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Maestría en la Enseñanza del Inglés



BUAP

**“RESEARCHING UNIVERSITY STUDENTS’
PERCEPTIONS ABOUT HOW DIGITAL TOOLS HELP
THEM ACHIEVE HOLISTIC COMPREHENSION OF
ENGLISH ACADEMIC TEXTS”**

A Thesis Submitted to the Faculty of Languages for the Degree of
Maestría en la Enseñanza del Inglés

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México Puebla, January 2024



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Key terms

Digital Devices (DD). Phrase to designate an apparatus or device containing a computer or microcomputer that can process, receive, or send information continuously and quickly.

Digital Tools (DT). “Programs, websites, applications, and other internet and computerized resources that facilitate, enhance and execute digital processes and overall digitization efforts”. Mentioned by Walk Me (<https://www.walkme.com/glossary/digital-tools>)

Digital Texts (DTX). “Audio, visual or multimodal texts produced through digital or electronic technology may be interactive and include animations and hyperlinks. Examples of digital texts include movies, websites, e-books and apps”. Published in NSW Government website-Education (<https://education.nsw.gov.au>)

Multimodal Texts (MT). “Text that mixes more than two semiotic resources, for example, visual, linguistic, spatial, and gestural modes”. IGI Global. (<https://www.igi-global.com>)

Online Reading Comprehension English Courses (ORCEC). Teaching and learning a second language through understanding texts in English, where different digital resources are used, and which is taught in distance mode.

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“Thanks to all the doctors who made up this MEI program”.

Dedication

To my favourite people and the best in my life,

“Fausto David García Amaro” y “Nadia Jimena García Amaro”

To the two great pillars of my family who supported me to conclude another life project,

“Alicia Villanueva Estuart” y “Tomás Amaro Rodríguez”

And, to 3 special people who have been and were part of my life journey,

“Armando Amaro Villanueva”, “Alejandro Amaro Villanueva”

“Victor Amaro Villanueva”

Love you

Abstract

Reading through digital devices today is the fastest way to obtain information, especially with the electronic resources we use when studying an L2. This study aims to investigate university students' perceptions using digital tools through Online Reading Comprehension English Courses (ORCEC). It determines how the use of electronic media influences a more holistic outcome in understanding academic texts in English. The Digital English Text helps enhance the understanding of them. Transforming EFL teaching and learning processes leads to introducing a concept of the educator's innovative competence. "The modern Digital text consists of hyperlinks, videos, and interactive features aimed at helping enhance and understand given information." (Svetlan, 2021, p. 368). Questioning and interviews were conducted among 15 university students from different BA programs. The research followed a case study instance through a quantitative and qualitative analysis. Experiential results demonstrated practicality and preferences. The digital device skills for understanding texts were developed during six weeks in a virtual environment. Using digital devices (DD) and elected tools helped efficiently improve teaching comprehension and reading learning in English. University students showed more interest in using DD to read and search for information.

Keywords: English texts, Reading comprehension, digital tools, devices, university students

CHAPTER I

Introduction

Reading is a fundamental ability for students to achieve their academic goals. Reading within the English language is often complex, especially when the students do not know this, as it can cause success or failure in their professional development. Nowadays, to get a degree, university students need knowledge of languages to make the process easier; hence occasionally taking; online, blended, or face-to-face English reading comprehension courses. Thus, they require outstanding reading practice to advance in understanding the Academic Texts in English. As a consequence of this and the new changes within education, they have to improve their developing learning through electronic tools since it makes it easier to search for words when they read.

According to Davies, Walker, Rendall, & Hewe; Sadeghi & Soleimani

Among other possibilities of the use of computers as instructional tools, use of computers authoring tools can be an important step in integrating technology in language classrooms. Use of these tools has been proven effective in EFL reading instructions, as cited in Imtiaz et al. (2017).

Technology has transformed the way of life in the world; people have faster communication using digital devices. Reading is no exception to it, as mentioned by Bennt (2019). “Technology makes information easy to access, especially in digital sources” (p.191). Consequently, with the new technological updates, most people read newspapers, magazines, emails, and elementary information, employing different electronic versions such as tablets or mobile phones instead of reading printed ones. It has meant changes in education, drawing the students’ attention. Digital texts (DTX) provide a new format for readers to interact with in terms of view, font and color. “Digital texts have essentially offered readers a new experience in reading” Bennt (2019, p.191). Accordingly, nowadays, students prefer to read from a screen since they can speed up the search process of the required information and simultaneously obtain efficient results to achieve a holistic reading. Therefore, the main aim of this study is to explore the perceptions of university students using digital tools (DT) to understand English texts comprehensively, over all when they take online classes, for this reason is pretended to know what are the challenges, which they had to face during an ORCEC.

