virtual classes, the use of ICTs is essential to make interactive classes and avoid students' boredom. Who was going to think that ICTs became so popular in 2021 among educational institutions?

On the one hand, the COVID-pandemic has negatively impacted education at all levels, closing many educational institutions, and disrupting education and teacher training. It has caused many teachers to transform their homes into classrooms, and students to think that their homes are their current schools. Also, many teachers have lost their jobs, and many students have had to stop studying. According to the United Nations (2020), 250 million students were out of school in 2020 due to the pandemic.

On the other hand, the COVID-19 pandemic has encouraged educators to rethink teaching and the many tools and new methods that can be used to engage students in their learning process. Most schools were not prepared to offer virtual classes. To adapt, many institutions decided to use video conferencing software such as Google Meet, Zoom, or Microsoft Teams to centralize their educational processes. This software allows teachers to create teams to assign tasks, have direct communication with their students, and launch their virtual classes. In other words, each school and high school had to prepare their educational system according to their new realities. Moreover, using ICTs in the current context is imperative to create interactive environments to engage students with their learning process. According to

the United Nations (2020), COVID-19 has encouraged many countries to see ICTs as a tool to help teachers move to online delivery of lessons, apply new ways of assessment such as mobile phone surveys, and learning to use new platforms and apps to keep students with their education. In Ecuador, many schools are using these kinds of technologies to create a virtual environment and interact between teachers and students.

Nevertheless, how effective are these kinds of technologies to create good virtual classes? How do teachers and students perceive ICTs in virtual environments? It is important to highlight that ICTs have pros and cons in EFL teaching and learning. According to Cakici (2016), ICTs helps teachers to have the capacity to control presentation, be creative, provide students instant feedback, and increase learner's motivation, communication, and collaboration. But it also could be difficult to use software and hardware, to manage class time, and to invest in the necessary resources. Schools are investing a lot of money in virtual platforms for creating a virtual environment to facilitate virtual classes where teachers and students can interact with each other. Also, teachers from different subjects like Spanish, Math, Science, Social Studies, and foreign languages are using different ICTs to make their classes more interactive. Increasingly, textbook publishers are including ICTs in their books to create interactive sessions where students can watch videos, listen to music, conversation, and so on. Likewise, schools and high schools are encouraging teachers to use virtual platforms to engage students in their learning process. Since the pandemic appeared in 2019, teachers began teaching classes from their homes. They had to use new approaches to make virtual classes attractive for their students. Thus, the idea of applying blended learning and using ICTs became a reality. Many schools had to combine the benefits of keeping physical materials with ICTs to engage their students in their learning process. For instance, many teachers started to use Kahoot, Nearpod, Quizziz, Educaplay, and

other platforms during the pandemic. Thus, the use of ICTs became a necessity to avoid students get bored easily during virtual classes.

The modern tools described above are being used in virtual classes for many teachers, including English teachers. Many argue that ICTs have a positive impact on the teaching and learning process. It could be because they help students engage in their learning process and help teachers make interactive lessons. Nonetheless, there are many remaining questions about the effectiveness of ICTs. For this reason, it is imperative to consider and analyze students' perception of ICTs that their English teachers use to school in virtual classes. Thus, knowing students' perceptions of ICTs that their English teachers use in their teaching process can help them and high schools to make decisions about how to apply or not the ICTs in Educational environments. It is essential to know if ICTs can help students develop the acquisition of a second or foreign language such as English in virtual classes and their possible future applications.

Consequently, the purpose of this study is to analyze students' perception of ICTs in virtual EFL classes. In this case, the study was conducted in Speaking and Listening virtual classes for students 8th, 9th, and 10th grade classes at a private religious school in Ecuador. In this case, students' perceptions about ICTs were collected both in their learning journals that students complete each week as well survey responses about their perceptions on the value and effectiveness of ICTs in Learning English. In this manner, this study seeks to find out if ICTs like Kahoot or Nearpod help students acquire English as a Foreign Language properly in both general and language-specific domains. It also considers the potential implications and effectiveness for face-to-face classes when teachers and students get back to schools. This is important because student perceptions of ICTs like Kahoot or Nearpod help EFL teachers know

if these ICTs could or not be the principal vehicle to teach another language like English and their domains such as Speaking, Listening, vocabulary, grammar, writing, and reading.

This research has four parts. First, the literature review provides an overview of the origin of ICTs starting in the Computer Assisted Language Learning era (CALL) and the later development of Student Response Systems (SRS). It then surveys literature about contemporary ICTs and ends with a vision overview of ICTs in Language Education. Second, the methodology section explains the use of a cross-sectional observational research design using learning journals and anonymous surveys to collect the data for this research. Also, this section shows the number of participants and the place where this will take place this research, and the data coding and analysis procedure. Third, the results section demonstrates in what the learning journals and the survey show about student perceptions of ICTs in Speaking and Virtual classes.

Finally, the analysis section reveals the positive and negative perceptions that students hold about ICTs like Kahoot or Nearpod in Speaking and listening virtual classes. Overall, the study sheds light on the perceived benefits and drawback regarding the use of ICTs in virtual EFL classes that can help inform future curricular decisions and best practices for using technology in EFL teaching.

LITERATURE REVIEW

Information and Communication Technologies (ICTs) has been defined as "the use of computers and other electronic equipment and systems to collect, store, use, and send data electronically" (Cambridge Dictionary.com). According to Singh (2019), ICTs include software, hardware, communication technologies, data, internet access, and cloud computing that help people and institutions to interact in a digital world. It stands to reason that many people assume that the use of this technology is very recent because they probably think that computers and software made their way into very recently. However, ICTs had their origin in two important eras. The CALL and SRS eras had their beginnings in the 1950s and have evolved concurrently in education with the computing and internet revolutions that followed. These systems were the origin of the ICTs in the world. For this reason, the following literature review provides an overview of the beginning of Contemporary ICTs that are popular in areas like Education and EFL environments today.

Computer Assisted Language Learning

To start, it is necessary to comprehend the beginning of ICTs in educational contexts. Before ICTs became popular, the CALL era was the beginning. Derakhshan, Salehi, and Rahim (2015) found " Computer-Assisted Language Learning (CALL) has begun a revolution in the domain of language pedagogy" (p. 111). According to Beatty (2010), CALL has had an impact during the last three decades on language learning from the 1950s to the present day. But what is CALL? Why did it begin a revolution in the domain of language pedagogy? Firstly, Miftachudin (2012) mentions that CALL is the process to use computers for teaching and learning the language to get learner's language improvement. Similarly, Egbert (2005) argues that "CALL

means using computers to support language teaching and learning in some way to all language, skills areas, and contents through software tools designed to promote language learning" (p. 3). Secondly, CALL transformed how to teach and learn a new language. The first Computer-Assisted Language Learning software was PLATO. As claimed by Miftachdin (2012), it was developed in 1959 as an application to give instant feedback and help to teach and learn the language. It was the beginning of the CALL period which had three stages from the 1960s to the 1990s: The behavioristic CALL stage, the communicative CALL stage, and the integrated CALL stage. According to Dudeney and Hockly (2012), the behavioristic stage focused on giving feedback through word processors, text reconstruction, simple games, and exercises with mechanized feedback. Then, the communicative stage had the evolution in technology with better feedback mechanisms which guided learners to language discoveries and language production. Finally, the integrated stage was the origin of multimedia systems and internet access that helped integrate the four skills.

From the 1980s through the 1990s, new technological advances took a principal role in the CALL era. During this period appeared new hardware to support language learning. Dudeney and Hockly (2015) mention that "hardware advances influenced this change because of personal computers, color monitors and sound, new programs like Encarta, the origin of CD-ROMs with additional exercises and multimedia self-study material" (p. 534). Likewise, corpus analysis systems, new coursebooks, and dictionaries emerged during this period. According to Dudeney and Hockly (2015), new corpus software appeared to support and cause an impact on course development, coursebooks, and dictionaries to offer learners enough texts with real English to illustrate how words work. Also, the authors found "another example of CALL technology is the CD-ROM with the Cambridge Learner's Dictionary that includes the sound of words" (p. 535).

The importance of this period in ICTs in learning English was the technological advances that allowed teachers to have new resources to make classes more attractive for learning English, and students to enter an era of interactive learning enjoying the benefits of new technologies.

Since the 1990s, the way of teaching and learning a new language such as English changed. This new change is because of the internet access. According to Derakhshan, Salehi, and Rahimzahed (2015), the internet brought a new way of updating information and communication with synchronous and asynchronous communication through chatting online, which enables students to ask and answer questions and write emails. Similarly, Dudeney and Hockly (2012) declare that "internet access brought programs that increased the potential for culture-based global exchanges through chat programs" (p. 536). The internet has opened new ways to teach and learn because it has helped to create new websites, resources for teachers, the rise of social web pages such as Facebook, Twitter and the use of game-based learning.

To sum up, the CALL era was the beginning of all contemporary systems that the educational world knows. It brought many benefits to language learning bringing in the use of technology in this area. A new system that transformed how teachers and students teach and learn a new language. For instance, teachers started to use this system to give instant feedback to their students, use simple games, give their students interactive materials, and create environments where students could have synchronous and asynchronous communication. In conclusion, the CALL era gave an opening to other systems that started to transform teaching and language learning.

Student Response Systems

Another system that the CALL era gave the possibility to emerge was the Student Response Systems (SRS). The SRSs raised the idea of creating friendly environments where students through game-based learning technology could learn using technology, breaking the traditional learning system. Today's ICTs are based on these systems.

Tahir and Wang (2020) declare that SRSs were developed in 1970 to make classes more interactive. Also, the author mention that SRSs have included game-features to help teachers to engage their students in their learning process. According to Stowell, Oldham, and Bennet (2010), Student response systems are technological tools that receive feedback from devices such as keypads or clickers. Through this technology, answers to questions can be used in evaluations, and opinions polls can be used increase emotional engagements during classes and help shy students to overcome their fear to participate or give their opinions. Likewise, according to Friedline, Mann, and Liberman (2012), SRSs are interactive systems that help students to respond questions anonymously, using their own device like cellphones. Also, the authors mentions that SRSs create a friendly environment, encourage student participation, increase enjoyment among students, improve students' attention, and help students to engage sensitive topics.

Therefore, SRSs are becoming very popular in the education area. According to Chaiyo and Nokham (2017), interactive technologies like SRSs have increased their popularity in the last decade in the classroom because they show positive results like increasing collaborative learning and engagement, improving student learning performance, and supporting the learning process. In this decade, the most popular SRSs are the game-based web learning platforms. According to Tahir and Wang (2020), platforms such as Kahoot, Neapord, Quizzes, and Padlet are based on

game-based learning design which have their origin in Student response systems (SRSs) to help teachers to review how their students' learning is increasing in the acquisition of new knowledge. These platforms can be used to create interactive formative assessment or as a break for break traditional classroom activities.

Contemporary ICTs

Thanks to the CALL era that introduced technology like computers and specialized systems for learning languages, and the idea of interactive friendly environments because of Students Response Systems, contemporary ICTs had their origin to spread in different areas and make a revolution in education. Livingstone (2012) argues “digital technologies will be as important in the twenty-first century as was the book in the nineteenth” (p. 2). This idea means that ICTs have an important role in the current era. This role has impacted different areas in which education is one of them. According to Balanskat, Blamire, and Kefala (2006), using ICTs in educational contexts helps schools to improve teaching and learning, helps students get good scores in national tests, creates a positive impact on students' learning, and improves in different skills like calculation, reading, writing, independent learning, and teamwork. Also, the authors mention that ICTs are having an incredible impact on teachers and their teaching process.

According to Balanskat, Blamire, and Kefala (2006), using ICTs helps teachers increase their enthusiasm, efficiency, and collaboration in educational contexts. Likewise, Condie, Munro, Seagraves, and Keneesson (2007) mention that the impact of ICTs in schools is evident in specific subject areas like math, foreign languages, social studies, and science. Similarly, the authors mention that ICTs help support students with special educational needs because it helps

teachers personalize students' learning and experience and improve communication with students' parents.

Therefore, ICTs are opening a new way to link with other concepts such as blended learning and gamification to apply in educational contexts. According to Kaur and Naderajan (2020), Gamification is a process of using games to engage students in their learning process to create an interactive environment to promote independent learning, collaborative learning, critical thinking, problem-solving skills, fun learning. Likewise, Dicheva, Dichev, Agre, and Angelova (2015) argue, "Gamification in education is an approach that suggests using game thinking and game design elements to improve learners' engagement motivation" (p. 75). Also, the authors mention that this approach helps to reinforce knowledge and skills like problem-solving, collaboration, and communication. In other words, this approach tries to break from the traditional classroom practice where students' textbooks are the main resource that teachers use to teach and engage students in their learning process.

Additionally, Bueno-Alastuey and López Pérez (2013), mention that Blended Learning is the new approach that helps combine face-to-face classes with computer-assisted language learning to use a variety of resources and activities with the support of internet access. An approach that is perfect for the current situation that the world is living in because of COVID-19.

The new generation of students has a close relationship with technology. They use computers every day to do their homework, use cellphones to chat with friends, and play games to interact in virtual environments with people around the world. According to Galy, Downey, and Johnson (2011), learners are more confident with technology, and the education world must take advantage of these features to include them in the teaching and learning process. Thus, the author says that learning platforms such as Kahoot are the best tools with game characteristics.

Nowadays, game-based learning platforms like Kahoot or Nearpod are having an important impact on Education. Chaiyo and Nokham (2017) argue that Kahoot, Quizziz, and Google Forms are learning technologies that open new ways of teaching in classroom. Also, the authors mention that these ICTs have a good impact on students' concentration and learning, students' engagement, students' enjoyment, motivation, and satisfaction.

While game-based ICTs have game characteristics and have been shown to improve engagement, they are not purely fun and interaction. They also have significant educational value. According to Gachkova and Somova (2016), educational game-based ICT platforms can be classified as "serious" games. The authors mention that serious games allow creating simulations of the real world to entertain and educate people who use them. Also, the authors mention that serious games have different game divisions, including game-based learning, gamification of learning, organizational-dynamic games, simulation games, edutainment.

Following the serious game classification, contemporary web-based ICTs such as Kahoot, Nearpod, and Quizizz are examples of game-based learning. According to Gachkova and Somova (2016), game-based learning is a serious game that unifies the achievement of learning goals while users are entertaining and playing. According to the author, this kind of ICT helps learners improve their memorization and apply the theory to real life. This definition is corroborated by other authors. According to Anastasiadis, Lampropoulos, and Siakas (2018), game-based learning is a pedagogical approach that uses games in education to involve students with educational material and subjects in a fun, dynamic, and playful way promoting interactive learning. Also, the authors say that this approach helps students get learning objectives developing specific skills and promoting students' motivation.

Contemporary ICTs are designed with these theoretical frameworks in mind. The two ICTs examined in the present study, Kahoot and Nearpod, are excellent examples. Kahoot, for example, is a game-based student response system which was developed in 2012 by The Norwegian University of Science and Technology to create interactive quizzes in which a teacher uses a laptop or computer to connect to a projector or large screen (Chaiyo and Nokham 2017). According to Kaur and Naderajan (2019), “Most teachers have started integrating technology into their classroom activities in order to attract and motivate students’ participation in classroom activities, and Kahoot is becoming an invaluable tool in the language classroom.” In this platform, teachers can test their students’ knowledge with a quiz that gives students several answers alternatives to choose from.

The second ICT used in this study, Nearpod, also follows this approach to game-based learning. According to Sanmugam, Selvarajo, Ramayak, and Lee (2019), this ICT is a technological tool that helps students engage with their learning process interactively promoting interaction and independent learning using students’ electronic devices like cellphones, iPads, and personal computers. Also, the author mentions that Nearpod provides teachers and students instant feedback to trace their progress during a class. Likewise, this paper supports that this ICT allows posing open-ended questions to encourage students to think and answer quickly, making discussions in real-time, selfing-asses students’ learning, and different activities to engage students in a holistic learning process.

In conclusion, the research suggests that contemporary ICTs positively impacts the learning process, and that they are evolving each day because of the internet and ongoing technologicals revolutions. Also, it is important not to forget that these ICTs exist due to CALL and SRSs eras which transformed how teachers and students teach and learn every day. While

the research and excitement about ICTs are generally positive in different fields of peoples' life, ITCs are becoming attractive in ESL environments for educators and learners because ICTs are offering EFL teachers new tools to make dynamic and interactive environments where learners are engaged in their learning process more easily.

ICTs in Language Education

According to Rokenes and Krumsvik (2016), ICTs in ESL environments help students to have real exposure to authentic language material, opportunities to communicate, get instant feedback, and integration into classrooms to expand their vocabulary, language production, and improve the use of grammar and pronunciation. Likewise, Rokenes (2016) found that different ICTs like chats, programs for speech recognition, and video help students in ESL environments to improve their pronunciation and language production. However, ICTs have been increasing their impact on ESL teaching for ages. As reported by Dudeney and Hockly (2012), the use of technology in ESL and ELT classes has had a dramatic change in the past 25 years, starting in the 1980s with the CALL era in language teaching. In the 1990s, the access to internet brought programs that increased the potential for culture exchange with chat programs such as Internet Relay chat. In the 2000s, it is the beginning of online courses era for teachers and the transition from Web 1.0 to Web 2.0 that brought the use of social networks such as Facebook, LinkedIn, and Twitter. By the 2010s, mobile technologies and the rise of blended learning appeared, incorporating mobile learning, augmented reality, and game-based learning.