1.2 Research Problem

Frequently, reading comprehension courses in English are taught to university students to obtain their degrees. These courses are offered in person or in blended. During the COVID-19 pandemic, students had to face new challenges when they certainly had to take classes online. So in an ORCEC, the need to learn management or improve skills when using new digital tools was observed. Through the teaching of these courses, students have relied on some technological resources for understanding texts in English. Due to the lack of knowledge of digital resources to take classes remotely, university students also needed to change or improve their digital devices to get a better connection and deliver their tasks. So despite not being familiar with the use of (DT), or having some electronic deficiencies, students began to show more interest during the course, due to the dynamics that could be performed with the different digital resources that were used, when they took the course in person, they only read, underlining words in printed texts, which demonstrated boredom in them. This observation allows us to research what university students perceived when using digital tools and how they helped them improve their knowledge during an ORCEC. In response to the problem identified, the following research questions have been designed.

1.3 Research questions

In order to obtain the most focused answers to the present analysis, the following questions, are addressed:

- What are university students' perceptions about how digital tools help them achieve holistic comprehension of academic texts in English?
- How do digital tools help enhance the comprehension of English texts?
- What is the significance of reading comprehension in university language classrooms?
- What skills do university students need for comprehending texts in English?

1.4 Significance of the study

This study aims to analyze the perceptions of university students when reading digital tools to achieve a holistic understanding of the texts during the process of online English reading comprehension courses; hence, one of the primary aspects to consider

for university students is the importance of learning reading in an L2. Bennt (2019) in this regard affirms that,

Reading is the most vital skill every EFL learner should master for several reasons. First, EFL learners study English in an environment where English is not the primary language of society. Their lack of input from daily interactions could be overcome best through reading. Secondly, numerous studies have shown the vital contribution of reading to one's personal and intellectual development, further studies, job success, and career development. Third, reading skills increase a learner's mastery of other language learning areas (p.192).

Therefore, interacting with digital texts makes students perceive reading more interestingly because of the immediate feedback they can get, as cited by Imtiaz, et al. (2017). "Feedback is an essential aspect of the learning process. Computers are valuable tools for providing instant and incessant feedback" (p.111), this allows to make the university students achieve the best and most holistic comprehension understanding of texts. Thus, reading practice with digital tools shows how the current world is based on immersion and technological normalization, which makes the students involuntarily improve their skills when use digital tools DT. Hence, the electronic resources, was a primordial help to them achieve their aims, in the Online Reading Comprehension English Courses ORCEC, despite belonging to different careers or have different ages.

1.5 Participants

The participants came from different BA programs and scholar grades with a Basic and intermediate English level. They are 15 students; some of them are in the process of graduating. Others have a degree, and the majority work and study. Their ages range from 18 to 50 years and study in a public university.

1.6 Research context

This research analyzes students in a virtual environment in a Public University in the center of México. These are online classes, five hours one day a week. The purpose of these courses is to help students improve their skills in comprehension of texts in English, and know the digital strategies that students put into practice to develop their reading competence through the use of different technological tools, or an *e-book*. Participants had online classes on virtual conference platforms such as Google Meet and Zoom. The virtual classrooms were structured through web applications such as Google Classroom and Meet, where students and teachers interacted synchronously and

asynchronously. In addition to other digital tools that began to resurface due to the need for daily virtual classes. Some applications used were Padlet, Vocaroo, Google Blogs, and Canva among others, as support during their training in an ORCEC.

1.7 Purpose of the Study

The purpose of this research study is to know and analyze information about the opinions of university students who, during the Covid 19 pandemic, saw the need to take definitive classes online. This document also aims to show what the needs and skills that students had to implement or renew in the use of digital tools, as well as the preference for different forms of reading, to be able to improve the comprehension of digital texts in English in a holistic way, and at the same time accept the global changes that began to emerge with distance learning.

1.8 Justification of the study

The study focuses on the importance of digital resources in education, which have brought about significant changes. Such resources became a primary tool for teachers and students during the pandemic. The application of digital tools in ORCECs has made users more interested in learning a second language due to the ease with which they can obtain quick and effective information for understanding English texts through hyperlinks or different applications. Furthermore, it also allows them to have more multicultural knowledge. The study aims to understand students' perceptions when using electronic tools in online classes. Hifzhan (2022) has also contributed to this research.

The integration of ICT necessitates certain language skills and strategies. Familiarizing ICT into language teaching classroom had brought upon great implications for curriculum reform, classroom teaching and student learning. It is believed that the upsurge of ICT has intensely strengthened and formed a powerful learning atmosphere. The integration of ICT into a real-life language context is more vital today than ever before since its rising usage as the medium of communication global wide. There are studies have been conducted to scrutinize the pros and benefits of integrating ICT into language teaching. Thus, the integration of ICT instruments such as laptops, LCD projectors, smart whiteboards, internet services and applications in education that act as a strong support will aid learners to use English in a fun and stress-free language learning environment. (p,730).