According to Rokenes and Krumsvik (2016), ESL and foreign language teaching are areas where the use of ICTs shows a good impact on students' language skills like reading, writing, listening vocabulary, access and exposure to authentic language material, communication opportunities, instant feedback, and classroom integration. According to

Hismanoglu (2011), ICTs are being integrated into EFL coursebooks to help students increase their enthusiasm, communication skills, and self-confidence. This new tendency is opening a new approach that is called blended learning.

All in all, this research tells us that EFL environments have been transformed by the use of ICTs. It started in the 1950s with the CALL era. It opened new doors to use technology in the domain of language pedagogy. It helped develop new technologies such as software to give instant feedback to teachers and students or integrate the four language competencies of listening, speaking, reading, and writing. Thus, new ICTs emerged in EFL environments to make them more interactive, fun, and friendly. However, this research shows that EFL experts think that ICTs have a tremendous role in this area. But do they know what their students think about the use of ICTs in EFL environments? Furthermore, what can student perceptions tell us about the methods and practices of using ICTs in EFL teaching and learning? To that end, this present study seeks to show how students perceive the use of ICTs like Kahoot or Nearpod in Speaking and Listening virtual classes to help understand their experiences that may inform how to better integrate technology in EFL curricula and develop best practices using ICTs.

RESEARCH DESIGN AND METHODOLOGY

This research analyzed the student perceptions of ICTs and their effects on learning in EFL classes. This research was conducted in a private religious high school where students are of the upper-middle class. This high school is in Quito in the Chillos Valley. The study used a cross-sectional observational research design in which the researcher collected student perceptions of ICTs as expressed in their learning journals and anonymous surveys. The number of participants was 353 students who were studying English in the 8th, 9th, and 10th grades. Students were between 11 and 13 years of age.

Informed consent was requested from the school principal and vice-principal via email. Then, both authorities arranged a virtual meeting via TEAMS with the principal researcher. During this virtual meeting, the principal researcher explained the purpose of this study and responded to some questions that the authorities formulated to know more about this research. Finally, after this virtual meeting, the principal signed the informed consent form for authorities. (Appendix 1)

Moreover, the students' assent to participate in surveys and to give the principal researcher permission to use their journal was acquired. The principal researcher created a form in which there was information that students had to read to accept their participation and to use their journals for this study. Thus, students completed the assent to use their journals during regular class time. The students who accepted their participation allowed the researcher to use their journals to analyse the information that they wrote each week about their Speaking and Listening classes. Students wrote reflective journals as a normal classroom practice. The journal activity was required as part of the school's curriculum to obtain information about how the class was carried out. According to Harmer (2008), a journal is a writing activity which is different

from the other kinds of writing such as lesson or homework in which students can write their ideas about different topics, their progress at school, their reflection about a lesson, and the opportunity to create dialogues between students and teachers. In other words, journals can provide information to teachers to know if their students are learning properly, and how they perceive the teaching process.

Describing the journal process, students had to write their journal once a week after finishing a lesson or an activity that their teachers thought was essential to be completed as a journal. The purpose of these journals was to provide information about students' progress and their reflection about their teachers' class. The journal questions were in English because the students were learning English in the class, and it helped reinforce the use of English in their lives. Consequently, students' journals helped the principal researcher comprehend students' feelings about their learning process and the teaching process.

In addition to student journals, the researcher applied an anonymous survey to know students' perceptions of ICTs that he usually used for teaching different subjects per class. This survey had a minimum risk because it is anonymous and collects no identifying demographic data. The students were asked to take this survey 5 minutes before finishing their virtual class. They did not have to add personal information and they decided if they wanted to participate. At the beginning of this survey, there was a script that explained the purpose of this survey and a line that explained that their teacher did not know if they did not agree to complete the survey or not. Also, their grades were not affected if they did not want to participate. These measures were taken to avoid coercion and conflicts of interest.

This survey had specific questions about the ICTs like Kahoot or Nearpod that were used for engaging the students in their learning process. This survey helped collect data about the

perception that students had of these ICTs. Also, the survey helped the principal researcher have quantitative data that supported the data provided by students in their journals. Additionally, both the information from the survey and the data from the diaries corroborated each other, and there was no different information to prove that ICTs were effective in virtual environments.

The variables that were analyzed were students' perceptions of ICTs in learning English as expressed in their journals and surveys. Students' preferences for ICTs such as Nearpod or Kahoot were considered along with their perceptions of how such technologies were perceived to improve their English grammar and skills like listening, speaking, reading, and writing. Furthermore, students' perceptions about which skills could be most improved using ICTs and their advantages and disadvantages in their learning process was collected.

After data collection, the principal researcher divided the data into two sections: The journal responses and the survey results. To start, the journal responses were chosen from the students who agreed to participate in this research and allowed the researcher to use their learning journals for the present analysis. Additionally, the researcher had the opportunity to know the names of the participants to know which journals to use and which not. Likewise, the answers were divided into courses from 8th to 10th grade to identify how the information could change according to the evolutionary ages of the students and to know if the students who were in eighths of those who were in ninth and tenth had the same opinion. Thus, the researcher found trends in the different courses easily. These trends helped the researcher know and qualitatively analyze the data to present and describe the results in a descriptive narrative and textual way with tables that accompanied and completed the results of this section to give a better vision of the data and its results.

Moreover, the second section was the survey results which were analyzed in two parts. The first part analyzed were from questions 1 to 10 that provided quantitative data. These questions were presented in multiple-choice format. Additionally, two questions from this questionnaire were open-ended. One of them asked students to give an advantage of using ICTs in Speaking and Listening classes. The other one asked student to write a disadvantage of using ICTs in Speaking and Listening classes. Additionally, this data was transformed into percentages to compare the data obtained from students to have a scale response which was analyzed in frequencies to determine responses because this method showed the dominant tendencies. Consequently, the researcher could present the result analysis descriptively and narratively. Also, pie charts were included in each question to comprehend the results much better and give the principal researcher and readers a quick view of the results obtained.

The final two questions of the second section provided advantages and disadvantages of ICTs like Kahoot or Nearpod in Speaking and Listening virtual classes. The questions provided qualitative information at the beginning which was coded in trends that students mentioned about ICTs preferences and perceived effect on learning. This codification was done in Microsoft Excel, in which the principal researcher tabulated the trends found in the advantages and disadvantages. In this manner, the tabulation gave 13 advantages and 11 disadvantages.

Consequently, the number of trends was transformed into percentages to provide a better description of these results. Finally, these results were presented in a descriptive, narrative, and textual manner with two tables to have a better vision of them. The mean of Likert scale responses was also calculated to identify the central tendency of each question and to rank responses about students' perceptions on which aspects of English learning were most impacted by the ICTs used in their classes.

RESULTS AND ANALYSIS

Journal Results

The principal researcher asked 353 students to use their journals to analyze their progress in their Speaking and Listening virtual classes. These students come from three different courses which are 8th (octavo de básica), 9th (novenos de básica), 10th (décimo de básica). From these groups of students, 338 of them answered the digital informed assent. This digital informed assent allowed the principal research to know the students who accepted or denied their assent to use their journals in this study. Of the 338 responses, 46,45% of students (157 students) assented to participate, and 53,55% of students (181 students) denied their participation in this study.

The journals that were analyzed for this study were done by the students from the courses mentioned above. These journals helped the teacher to know how their students were progressing in their virtual classes. Additionally, it is vital to clarify that these journals in which students had to complete each week were mandated from the authorities of the school where the research was conducted. Teachers who had two hours per week in a course had to send a journal each week. Thus, Speaking and Listening teachers had to send a journal to their students in which they had to mention what they had learned during that week. The journals of the 157 students who accepted their teacher to use their journals for this study analyzed per each course to which they belonged. Thus, it presents the following findings.

Students from 8th Grade

A total of 56 students from the 8th grade agreed to participate in the study. To start, eighteen students (32 %) mentioned that Kahoot or Nearpod activities helped them practice different language domains such as listening, vocabulary and pronunciation. One student

mentioned “A positive aspect of this activity was to know how to pronounce the vocabulary about measurements and money in English.” According to another student, “This activity was good because we used an interesting page to practice and learn something about listening skills.”

Moreover, eleven students (19,64%) from the same section mentioned their virtual classes were interesting, fun, entertaining, and interactive using Kahoot or Nearpod. For example, one student mentioned “This activity was fun because of Kahoot.” Another student mentioned that they have fun and learn without feeling bored.