1.9 Conclusion

The study focuses on the importance of digital resources in education, which have brought about significant changes. Such resources became a primary tool for teachers and students during the pandemic. The application of digital tools in ORCECs has made users more interested in learning a second language due to the ease with which they can obtain quick and effective information for understanding English texts through hyperlinks or different applications. Furthermore, it also allows them to have more multicultural knowledge. The study aims to understand students' perceptions when using electronic tools in online classes. Hifzhan (2022) has also contributed to this research.

CHAPTER II

Literature Review

Introduction

This chapter aims to discuss the literature relevant to the research questions addressed in the previous chapter. The chapter presents the structures of the concept of reading, taking into account the definitions of the word "reading" until the renewal and new skills of this ability, the importance of reading as an L2, to define reading comprehension, to know the changes of printed texts through new forms in an electronic reading concept, to analyze in general the notion of the importance of digital reading to improve the comprehension of texts in English and to know the (PUS) perception of university students when using digital tools to read.

2.1 Understanding the concept of “reading”

In referring to the meaning of the word reading, we understand the importance of this ability to acquire and enhance knowledge in different fields of teaching and learning. Hence, several studies show interest in the definition of reading in different contexts. In the '70s and '80s, it was considered that reading confirms and forms hypotheses through texts and a “process through which we combine information from the text with the reader’s knowledge of the world; it is a dialogue between the reader and the text”. (Bustos & Loreto 2007, as cited in Carrel, et. al, 1990, p. 245). However, the acceleration of life makes the processes, forms, methods, and tools for reading constantly change over time. Therefore, human beings enter a continuous literacy of knowledge of new words implemented in reading and writing. For example, Hoover & Gough (1990) mention that “reading is defined as a process of decoding and comprehending printed and written texts” (p.9), and Richard et al. (1985) define “Reading is a process in which information from the text and the knowledge possessed by the reader act together to produce meaning” (p.8). Nevertheless, the meaning of the reading can be more relevant than the combination of sounds with letters to form words since the reading process is constructing meaning through the dynamic interaction among the reader’s existing knowledge, the information suggested by the written language, and the context of the reading situation, (Dutcher, 1990). Katerine (2016) points out the definition of Purcell et. al. (2016).

The reading must go further by attending to the process as it occurs in the context of "socioculturally constructed literacy practices" because this can focus on a shift from reading to literacy. Including the values, beliefs, and power relations that characterize those practices, such as those related to language, gender, ethnicity, religion, economics, and geopolitics (p.7).

Several authors have different opinions about the reading concept. Also, it is clear that reading transforms the way of life of the human being and fundamentally is a factor that allows us to relate within the environment in which each person develops. For instance, one study in Indonesia Rohin (2104) expands on this idea.

Reading, one aspect of the four language skills, plays an important role in language teaching. Said to be important because, in addition to teaching, listening, speaking, and writing. Reading skills is a powerful tool for obtaining a wide range of specific information, including science and technology. Therefore, reading is a basic requirement for an advanced society. Similarly, in education, read a very influential role in student performance. It can be proved that the higher the reading understanding of the students, gains the higher the knowledge they had. (p.1)

Also, it is essential to point out that when students learn adequate vocabulary, they promote the skills in comprehension of texts, helping to improve reading enriches anyone's way of expressing themselves by carrying out meaningful vocabulary learning (Zubaidah & Ali,2021). "Reading requires the recognition of words and the construction of meanings. The more a person reads, the more a person comprehends. This suggests the importance of reading in developing a good reading skill, which strengthens vocabulary" (p. 45), which is one of the most recent studies about the meaning of reading. Furthermore, currently reading is changing and at the same time its concept, since over the years, ideas and vocabulary have a different development because there are new words and others disappear, in the most recent research the definition of reading focuses more on vocabulary and on the extinction that university students can achieve with reading skills. Blanka & Katarina (2020, p.1) defined "Reading is a fundamental skill for academic success because university students need to comprehend an extensive amount of information in a short time to achieve their academic goals". Similarly, reading is a fundamental skill for cognitive development that facilitates understanding and, therefore, improves the knowledge of human beings since the achievements of literacy and communication are obtained through the use of adequate skills and strategies of reading and writing. "To achieve some of these objectives, foreign or multiple languages are constantly required" (Ruiz, 2019, p. i).

2.2. Reading in a Foreign Language

Bernal (2020) argues, “Many EFL and ESL researchers have agreed that reading is an essential academic skill to develop as a tool to learn ESL or EFL”. In addition, argue that reading skills are fundamental to learning a foreign language and paramount to teaching ESL/EFL courses (p.19). Reading in a foreign language is definitively significant because this is how university students can learn more vocabulary and properly understand English texts. According to Bernal (2020)

Reading is considered a primary means of acquiring new information and accessing alternative explanations and interpretations in university settings. However, English learners must go beyond these simple practices and engage in the reading text by having a purpose for reading (p.19).

On the other hand, comprehension reading in English is usually complex, as mentioned by some authors, since it leads to the versatility of knowledge that both the teacher and the student must develop in teaching-learning. However, the approach to reading in a foreign language means opening different options to reading (Ruiz, 2019) because research to teaching practice extends a large number of possible topics and perspectives; as mentioned by (d’Albis, et, al.,2019, p.37)

Reading, in particular, is one of the most complex and essential forms of linguistic activity, involving variables of a very different nature: cognitive, linguistic, textual, and socio-cultural. The complexity of reading derives precisely from its multidimensional nature, which is accentuated in the case of foreign languages. However, even if reading comprehension in a foreign language is shown to be intricate and can be stressful, it is a fundamental part of getting more knowledge of an L2, especially in university students who develop skills for understanding an L2 by reading English text comprehension will enable them to obtain information with a specific significance for better interpretation and understanding of relevant texts or information that will give them better performance and professional growth.

In higher education, reading involves extracting, valuing, and using information to guide the reasoning processes aimed at general understanding for its professional utility. In other words, the aim is for the student to obtain information to deepen on a topic, idea, process, concept, or situation, elaborate an interpretation, and reflect and value the content of the text. Likewise, reading in English from the communication framework is considered a search for meanings and expanding information. Reading comprehension in an L2 gives the university a critical thinking reflexive for its insertion in sociocultural processes as one of the aims of university education and its formative strategies (González, et al., 2019). Understanding the importance of comprehension reading in learning a foreign language, as mentioned by some authors, can also lead students to seek further information that allows them to grow in their

professional development day by day. Therefore, focusing on the accelerated changes of the new ways of reading any information digitally can allow the skills to learn a second language to be more favourable and, at the same time, accelerate the learning process, as long as the student properly uses the electronic tools for the better understanding of texts in English or the development of some other skill of this language, since these tools only provide the student with extensive information. However, they can also obtain renewed information because today, the most significant reach that the student and anyone have to be informed or read immediately are their cell phones, tablets or computers, which give them more interest and facility to learn an L2 through electronic reading in English. For this reason, it is essential to define the context of reading comprehension to understand how to achieve the desired goals through reading.

2.3 Reading comprehension definition

By understanding the concepts of reading and the importance of reading for learning a second language, it is understood that Reading Comprehension will be the next step in improving any particular study. However, this skill is complex due to the need for knowledge of some words or grammatical structures. It is essential to follow some rules, as this will allow when practising the understanding of texts vocabulary increases in the individual facilitating its form as mentioned by some researchers. “Reading comprehension is a complex construct consisting of several processes.” (Duke, 2005, as mentioned in Pawadee & John, p. 428). Indeed, reading comprehension is a complicated ability for some university students overall when the texts are in English, and they do not have knowledge in this language; so comprehension is the ability to achieve the understanding of things and have a conviction of them; thus, if there is not an understanding of the grammatical structures or the meanings of the words, it can be challenging to define the sense of the texts in an L2. Hence, reading comprehension can also play an essential role in determining a student’s academic performance (Dawkins, 2017; Vacca, 2005) and can be a critical skill to develop while learning languages, particularly in second and foreign language learning contexts (Ibrahim et al., 2016 mentioned in Pawadee & John 2021, p.428). However, a critical point for readers to improve their performance is when they are interested in it, and as a result, to obtain an efficient reading comprehension of the text; they need to know the texts they want to read. According to Bojovic (2010, p.1), “The reader has a purpose for reading, whether it is for entertainment, information, or research. “And for this reason,

the ability to understand a text becomes less complex. Finally, *reading comprehension* can be defined as the correlation between vocabulary knowledge and reading comprehension". (Laufer ,1992 & Quian 2002, as mentioned in Ruiz, 2019, p. 203). Although it has been understood that for some authors to understand reading or texts sometimes becomes complicated, others propose different strategies to facilitate or develop this skill better.

2.4 Teaching reading strategies

Some students find it difficult to comprehend readings in their native language, and it becomes even more challenging in a second language. Teachers also face challenges teaching strategies to help students improve their reading comprehension skills. The ability to read effectively has become increasingly important in the education system. Many authors argue that "the ever-increasing demand for high levels of literacy in our technological society makes this problem even more pressing" (Snow et al., 1998). They are mentioned in (Ana,2020, p. 2). It is worth noting that younger generations often read through digital devices, so both students and teachers must implement, follow, or improve upon existing reading strategies to ensure success in their projects.

The strategies implemented for reading comprehension of printed texts focus on following certain patterns. Today, with digital reading, those strategies have also changed. Some authors focus on the following points for printed reading: 1. *Predicting*. Students talk about their knowledge or experiences to make predictions about the text they are reading and have a better understanding of it. One prediction strategy is using the title, table of contents, pictures, and keywords. 2. *Visualizing*. This strategy requires the student to imagine or create an image of what is read and then interpret it by drawing or writing something about it. 3. *Making connections*. Apprentices put their knowledge into practice and connect them with the ideas of the text. "Text-to-Text, Text-to-Self, Text-to-World". 4. *Summarizing*. This strategy allows the student to order ideas, which will help the student better distinguish and relate the interpretation of the text. 5. *Questioning*. At this point, the student asks questions about the text, so the student has to read the text to find the answers. It will help him solve and understand the problem, show more reliable information, and improve reading comprehension.