Finally, four students (7,14%) reported that general learning domains such as mental agility and concentration were affected positively using Kahoot or Nearpod. For example, one student said, “I improved my speed and agility in answering questions.” Another student mentioned, “This activity helped me improve my concentration because I had to pay more attention.”

Overall, the 8th-grade student report that using Kahoot or Nearpod in virtual classes helps them learn and practice language skills, have fun, be entertained, interact during activities, and improve in some general learning domains such as concentration and mental agility.

Students from 9th grade

A total of 37 students from the 9th grade participated in the study. From this group, five students (13,51%) mentioned that the internet connection had to improve to avoid learning problems. For example, one student said, “One aspect was to have a good connection to the network to be able to carry out the activities.” Also, seven students reported that activities in Kahoot created a fun and interactive environment to learn. For instance, one student wrote that she liked this interactive activity with Kahoot. Another student said that this activity in Kahoot

helped him learn in a fun way. Similarly, another student reported “We learn in a fun way using Kahoot.”

Moreover, five students (13,51%) reported that the general language domains such as concentration, memorization, and mental agility are affected positively by using ICTs like Kahoot or Nearpod. For example, one student wrote “I was able to concentrate enough to finish this activity well”. Also, another student said, “This activity helped me work faster.” Three students advised continuing to use this kind of ICTs. For instance, one student mentioned that they could have more listening activities using Kahoot, and other students advised to keep using this kind of platform to apply what they had learned so far.

Finally, eight students (48,65%) reported that language domains such as vocabulary and listening are affected positively by using Kahoot. For example, one student wrote that she could practice vocabulary from previous units. Also, another student said this activity contributed to improving her English listening skills.

Students from 10th grade

To start, students from 10th grade were the largest number of students who agreed to participate in this study so that the principal researcher could use their journals. Thus, 59 students agreed to participate and gave the following results.

First, twenty-two students (37,28%) mentioned that Kahoot is a good tool that helped them learn and practice different language domains such as vocabulary, grammar, pronunciation, writing, and listening. For example, one student wrote, “I learned new vocabulary, pronunciation to be more fluent in English conversations, and practiced my speaking and listening skills.” Another student said, “This activity helped me practice and improve my English grammar.”

Similarly, another student mentioned, "I could reinforce grammar and writing while I learned new vocabulary."

Second, seventeen students (28,81%) reported that by using ICTs like Kahoot or Nearpod, their classes were more interactive and fun. According to one student, "with the help of ICTs, they were able to learn with enthusiasm and in a funny [sic] way." Also, another student reported that the class was very interactive through these exercises carried out on the different online platforms. Similarly, another student wrote that it was a good idea to do the activity in Kahoot because it helped to have a funny way to learn.

Third, six students (10,17%) reported that ICTs like Kahoot helped them improve their general language domains such as memorization and mental agility. For example, according to one student, "this activity contributed to me to work faster, to do things more quickly and think faster." Additionally, another student said that this activity helped her activate her memory to remember words that she had learned in previous classes.

Survey Results

The principal researcher asked 353 students from 8ths, 9ths, and 10ths from the high school to accept or decline their participation in completing the survey. Two hundred and sixty-one (261) participants accepted to complete the survey (73,94% of students). The following presents the frequency of responses to each question to show the perception that students have of the use of ICTs like Kahoot or Nearpod in Speaking and Listening classes. The students' answers showed what is their perception of ICTs like Kahoot or Nearpod in Speaking and Listening virtual classes to know what ICTs were the most used by their teacher to know: 1) if ICTs like Nearpod or Kahoot helped them improve language domains like grammar, speaking, listening,

reading, writing, 2) which English skill the ICTs helped them practice the most during their classes, 3) which one they enjoyed using in Listening and Speaking classes, 3) if they learned English better using them, 4) if their teacher should use more, less, or keep the same ITCs, and 5) perceived advantages and disadvantages in using ICTs for learning English.

Types of ICTs used

The first question asked students about the type of ICT most frequently used. The principal researcher who taught Speaking and Listening just used Kahoot and Nearpod because the teacher considered that these two ICTs were the most optimal to make a more practical class for the students and prevent them from being confused with the use of a lot of ICTs during virtual classes. Additionally, the teachers wanted to know which of the two ICT options were being used the most during speaking and listening class.

Question 1: Which ICT did your teacher use the most during your class?

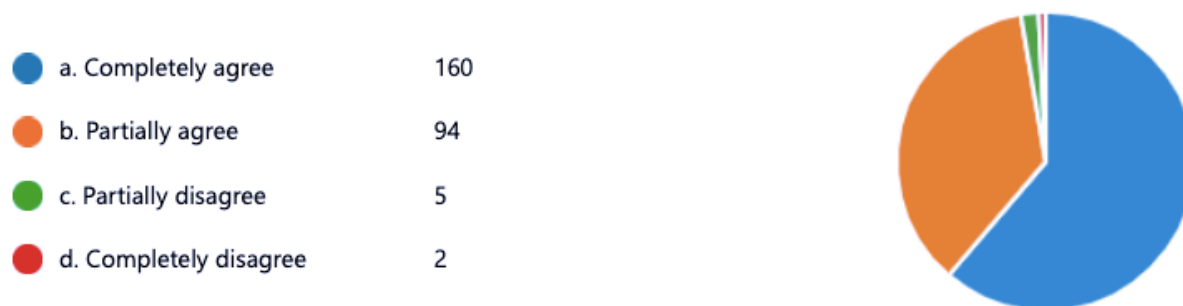


Of 261 students, 86,97% of students (227) reported that teacher used Kahoot the most during their Speaking and Listening classes. The other percentage that represents 13,03% of surveyed students mentioned that their teachers used Nearpod the most during their Speaking and Listening classes. In conclusion, Kahoot is the ICT that teachers used the most.

Perceptions of Language Skills Improvement

The second through seventh questions asked students about which skills they believe they improved the most through ICTs. The first of these questions asked students whether ICTs helped them improve their grammatical knowledge. The next four questions asked students about whether they agreed that ICTs helped with the general language skills areas of Speaking, Listening, Reading, and Writing. The last question of this section of the survey asked students to rank which of the five areas they believed that ICTs helped them practice the most.

Questions 2: ICTs like Nearpod or Kahoot help me improve ENGLISH GRAMMAR.



Of 261 students, 61.30% of students (160) completely agreed with the idea that the ICTs helped them improve English Grammar. Then, 36,02% (94) students partially agreed that the ICTs helped them improve their English Grammar. However, a small group of students disagreed with using the ICTs to improve English grammar. For instance, 1,91% of students partially disagreed with using the ICTs above to improve English grammar. Also, 0.77% of students completely disagreed with the idea that the ICTs help them improve English Grammar. In conclusion, most of the students agreed that Kahoot or Nearpod were platforms to help them improve English Grammar.

Questions 3: ICTs like Nearpod or Kahoot help me improve SPEAKING skills.

● a. Completely agree	127
● b. Partially agree	102
● c. Partially disagree	29
● d. Completely disagree	3



This question sought to know whether students thought that their speaking skills improve using the ICTs. According to the results, 48,66% of students completely agreed with the idea that by using these interactive platforms their Speaking skills improved. In the group of students who agreed with this idea, 39,09% of students partially agreed with using the ICTs to improve their Speaking skills. On the other hand, it is the group of students that disagreed with this idea. Thus, 11,11% of students partially disagreed with using the ICTs to improve their Speaking, and 1,15% of students completely disagreed with this idea. However, the overall results showed that students believed the ICTs helped them improve their speaking skills.

Question 4: ICTs like Nearpod or Kahoot help me improve LISTENING skills.