6. *Inferring*. It refers to reading between the lines; students can obtain conclusions and build meanings from information or drawings in this strategy. (Ana, 2020, p. 3, 4). Regarding digital reading, some authors' strategies for understanding may focus on the

1. *Identifying the topic and search terms*. Students should have a more explicit purpose than they intend to investigate and create their topic, questions, answers, and the facts they need to check. Relate words and search for reliable sites to brainstorm.
2. *Evaluating the usefulness of a text based on the reading purpose*. Students should evaluate the search sites, remember the purpose or response of what they are looking for, have an information organization, and check whether the information is a fact or an opinion.
3. *Remain focused on one text and avoid distractions*. At this point, students should focus on reading and develop more rapid reading skills, avoid ads unrelated to texts, and organize information if a hyperlink related to the text appears. (Nicol, 2019, p. 5-7). To know some strategies for understanding printed and digital texts allows us to analyze conflicting opinions of printed and digital texts, so below is a brief approach to both texts.

2.5 Reading print-based texts vs digital texts

The way of acquiring information or knowledge through reading has changed considerably since digital media have had more boom to develop this ability so that printing texts constantly remain a second resource. Moreover, they are no longer helpful to many students and the public. Due to this, educational publications constantly appear with different reactions, causing polemics regarding students' literacy in the 21st century (Reza & Abbas, 2014). For this reason, the adaptations in education show a considerable rise (Turner, 2015; Wells, Blincoe, and Spence, 2015), as mentioned in (Bella et al., 2017). "Recent years have seen a dramatic rise in the adoption of blended learning to enhance learning outcomes, and universities are increasingly using digital technologies to make education more accessible and personalized for increasingly diverse student cohorts." (p.1). It is crucial to outline that both ways of reading have pros and cons. There are several opinions from different authors' perceptions. According to Bella et al. (2017), "in the context of the apparent dichotomy of print-based texts versus e-texts, an overwhelming number of studies reviewed suggested that print-based texts contributed more to increased comprehension and recall than e-texts" (p.3).

On the other hand, Gina (2012) argues, “Advances in digital technologies are dramatically altering the texts and tools available to teachers and students. These technological advances have created excitement among many for their potential to be used as instructional tools for literacy education” (p.139). Meanwhile, the negative things that can be noticed when someone is in front of a screen are that there are distractors when reading or feel sleepy eyes, and maybe reading long texts through different devices could be difficult, so some people prefer to read the print text (PTX) because it could be friendly. Reading print texts gives a better comprehension or recall of the information, and reading in front of a screen is possible not to come back to read the information (Cazacu & Banica, 2001). Nevertheless, the reality is that the new generations of students constantly use different devices to get relevant information since when they need a specific book or relevant lowdown, they can surf the net and obtain it, and save time and money; although, some of them agree with the print texts (PTX); also they use the digital reading to look for or read crucial scientific information, so the actual reason is that the digital texts make more accessible the performance of their works in which have to use reading comprehension texts. To better understand the differences between both forms of reading, the context of print-based texts and digital texts is shown in more detail.

2.5.1 Print-based texts

As it is known, reading and writing are the forms of literacy of the human being, and these skills for many decades have been developed through printed paper, given that previously was of utmost importance for the reader to have a book in his possession since it often became part of specific collections or investigations. The knowledge acquired from printed paper, so much in newspapers, magazines, books, etc., could be more significant than other activities by being part of the growth of human beings before the tremendous technological advances. The printed paper became one of how people learned about what was happening around the world, and this encouraged the reader to write in a meaningful way, but it is also considered that this form of communication tends to end, as stated by Benny (2019) in the definition of Pred,

Printed texts refer to the conventional reading materials provided in the forms of textbooks, newspapers, books, magazines, handouts, and so on. Printed texts are tangible objects having a beginning and an end. It is also hierarchical, intended for

private reading, and provides a linear and static reading experience to the reader (p. 194).

Alternatively, there is a definition of the reading text and reading in Multimodal Texts (MT) since the print texts is required but is not enough to give sense to the text with some visible pictures, graphics, or effects of sounds as electronic texts. Hence, MT requires more complex variations than print comprehension texts. Coiro & Dobler (2007). Reading comprehension can be more effective through *hypertexts* since these types of *e-readings* tend to understand a complex text. Finally, it is known that printed reading has significant importance for communication. Thousands of books were sold daily since it was how human beings communicated through distance and time, but today, it begins to see displacement.

So, printed reading every day is replaced more with digital reading because this has reduced the use of paper to an extreme measure and, at the same time, allows ease and speed in the search for information so that the reader can acquire and improve their knowledge on several topics at once. Now, the term digital texts is discussed to understand with more clarity or detail.