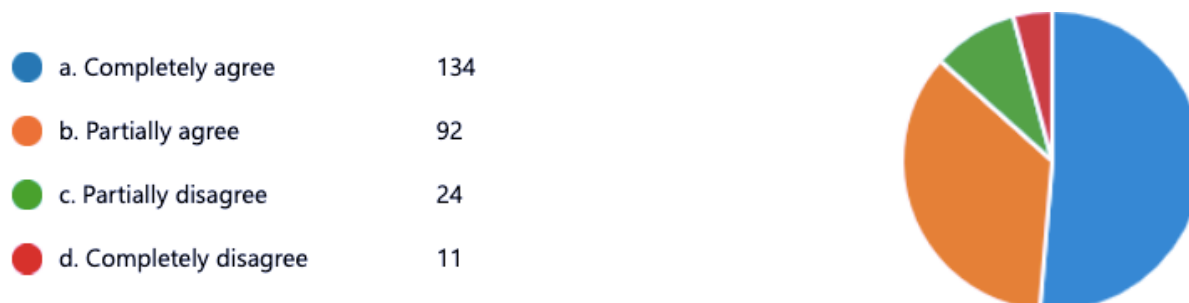
● a. Completely agree	193
● b. Partially agree	57
● c. Partially disagree	11
● d. Completely disagree	0



This question wanted to show what the student's perceptions of the use of Kahoot is or Nearpod to improve their listening skills. According to their answers. 73,94% of students completely agreed with using the ICTs in Listening activities to improve this skill. Also, 21,84 students partially agreed with this question. Contrarily, a small group of students which represents 4,22%

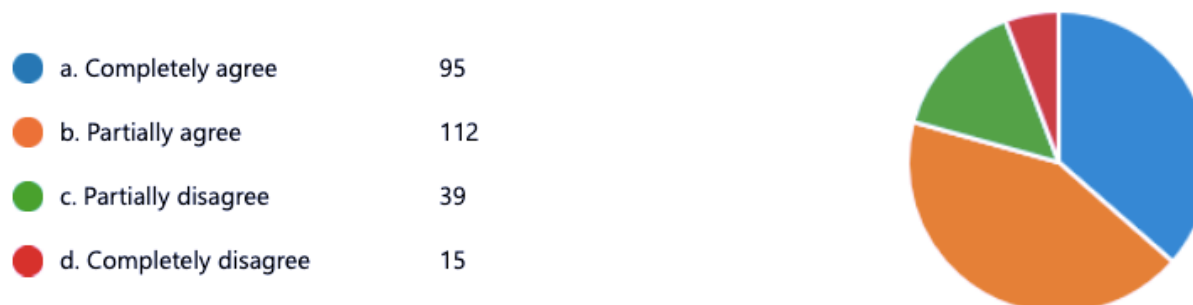
of the whole group partially disagreed with the main question, and no students reported complete disagreement.

Question 5: ICTs like Nearpod or Kahoot help me improve READING skills.



This question showed that the ICTs helped students improve their reading skill. According to the answers, 51,34% of students (134) completely agreed with this statement. Also, 35,24 of students (92) partially agreed with using Kahoot or Nearpod to improve this skill. On the other hand, there is a small group of students who disagreed with this idea. 9,20% of students (24) partially disagreed, and 4,22% of students (11) completely disagreed with using the ICTs to help improve their reading skills. As a result, the ICTs had a positive impact on improving student's reading skills.

Question 6: ICTs like Nearpod or Kahoot help me improve WRITING skills.



It is the first skill that had a short variation according to students' answers. The highest percentage concentrated on students who partially agreed with this question. Thus, 42,91% of

students (112) partially agreed. The second place is for students who completely agreed. 36,40% (95) of students matched this tendency. Also, it is the first skill that showed an increment in students who disagreed with this idea. 14,95% of students (39) partially disagreed, and 5,74% of students (15) completely disagreed with using Kahoot or Nearpod to improve their writing skills.

Question 7: Which English skills did the ICTs help you practice the most? Choose

ONE:

● a. Grammar	48
● b. Speaking	51
● c. Listening	121
● d. Reading	30
● e. Writing	11



This question showed which English skill students could practice the most using the ICTs. According to students' answers, listening skill had a percentage of 46,36% (121) of students who thought the ICTs helped them practice the most this skill. The second place is for speaking with 19,54% of students (51) who thought these interactive platforms helped them practice this skill. In third place is grammar. 18,39% of students (48) agreed that they could practice grammar using these platforms. The fourth place is for reading skills. 11,49% of students (30) agreed with this idea. And, the last place is for writing, just 4,22% of students (11) liked to use the ICTs to practice this skill. Furthermore, the mean average of the results show that generally believe that ICTs help their learning process in all five of the areas of language knowledge and skills in which they were surveyed. The mean average for all areas is 3.4 over 4. However, the language area with the highest mean is Listening with 3.70 over and a mode of

XX. Then, Grammar is second place with 3.58 over 4 and a mode of XX. Then, in third place, Speaking and Reading have a similar result. Speaking has 3.35 over 4, and Reading has 3.34 over 4, both with a mode of XX. Students reported that ICTs helped the least with Writing, with a mean of 3.10 over 4 and a mode of X.

General Perceptions about ICTs

The final set of questions surveyed students about their general attitudes regarding ICTs in their virtual Listening and Speaking classes, such as whether they enjoy using ICTs, whether they believe ICTs improve learning, and whether ICTs should be used more or less frequently in their class. Finally, students were asked to describe advantages and disadvantages of ICTs. These questions provided a deeper and more detailed perspective of the students' perceptions about the use of ICTs in Speaking and Listening classes.

Question 8: I enjoy using ICTs like Kahoot or Nearpod in my Listening and Speaking classes.

● a. Completely agree	209
● b. Partially agree	46
● c. Partially disagree	5
● d. Completely disagree	1



This question helped to comprehend that Kahoot or Nearpod helped teachers create learning environments where students can enjoy their learning process. According to students' answers, 80,08% of students (209) enjoyed using the ICTs in their Listening and Speaking

classes. On the other hand, 0,38% of students (1) completely disagreed with using the ICTs to enjoy their Listening and Speaking classes.

Question 9: I learn better using ICTs like Kahoot or Nearpod.

● a. Completely agree	181
● b. Partially agree	69
● c. Partially disagree	9
● d. Completely disagree	2



This question showed that 69,35% of students (181) completely agreed with using the ICTs to learn better. Also, 26,44% of students (69) partially agreed with this statement. Contrarily, a small group of students did not agree with this idea. 3.45% of students (9) partially disagreed, and just 0.76% of students (2) completely disagreed.

Question 10: My teacher should:

● a. Use ICTs more in class	129
● b. Use ICTs less in class	7
● c. Keep the same amount of I...	125



According to student's answers, 49,43% of students (129) thought that their teacher had to use ICTs more in class versus 2,68% of students (7) who thought that their teacher had to use them less in class. Another group of students who represents 47,89% of students (125) thought that their teacher had to keep the same number of ICTs in virtual classes.

Questions 11: Advantages of using ICTs like Kahoot or Nearpod during your classes

ADVANTAGES

<i>Advantage</i>	Number of students (261)	Percentage (100%=261)
<i>Didactic / Makes learning fun</i>	94	36,02%
<i>Practice and review</i>	43	16,48%
<i>Interactive / encourages participation</i>	46	17,62
<i>Faster and easier learning</i>	38	14,56
<i>Creates enthusiasm to study</i>	26	9,97%
<i>A good way to improve listening and pronunciation</i>	21	8,05%
<i>A good way to learn vocabulary and grammar</i>	14	5,36%
<i>Improve memorization</i>	12	4,60%
<i>Improve concentration</i>	11	4,21%
<i>No boredom in virtual classes</i>	7	2,68%
<i>Instant feedback</i>	7	2,68%
<i>New knowledge is presented in an organized way</i>	6	2,30%
<i>Encourage mental agility</i>	5	1,92%

The qualitative data obtained in this question was coded to identify patterns in the kinds of advantages students' The answers were transformed into percentages to compare the data obtained from students. According to students' answers, there were a lot of advantages that were coded in 13 patterns. From these patterns, 36,02% of students (94) thought that the ICTs made learning fun and didactic. This advantage supported question 8. In this question, 80,08% of students (209) enjoyed using ICTs in their Listening and Speaking classes. 17,62% of students (46) thought that these platforms were interactive and encourage students' participation. Likewise, other students thought these platforms helped them practice and review content from Speaking and Listening classes. 16,48% of students (23) agreed with this fact. This pattern supported question 7 in which students mentioned that they used these platforms to practice the different skills. Another pattern that had an important result is that students thought that the ICTs made learning faster and easier. 14,25% of students agreed with this pattern. Similarly, this

pattern matched question 9 in which many students thought they learned better using these virtual platforms.

The other percentages from this pattern list are low. 9.97% of students (26) thought that these platforms created enthusiasm to study. 8,05% of students (21) thought that the ICTs were platforms to help them improve their listening and pronunciation. Also, 5,36% of students (14) thought that these platforms helped them learn vocabulary and grammar. It was interesting to know that 4,60% of students liked this platform because they helped them improve their concentration. 2,68% of students (7) thought that Kahoot and Nearpod avoided boredom in virtual classes. Likewise, another 2,68% of students (7) thought that these platforms gave them instant feedback. Also, 2,30% of students (6) thought that new content or knowledge was presented in an organized way using these platforms. The lowest percentage of students from the whole group was 1,92% students. They thought that these platforms encouraged to have the mental agility.

Question 12: Disadvantages of using ICTs like Kahoot or Nearpod during your classes

DISADVANTAGES		
<i>Pattern</i>	Number of students (261)	Percentage (100%=261)
<i>Bad internet connection</i>	81	31,03%
<i>Lack of time to answer</i>	32	12,26%
<i>Bad Student Behavior</i>	29	11,11%
<i>High level of nervousness, stress, and anxiety</i>	12	4,60%
<i>Does not develop writing skills</i>	6	2,30%
<i>Does not develop reading skills</i>	5	1,92%
<i>Loss of interest in physical materials</i>	5	1,92%
<i>A lot of questions</i>	4	1,53%
<i>Monotonous class</i>	4	1,53%
<i>Easy to cheat</i>	2	0,77%
<i>There is no privacy / everyone knows your grade</i>	1	0,38%

Data obtained from disadvantages was coded in 11 patterns that matched with students' answers. 31,03% of students (81) mentioned that bad internet connection is the most relevant disadvantage that the ICTs present in virtual classes. Then, 12,26% of students agreed with the idea that they did not have time to answer questions or complete activities. Additionally, bad student behavior was another disadvantage that had a relevant percentage of students. 11,11% of students (29) mentioned that some students wrote bad names, bad words, or do not participate in the ICT activity. It could be a problem with the idea that students use to the ICTs learn faster and easier in their virtual class because these disadvantages could interfere students' learning process and affect general learning domains.

The other disadvantages had a low percentage among students. First, 4,60% of students (12) thought that the ICTs caused a high level of nervousness, stress, and anxiety. According to their answers, they mentioned that they felt anxious because they had to answer quickly. This problem supported the idea that students did not understand the new content well. Other students thought that they could not develop skills like writing or reading. 2,30% of students (6) thought that they cannot develop their writing skills, and 1,92% of students (5) could not adequately develop reading skills. Similarly, 1,92% of students (5) thought they would lose interest in printed materials in favor of ICTs. Also, a few students believed that classes became monotonous if teachers the ICTs every day. 1,53% of students (4) agreed with this idea. Likewise, 1,53% of students (4) thought that Kahoot or Nearpod activities had a lot of questions. This fact could match the idea that students feel stressed, anxious, and nervous. Finally, 0,77% of students (2) mention that it was easy to cheat in ICT activities. Also, 0,38% of students feel that there was no privacy because everyone could see your mistakes, grades, and progress. There were many

disadvantages, but bad internet connection, bad student behavior and lack of time to answer were patterns that could interfere with their learning process.

Results Analysis

As revealed in the preceding results, it is noted that the journals and the surveys show some similar tendencies. According to students' answers, language domains such as listening, vocabulary, pronunciation, grammar, and writing are affected positively by using ICTs like Nearpod and Kahoot in Speaking and listening virtual classes. In the students' journals, 48 students (30,57% of students) of 157 supported these findings. Also, in the survey, students agreed with this idea because they mention that using ICTs helped them improve grammar, speaking, listening, reading, and writing skills. According to students' answers, listening skill had a percentage of 46,36% (121) of students who thought that Kahoot or Nearpod helped them practice the most using this skill. Thus, this skill was the most favorably with the use of these ICTs. Tendencies that were corroborated in ICTs advantages in which ICTs helped them students' practice, review, improve listening and pronunciation and learn vocabulary and grammar. Likewise, these first findings confirmed what scholarships said about ICTs in EFL environments. According to the literature review, ICTs help students expand their vocabulary, language production, and improve grammar and pronunciation. The results of the present study support these findings.

Moreover, according to the results, students perceived that ICTs helped create a friendly virtual environment where students have fun, instructiveness, entertainment, enjoyment, and enthusiasm for learning. These findings were present in the students' journals and the survey. In the students' journals, most of the students agreed with this perception. Also, in question 8 from

the survey, this perception is corroborated because most students enjoyed using ICTs like Kahoot or Nearpod in their listening and speaking classes. According to students' answers, 80,08% of students (209) enjoyed using ICTs like Kahoot or Nearpod in their Listening and Speaking classes. Likewise, ICTs advantages supported this perception because patterns such as didactic and makes learning fun had a great number of students who supported these patterns. It could be because ICTs like Nearpod or Kahoot have game characteristics that try to break with the traditional teaching way, which is corroborated by Angelova, who mentioned in the literature that the Gamification approach used game thinking and game design elements to improve learners' engagement motivation. Likewise, the contemporary ICT section confirms that these ICTs such as Kahoot or Nearpod have game characteristics to involve students with educational material and subjects in a fun, dynamic, and playful way to promote interactive learning.

In addition to building linguistic skills, the results showed that students perceived improvement in general learning domains such as faster and easier learning, memorization, concentration, and mental agility. According to the survey, these patterns represent the 25,29% of students from the survey. Likewise, fifteen students (%) reported these perceptions in their journals. These results were corroborated in the literature review. According to Gachkova and Somova (2016), this kind of ICT helps learners improve their memorization and apply the theory to real life. Also, It mentioned that ICTs helped learners to improve their mental agility. However, these reported benefits of ICTs could be affected by several disadvantages that . Also, this disadvantage could contribute to bad behavior, negative emotions, and inequitable learning experiences. According to students, the bad internet connection is the most relevant disadvantage that ICTs had to face in virtual environments. 31,03% of students reported the quality of their internet connection as a disadvantage. A bad internet connection could affect students learning

process because they could not practice and review properly a new topic. Also, they could not practice language skills such as grammar or vocabulary, and it could affect the acquisition of English as a Second Language. Similarly, this disadvantage could negatively affect students' enjoyment and learning process. In this way, the study reveals possible inequities in the use of ICTs that are not discussed in the currently literature.

Students' behavior and emotions also scored high in the disadvantage section. According to the percentages, the feeling of not having time to answer the questions in Kahoot or Nearpod, the bad behavior of some students, and the increase in the levels of nervousness, stress, and anxiety among students was 28%. Thus, these disadvantages could be caused by poor internet connectivity. If the students did not have good connectivity, they did not have time to answer the questions. If they had this inconvenience several times, they simply decided not to join the activities at Kahoot or Nearpod or to misbehave by giving inappropriate nicknames.

Finally, the disadvantages perceived by the students showed that ICTs could be ineffective in developing the ability to read and write in English. Likewise, within this section, the students stated that the continued use of ICTs could affect the use of physical materials. Also, the students mentioned that one of the disadvantages of ICTs during virtual classes was an excessive number of questions. Likewise, the students stated that the continuous use of ICTs in virtual classes would become monotonous, which could affect their interest in their learning. Additionally, they mentioned that the use of ICTs in class allowed some students to cheat.

Finally, they mentioned that their privacy was affected since activities in Kahoot or Nearpod were not private, and all their classmates could know their results. These patterns that students mentioned in the disadvantages of ICTs such as Kahoot or Nearpod could be considered as inefficiencies that the mentioned ICTs present. However, the set of these disadvantages did

not reach more than 11% of the surveyed students. However, these disadvantages should be a warning for teachers who use ICTs in virtual environments to avoid those teachers and students feel uncomfortable using ICTs.

CONCLUSION

As described in the literature review, the current scholarship mentions that ICTs help teachers create friendly environments where students have fun, entertaining, and other benefits that positively affect general cognition and language learning. Nonetheless, student perceptions as explored in the present study complicate this picture of ICTs that teachers use in EFL classes.

This study helped teachers know that students hold perceptions of ICTs that, although overwhelmingly positive, nonetheless reveal significant disadvantages and limitations. For example, students perceived that ICTs like Kahoot or Nearpod helped them learn and practice specific language domains such as grammar, speaking, listening, vocabulary and pronunciation. Also, this study showed that students perceived that general learning domains like concentration, memorization, and mental agility were affected positively by ICTs like Kahoot or Nearpod. Also, this study showed that students perceived that ICTs had to face the bad internet connection that could cause that student started to have bad behavior in virtual environments. Also, it showed that bad internet connections and being pressured to answer quickly could increase students' stress, anxiety, and nervousness.

The question that arises at this point is why is it essential to analyze these disadvantages? These disadvantages indicate the further need to understand how students could be negatively affected by ICTs in virtual and physical environments. Similarly, the research could focus on students who are left out or behind when ICTs are used in the teaching of English as a foreign language.

Furthermore, these results have only shown us a superficial part of the pros and cons of ICTs in English classes. For example, this study did not show other ICTs that students consider to be better or more beneficial than Kahoot or Nearpod. Also, this study just focused on how

students perceived the ICTs in virtual environments, but it did not pay attention to parents' perceptions. During this school year, students were taking virtual classes at their homes. For this reason, it is important to know how their parents perceived the use of ICTs in their sons' and daughters' virtual classes because they were accompanying them throughout this learning process, and they realized that many teachers used ICTs like Kahoot or Nearpod. Additionally, parents could be a source of information that the survey was unable to obtain. For example, parents could provide information about technologies that are available in their homes. Likewise, they could mention if they can use ICTs and guide their children in their learning process. In addition, parents could convey what their children think about the ICTs that were analyzed in this study and which others could have more benefits for teaching the English language. In this way, with this new research, teachers would have a better vision of the use of ICTs in the teaching process. Also, if students get back to presential classes, it is essential to know if ICTs are effective in these physical environments. Thus, future research on the same topic could be "How parents perceived the use of ICTs in their sons' and daughters' virtual and presential classes?" and "How could ICTs like Kahoot or Nearpod affect presential classes?"