2.5.2 Digital texts

Digital reading is reading texts from technological apparatus such as the screen of smartphones, tablets, or computers, either online or offline. Digital reading helps literature comprehension because of the vast exposure to interesting readings (Kirin et al., 2012). E-reading is a recent and controversial method to get knowledge nowadays; some research does not agree with new reading tools, while others consider it necessary to obtain insights. Social media constantly gives us unparalleled access to knowledge, and technology replaces our priorities (Ian, 2020). Furthermore, Ian (2020) has the opinion that “Increasingly, these platforms are also becoming vehicles for manipulative disinformation campaigns” (p.3).

Nevertheless, the new online modality supplants the old modalities. Social media platforms have become the first choice of many information seekers (Gottfried & Shearer, 2016). However, as mentioned, most students and people need to communicate through digital resources. Due to COVID-19, a big part of this new learning modality through the technology grew faster. If the students previously had blended classes, this phenomenon caused a transformation and more interest within the educational system in

developing the teaching-learning modality online. According to Ariel G. (2006) (3-8). The enormous utilization of computers and the new resources on the web have created a new and uprising form of reading that is beginning to have an essential impact on the development of knowledge: electronic reading, also known as e-reading, cyber-reading, or digital reading. (Ariel, 2006). This innovative way of reading based on digital texts DTX through a screen allows the new generations of the XXI century the facility to create and exercise actions in one or more digital texts at a time. They can change annotations of fonts, Index, copy, edit, replace, improve, expand, or insert images, probes, etc., becoming cyber-co-authors. (Ariel, 2006). All these new forms of communication and learning-teaching show the reader an interest in acquiring new knowledge daily. Furthermore, in this kind of electronic reading, hypertexts are very common, and the readers can research information because they can surf different sites simultaneously. Accordingly, as mentioned by Min (2016) (p.234):

The dynamic nature of the hypertext environment gives it an ability to connect with the net-generation readers. Computer environments can offer a medley of sights, sounds, and links that linear text cannot provide. Potential benefits of using technology in educational settings include a greater variety of instructional methods, potential to accommodate different learning styles and instructional.

Hence, the students or readers can grow their knowledge with this kind of text because the hypertext can be articles on the internet that have a variety of links into some phrases or words about the aim topic, and this allows the reader to have an active reading and obtain the more specific or need information. This method of presentation and organization of data based on the specific shards or graphics or another fragment gives the users a random way to get the lowdown; if not, they can obtain several items related to the topic they read. On the other hand, there is also the ability to understand the texts in an *e-reading* fast through iconography. Although this also exists in print texts, nowadays, the reader can see a wide range of images or more specific semiotic resources to help facilitate the understanding of the texts; maybe in the print texts, it is not the same way because it is possible that the images do not allow them to follow up in the idea that is understood. The obtaining of knowledge can be more limited, but, on the contrary, in electronic texts, the reader can change the investigation of images, or the screen automatically can present more images simultaneously, enhancing the understanding and learning in reading comprehension. Digital texts (DTX) are different

from print texts; they have several sizes of fonts, colours, or structures in the e-pages that highlight the words or complete paragraphs into a text, making striking or relevant the information that the student or reader wants to obtain or understand.

These resources are used increasingly daily in the education system; different electronic pages constantly appear, forcing teachers and students to participate in innovations. *E-reading* is establishing new forms of teaching, learning, and, of course, reading and writing.

Sometimes, there are distractors when readers read on electronic devices. However, teachers and students must improve their learning abilities or find concentration methods to facilitate learning through digital texts (DTX) since digital reading will grow for a long time. In brief, it is possible that e-reading affects the reader's view or distracts their attention with messages or announcements that may appear when reading. For this reason, some readers or students prefer to read on paper. However, even if read in a printed text, they will have the possibility of being distracted because they can resort to some digital device to look for more information or answer some message. Truly, *e-reading* has a relevant use in all educational fields, jobs, and activities in daily life, and the population has to accept and prepare for the new reading digital methods. After clarifying the terms of print and digital texts, it is essential to know some of the electronic materials or resources that exist to implement reading comprehension or to obtain and share rapid information through digital reading.

2.6 E-books and reading through devices (e-books uses through devices)

The change in reading through digital books was in the 1990s; in these years, *E-books* became a library source (Dorner 2003, mentioned in Yuening & Roger, 2011, p. 4). The new forms of reading started to change considerably; the digital books were on some platforms: Ebrary, NetLibrary, and Books 24X7 (Sprague & Hunter 2009, mentioned in Yoening & Roger, 20011, p 5). When the e-book revolution appeared, several studies were practised at different levels of education to know better the use of these new materials; some of the studies were at the University of Wales in the United Kingdom in the students of engineering, business and management, and medicine (Armstrong & Aucoin,2005).