Moreover, some benefits can be drawn from this study for EFL teachers. First, teachers who like to use ICTs like Kahoot or Nearpod will know that ICTs could help them create virtual environments where their students feel comfortable, have fun, and enjoyment. Also, teachers could use ICTs like Kahoot or Nearpod to give real material to their students. Additionally, These ICTs could help teachers create virtual environments where their students can learn and practice specific language domains such as grammar, vocabulary, pronunciation, listening, and speaking. However, they must know that problems with the internet connection could affect their teaching process and create environments where students feel stress and anxiety. Factors that can

produce that student misbehave because they cannot learn properly and start losing interest in their learning process. In other words, teachers must learn to manage ICTs properly and have other virtual and physical resources to cause a positive impact and positive students among them and their students.

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APPENDIX A. Research Protocol Approval



UNIVERSIDAD SAN FRANCISCO DE QUITO USFQ



Oficio N°061.2021-CA.P21.056TPG-CEISH-USFQ
Quito, 20 de abril de 2021

Señor
Cristian Pardo Fierro
Investigador Principal
Universidad San Francisco de Quito USFQ
Presente

Asunto: Aprobación del estudio
Referencia: Protocolo 2021-056TPG

De nuestra consideración:

El Comité de Ética de Investigación en Seres Humanos de la Universidad San Francisco de Quito "CEISH-USFQ", notifica a usted que con el informe de evaluación IE01-EX074-2021-CEISH-USFQ se analizaron los aspectos éticos, metodológicos y jurídicos de la investigación: *Percepción de estudiantes sobre las tecnologías de informática-comunicación (TIC) y sus efectos en las clases de Inglés como segunda lengua, en la Unidad Educativa Saint Dominic School, durante el año lectivo 2020-2021, acordando aprobar el estudio registrado con los siguientes datos:*

A. DATOS DE LA INVESTIGACIÓN			
Códigos USFQ	CEISH: 2021-056TPG		
Título de la Investigación	Percepción de estudiantes sobre las tecnologías de informática-comunicación (TIC) y sus efectos en las clases de Inglés como segunda lengua, en la Unidad Educativa Saint Dominic School, durante el año lectivo 2020-2021. <i>Student perceptions of ICTs and their effects on learning in EFL classes at Unidad Educativa Saint Dominic School, during their 2020-2021 year</i>		
Tipo de estudio	Observacional (cross-sectional observational)		
Investigadores + afiliación institucional	Investigador	Institución	Rol en la investigación
	1. Cristian Pardo Fierro 2. Scott Gibson	Universidad San Francisco de Quito USFQ	Investigador principal Director de tesis
Lugar de implementación	Zona	Provincia	Ciudad
	09	Pichincha	DMQ
	Centro de investigación Unidad Educativa Saint Dominic School		
Duración del estudio	Dos meses desde aprobación (26abr-26jun 2021)		
Breve resumen del estudio	Objetivo general: Analizar las percepciones de los estudiantes de las clases de inglés, sobre las TIC dentro de su proceso de aprendizaje. Universo: estudiantes de inglés de 8vo-10mo año de UB de la Unidad Educativa Saint Dominic School; y -Tamaño muestral: muestra por conveniencia de 366 estudiantes. Metodología de recolección de datos: 1. Encuesta sobre percepciones de la TIC 2. Diarios reflexivos como actividad de clase. 3. Revisión de portafolios virtuales (C2)		



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Documentos aprobados para esta investigación:

Documentos que sustentan y que se utilizarán en la investigación	Versión	Fecha	# pgs
1 Protocolo de investigación	E02	06 abr 2021	09
2 Formularios de consentimiento (FC) y asentimiento (FA)			
2.1. FC para autoridades de la institución	E02	30 mar 2021	04
2.2. FA para encuesta (menores 11-13 años)	E01	30 mar 2021	01
2.3. FA para diarios (<i>journal</i>) (menores 11-13 años)	E01	30 mar 2021	01
3 Instrumentos a ser utilizados en la investigación:		23 feb 2021	
3.1. Students' Journal	M01		01
3.2. Survey for students	E		02

Para la aprobación de esta investigación, se ha tomado en consideración la pertinencia y/o relevancia científica de la investigación, la idoneidad del equipo de investigación, la factibilidad de la investigación y la idoneidad de los recursos de la investigación.

La vigencia de esta aprobación es de dos meses, desde el 26 de abril 2021 hasta el 26 de junio de 2021 2021, tomando en cuenta la fecha de inicio y el periodo de duración del estudio especificado en el Protocolo de investigación presentado (versión E02).

Esta aprobación aplica solo para las actividades descritas en los documentos revisados según el informe de evaluación No. 1E01-EX074-2021-CEISH-USFQ. Cualquier modificación a los documentos antes aprobados debe ser notificada a este Comité, para un nuevo análisis y determinación del nivel de riesgo.

El CEISH-USFQ deslinda cualquier responsabilidad en cuanto a la veracidad de la información presentada.

Atentamente,

Iván F. Sisa Caiza, MD, MPH, MS
 Presidente CEISH-USFQ
comitebioetica@usfq.edu.ec



Adjunto: Informe de evaluación del estudio

cc: Archivos digitales y físicos
 IS/avmt

APPENDIX B. Informed Consent Letter from School Authority



UNIVERSIDAD SAN FRANCISCO DE QUITO USFQ



FORMULARIO DE CONSENTIMIENTO INFORMADO PARA AUTORIDADES
Comité de Bioética, Universidad San Francisco de Quito
El Comité de Revisión Institucional de la USFQ
The Institutional Review Board of the USFQ

Título de la investigación: Student perceptions of ICTs in EFL classes at Unidad Educativa Saint Dominic School, during their 2020-2021 year.
 Percepciones de los estudiantes sobre las TICs en clases de inglés como Lengua Extranjera en la Unidad Educativa Saint Dominic School, durante el año lectivo 2021-2021

Organizaciones que intervienen en el estudio: Universidad San Francisco de Quito
Investigador Principal: Cristian Alexander Pardo Fierro, estudiante de la maestría de enseñanza de inglés como segundo idioma de la USFQ.
cpardo@estud.usfq.edu.ec
cpardo@saintdominicschool.edu.ec

DESCRIPCIÓN DEL ESTUDIO	
Introducción	La emergencia sanitaria debido a la propagación del COVID 19 ha obligado a las instituciones educativas del Ecuador a cerrar sus puertas y adaptar sus clases a la virtualidad. Muchos docentes están usando diferentes TICs para crear un ambiente interactivo y atraer a los alumnos a ser partícipes del proceso de aprendizaje. La enseñanza y el aprendizaje del inglés como lengua extranjera también se ha tenido que adaptar a la virtualidad. Por esta razón, este estudio nace con la intención de analizar las percepciones que tienen los estudiantes de las TICs que se usan en clases de inglés como lengua extranjera. A los alumnos participantes se les pedirá que completen sus bitácoras de actividades y reflexionen sobre el uso de las TICs durante las clases. Finalmente, se desarrollará un análisis que servirá como una guía para entender si el uso de las TICs está siendo efectivo en la enseñanza y aprendizaje del inglés como lengua extranjera.
Propósito del estudio	El objetivo del estudio es analizar la percepción de los estudiantes sobre las TICs que se usan en clases de inglés como lengua extranjera y conocer si estas están siendo efectivas en el proceso de aprendizaje-enseñanza del idioma inglés
Descripción de los procedimientos para llevar a cabo el estudio	Durante el mes de abril, se pedirá a los estudiantes de octavo, noveno y décimo de básica completar sus bitácoras con normalidad. Adicionalmente, ellos decidirán participar en una encuesta antes de finalizar su clase. Si ellos no desean participar pueden dejar la clase sin ningún problema. Su participación no afectará su rendimiento académico. Al final del mes, el investigador principal



analizará las bitácoras de actividades de los alumnos y las encuestas para comprender las percepciones que tienen los alumnos sobre el uso de la TICs y saber si están siendo efectivas en el proceso de enseñanza-aprendizaje.

Riesgos y beneficios

Los riesgos de este estudio son mínimos. Todos los datos recopilados serán anónimos y ninguna información de los estudiantes será parte de este estudio. Los profesores se beneficiarán de la oportunidad de saber si las TICs que se usan en el proceso de enseñanza son efectivas y ayudan a una mejor adquisición del inglés como lengua extranjera. Los estudiantes se beneficiarán al saber que sus percepciones ayudarán a sus profesores a mantener o escoger nuevas TICs para el proceso de enseñanza-aprendizaje.