So, in this research, the students agree with these kinds of books, and engineering and health suggested that the monographs, research, or professional reports should be in

electronic books. Also, other libraries, such as Oklahoma Bibliotheca, called at some teachers of pure and applied science to give their opinion through interviews and questionnaires about the implementation and perception of *e-books*; they agreed with this form to learn, and the electronic books were accepted for this academic, (Bierman & Ortega, 2010 mentioned in Yuening & Roger, 2011, p.5); furthermore, in this university graduate student from the School of Geology and Geophysics at Oklahoma University was interviewed about the uses of e-books and they regarded the images and graphics should be in electronic books for geosciences research. (Foote & Rupp, 2010). As Gonca and Kerem (2013) mentioned, “With electronic books becoming widespread, various studies have begun to be carried out about reading habits, digital catalogues, and e-book devices. A vast majority of these studies have focused on university students” (p.122). Understanding that reading digital comprehension is more common in university students. Through these studies, the concept of e-reading change dramatically changed the print reading structure, and reading in this new form to acquire knowledge demonstrated that a recent material could help to improve and facilitate the learning process in university students, thus beginning to come out some definitions for this electronic stuff that is considered as: “an electronic version of a printed book which can be read on a personal computer or a handheld device designed specifically for the purpose” (Anuradha & Usha, 2006, p.49). “Electronic books are electronic text forms that are published digitally and are available on computers, portable tablets, and customized reading devices“ (Başak, 2021, p.2). Likewise, when we use the term e-books, we are referring to electronic reading, and this is the general concept that denominates the digital version in a print issue or other electronic contents organized as a book, and e-books that can be read through various digital tools DT as, computers, mobile phone, tablets, (smartphones), and an e-book also can be read on the screen through a t.v with an internet connection, for instance, iBooks Story Time for tvOS which this tool children can learn to read, or an e-book can be a project in a reflector or a new version that beginning to suit in the users as the smartwatches this have specific variants for this kind of watches as Gloss iPhone Operating System (iOS) in which can find speed read, in this the text is showed word by word is necessary to adapt to the screen limitations. There is some software (multiplatform) where the students can read an e-book in different versions or programs that they can, such as *Adobe Digital Editions*, which reads PDF, E-books readers (such as Kindle), iBooks applications,

Google Play Books; these programs give at the reader the opportunity that the e-book's words can be read in high voice. (Techleo (s.f.). Thus, with this new reading version, the students can practice pronunciation when they have to read English texts or learn an L2, then this new digital literacy becomes more accessible as people mainly use *e-book* applications with various portable tools (Amazon et al. & Noble NOOK; Lee, 2017 mentioned in Başak, 2021). These technologic resources have been increasing the use of digital tools and the search for information in the network so every day new sites arise where students can find digital books or digital libraries that allow them to obtain information faster and at a low cost, an essential factor that caused more the use of electronic devices was the COVID this increased that there were new platforms for teachers to transmit their classes digitally, so e-books had to be renewed, since if these were only in a PDF version, the publishers were forced to improve these materials by adapting tools or changing the version of the digital book; as exercises of multiple choice that allows to obtain the answer in automatic, digital games within the same book , be able to underline words, allow students to enter the same teacher's book and write their ideas, project videos and audios with lyrics and be able to show a wide range of vocabulary with their meaning, which is like a small dictionary especially in digital books that are used for the learning of a second language, which allows the increase of online classes and which in turn are more dynamic especially for university students, as far as the process of teaching, the broad implementation of digital tools such as mobile phones, electronic cameras, and smart boards changed and enhanced the uses of language ability in teaching idioms. "In this context, it has been stated that the use and reading of texts in the electronic environment will be preferred more in the process of developing reading skills, one of the basic language skills, due to the advantages, such as easy storage, restoring when the need arises, and the saving of resources" (Dillon, 1992 mentioned in Başak, 2021, p. 2). Therefore, university students use different digital tools in their research daily, improving their skills to obtain more knowledge from e-books. Moreover, there are some other applications where that create e-books, and the reader can adapt PDF, text, photos, videos, figures, tablets, graphics, or own draws; furthermore, the user can adapt a document page directly and record audio after listening to it Electronic Publications EPUB app., since this application allows to animate drawings to reproduce them. In the same manner, according to Gonca & Kerem (2013)

Reading habits, accessing resources, and material preferences change rapidly in a digital world. University students, as digital natives, are accessing countless resources, from lecture notes to research papers electronically. The change of reading habits with a great scale has led to differentiation on accessibility of resources, archiving them and usage of related technologies. (p. 121).