Confidencialidad de los datos

Solo el investigador principal de este estudio tendrá acceso a los datos recopilados, que se almacenarán en una carpeta en una nube protegida con contraseña hasta que se complete el estudio. Una vez finalizado el proyecto, los datos se archivarán en la computadora personal del investigador principal.

Derechos y opciones del participante

Usted puede decidir retirar su consentimiento como autoridad de la institución en cualquier momento durante el estudio. Usted tiene derecho a saber qué información y datos se recopilarán, como se utilizarán y a la confidencialidad de la información recopilada. Si usted tiene preguntas sobre sus derechos y sobre el estudio, comuníquese con el investigador principal.

Procedimientos para verificar la comprensión de la información incluida en este documento

A los participantes se les informará verbalmente que participarán en un proyecto para conocer la percepción de las TICs que se están usando en las clases de inglés como lengua extranjera. A través de las sesiones virtuales que los alumnos tienen en Microsoft Teams, se les informará que al momento de llenar sus bitácoras de actividades deben incluir su reflexión acerca de las TICs que se han usado durante sus clases.

Información de contacto

Si usted tiene alguna pregunta sobre el estudio por favor envíe un correo electrónico a Cristian Pardo



UNIVERSIDAD SAN FRANCISCO DE QUITO USFQ



<p>cpardo@estud.usfq.edu.ec cpardo@saintdominicschool.edu.ec</p>
<p>Si usted tiene preguntas sobre este formulario puede contactar al Dr. Iván Sisa, Presidente del CEISH-USFQ USFQ, al siguiente correo electrónico: comitebioetica@usfq.edu.ec</p>

Consentimiento informado para participar en el estudio	
<p>Comprendo mi participación en este estudio. Me han explicado los riesgos y beneficios de participar en un lenguaje claro y sencillo. Todas mis preguntas fueron contestadas. Me permitieron contar con tiempo suficiente para tomar la decisión de participar.</p>	
<p><input checked="" type="checkbox"/> Acepto voluntariamente que los estudiantes de la institución participen en esta investigación y me entregaron una copia de este formulario.</p> <p><input type="checkbox"/> No acepto participar en esta investigación.</p>	
<p>Nombres y apellidos de la autoridad: Hna MSc. Edda Duque Bustamante</p> <p><i>Edda Duque</i></p> 	<p>Fecha: 20/04/2021</p> <p>CC: 2000009098</p>
<p>Firma /huella del participante:</p>	
<p>Nombres y apellidos del investigador: Cristian Alexander Pardo Fierro</p>	<p>Fecha: 20/04/2021</p>
<p>Firma del investigador:</p>	<p>CC: 1720773280</p>
Revocatoria del consentimiento	
<p>Nombres y apellidos de la autoridad:</p>	<p>Fecha</p>
<p>Firma /huella del participante</p>	<p>CC</p>
<p>Nombres y apellidos del investigador: Cristian Alexander Pardo Fierro</p>	<p>Fecha</p>
<p>Firma del investigador</p>	<p>CC: 1720773280</p>

APPENDIX C. Survey questions with the invitation / explanatory text



UNIVERSIDAD SAN FRANCISCO DE QUITO USFQ



2021-056TPG
VII.O, 30 marzo 2021

Asentimiento informado digital para niños entre 11 a 13 años

Título de la investigación:

Student perceptions of ICTs and their effects on learning in EFL classes at Unidad Educativa Saint Dominic School, during their 2020-2021 year.

Hola, mi nombre es Cristian Alexander Pardo Fierro. Soy parte del equipo de investigación que busca analizar las percepciones de los estudiantes sobre el uso de ICTs como Kahoot or Neapord en sus clases de Speaking and Listening

El uso de las Tecnologías de Información como Kahoot, Nearpod, Quiziz entre otras son de gran importancia en las clases virtuales. Por eso, quiero obtener las percepciones que tienen los alumnos sobre el uso de estas tecnologías en las clases de Speaking and Listening y saber si tienen un impacto positivo o negativo en su proceso de aprendizaje.

Tu participación es voluntaria, es decir, si tu no quieres participar puedes decir que no, nadie se enojará ni te retará. Es tú decisión si participas o no en este estudio. También es importante que sepas que, si en un momento dado ya no quieres continuar en el estudio, no habrá ningún problema.

Si decides que quieres participar:

Te pediré que respondas la siguiente encuesta:

Esta encuesta pregunta sobre las percepciones que los estudiantes tienen sobre las Tecnologías de la Comunicación (ICTs) pro sus siglas en inglés, como Kahoot or Nearpod que se usan durante las clases de Listening and Speaking. Esta encuesta tiene 11 preguntas y durará 5 minutos aproximadamente. Tus respuestas serán anónimas. Tu profesor no sabrá si participaste. Si estas de acuerdo en completar, presiona continuar. Tu podrás salir de la encuesta en cualquier tiempo.

Toda la información que nos des nos ayudará a saber la importancia de las tecnologías de la información en el proceso de enseñanza-aprendizaje. Esta información será confidencial, es decir, no le diremos a nadie tus respuestas, sólo lo sabrán las personas que forman parte del equipo de esta investigación.

Si quieres participar por favor da clic en botón de abajo que señala "Acepto libre y voluntariamente participar en esta investigación". Solo entonces se desplegará la encuesta para que la completes. Si no deseas participar da clic en el botón que señala "Salir" o cierra la ventana de tu navegador.

Acepto libre y voluntariamente
participar en esta investigación

Salir



SURVEY FOR STUDENTS

1. Which ICT did your teacher use during your class?
 - a. Kahoot
 - b. Nearpod

2. ICTs like Nearpod or Kahoot help me improve English Grammar.
 - a. Completely agree
 - b. Partially agree
 - c. Partially disagree
 - d. Completely disagree

3. ICTs like Nearpod or Kahoot help me improve Speaking skills.
 - a. Completely agree
 - b. Partially agree
 - c. Partially disagree
 - d. Completely disagree

4. ICTs like Nearpod or Kahoot help me improve Listening skills.
 - a. Completely agree
 - b. Partially agree
 - c. Partially disagree
 - d. Completely disagree

5. ICTs like Nearpod or Kahoot help me improve Reading skills
 - a. Completely agree
 - b. Partially agree
 - c. Partially disagree
 - d. Completely disagree

6. ICTs like Nearpod or Kahoot help me improve Writing skills.
 - a. Completely agree
 - b. Partially agree
 - c. Partially disagree
 - d. Completely disagree

- 7.-Which English skills did the ICTs help you practice the **most**? Choose ONE:
 - a. Grammar
 - b. Speaking
 - c. Listening
 - d. Reading



e. Writing

8. I enjoy using ICTs like Kahoot or Nearpod in my Listening and Speaking classes.

- a. Completely agree
- b. Partially agree
- c. Partially disagree
- d. Completely disagree

9.- I learn better using ICTs like Kahoot or Nearpod.

- a. Completely agree
- b. Partially agree
- c. Partially disagree
- d. Completely disagree

10. My teacher should:

- a. Use ICTs more in class
- b. Use ICTs less in class
- c. Keep the same amount of ICTs in class

11.- Write 1 advantage and 1 disadvantage of using ICTs during your classes.

- Advantage:
- Disadvantage:

APPENDIX D. Journal informed assent and the Journal questions / prompts



UNIVERSIDAD SAN FRANCISCO DE QUITO USFQ



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Tu participación es voluntaria, es decir, si tu no quieres participar puedes decir que no, nadie se enojará ni te retará. Es tú decisión si participas o no en este estudio. También es importante que sepas que, si en un momento dado ya no quieres continuar en el estudio, no habrá ningún problema.

Si decides que quieres participar:

Te pediré que me autorices usar la información de tus bitácoras de actividades para conocer tu progreso en la materia de Speaking and Listening y conocer tu reflexión sobre las clases impartidas. Esta información será confidencial, es decir, no le diremos a nadie tus respuestas, sólo lo sabrán las personas que forman parte del equipo de esta investigación.

Si quieres participar por favor da clic en botón de abajo que señala "*Acepto libre y voluntariamente participar en esta investigación*". Si no deseas participar da clic en el botón que señala "*Salir*" o cierra la ventana de tu navegador.

Acepto libre y voluntariamente
participar en esta investigación

Salir

Kind of activity

- Synchronous
 Asynchronous

2. Topic:

3. Title of the activity:

4. Activity development:

a.- Three important ideas you learnt:

b.- ¿How was the activity carried out?

5. Product (results):

6.- Personal Reflection:

a.- How does this activity contribute to your personal and academic development?

b.- Write 1 to 3 positive aspects about the activity.

c.- Write 1 to 3 things that could be improved for coming activities

d.- What are your expectations on this topic?

e.- Express your feelings about the activity

				
			X	