Because of this, the new ways of reading, specifically in electronic tools or e-books, make university students prefer adapting to this form to obtain information employing digital texts. Hence, the population will have to renew reading habits and adapt them to the use of new digital tools to be informed day by day; since the increase of digital libraries does not seem to be unstoppable, it may be a risk when faced with unreliable information, but resources to create e-books may also have only registered users to see the works. This will probably make printed books lose more interest in use. However, with recent technologies, they can be renewed by adapting them to e-books so that the information that could be forgotten remains valid in current and future generations, overall in university students field as mentioned by Gonca & Kerem (2013) “With electronic books becoming widespread, various studies have begun to be carried out about reading habits, digital catalogs, and e-book device. A vast majority of these studies have focused on university students” (p.122). Furthermore, these studies have demonstrated that when university students implement digital tools to understand English texts, they improve their reading comprehension skills.

2.7 Enhancing Reading Comprehension in texts of English through Digital Tools

English texts have always been a necessary resource for university students, and understanding reading in an L2 becomes challenging. Nevertheless, the new age of technology makes the students achieve their objectives the best possible. When they can understand English reading holistically, they enhance their ability to learn and comprehend this language better. For instance, as Min (2016) mentioned, “The ultimate goal of reading is to comprehend a written text regardless of the text medium. Comprehension is, in part, hinged upon the reader’s activation of prior knowledge and motivation as the author’s words are read” (p.235). Therefore, it is considered that today’s students feel more motivated when reading on digital devices and reading comprehension in English is usually more enjoyable for them. Other students may prefer to read printed texts but eventually look for information in digital tools to support

reading printed texts. As well as university students are frequently exposed to having to read too many reading materials, and it becomes an inevitable part of their leisure time. (Blanka, K & Katarina, Z, 2020). For this reason, e-reading is an essential resource to facility improve the knowledge of English reading comprehension; according to this opinion:

Text is often accompanied by videos or pictures to make it more vivid and unforgettable, so readers now have a wide range of possibilities of texts and formats to choose from, as almost everyone can become an author of a text” Blanka, K & Katarina, Z. (2020) (p.1).

On the other hand, some authors establish that “one of the current challenges is how the development of technological advancements impacts the process by which students read.” “Students are faced with hypertexts, informal texts accompanied by a video or pictures, and/or formats like e-books and audiobooks; therefore, teachers need to help students apply different reading strategies to be well-equipped for twenty-first-century technological changes in reading.” “Consequently, EFL classrooms are experiencing the implementation of mobile/smartphone apps into lessons whose effectiveness is already being evaluated.” “Under the umbrella of Mobile Assisted Language Learning (MALL) or m-learning.” “Derived from Computer Assisted Language Learning (CALL).” “The first comprehensive study of MALL brought up a selected annotated bibliography of implementation studies of MALL from 1994 to 2012” (Blanka, K & Katarina, Z., 2020, mentioned in Shen, 2006; Arifrani et al., 2018; Kim, 2012 & Rosell, 2016; Godwin-Jones, 2011 & Yang, 2013; Jarvis, 2013; Burston, 2013, p.2). In addition to this, the objective of CALL is to take the technological resources with the intention of teaching and learning a language (Shirin, 2016) and also, CALL shows that e-reading and the media structures in interactive and animated content are not possible to espouse on a paper (Maynard & Cheyne, 2005; Korat, 2010). The researchers express that digital texts can allude to better reading comprehension than print texts; because of the introduction of computers in the English teaching learning language, it was acknowledged that the computer could enhance the comprehension of texts; moreover, Shirin (2016) mentions three ways to improve reading comprehension through the computers “1. Controlling what and how long readers saw something digitally to develop reading strategies, 2. Providing comprehension exercises, and 3. Offering comprehension aids” (p,112). So, “Digital reading helps reading

comprehension of literature because of the vast exposure to interesting readings” (Shirin, 2016, mentioned in Kirin et al., 2012, p. 112).

Hence, the electronic reading platform or e-books are effective for literacy language and literacy teaching learning in an L2. Some students of EFL/ESL who read articles from an English digital magazine create a program of English in digital texts, proving that e-reading enhances English reading after the online program. The conclusion was that this activity improves reading. They used 16 articles from an English digital magazine to construct an online English reading program. 38 ESL college students participated in the study for a semester. The results from the pretest and posttest showed that learners improved their reading after the program. (Shirin, 2016). Besides, (Gartner, 2011, mentioned in Rahima et al., 2015, p.197) state that learning should be more thoroughly analyzed because it is affected by technology. Hence, it suggests investigating more about digital books since traditional reading is no longer the only information resource. Digital reading is more accessible in cost, has components to interact socially, and allows the reader to save space and weight. Hence, researchers should strive to know if digital reading can improve learning. Gartner also demonstrates in one of his studies how the level of comprehension in DTX is higher than in printed texts, the allusion that the digital reader can move through fragments from one page to another, allowing access to keywords which gives the reader the advantage of not wasting time or wasting search memory by scanning texts and finding the right word. so we conclude that digital tools can improve students’ learning. Thus, the increment and development of ICT are constantly more significant in education, and some methods and the newness of technology offer creative individuals. Many researchers have recognized that ICT has an essential role in English Teaching. English as a second language (TESL) and even teaching English as a foreign language (TOEFL) (Mohd & Melor, 2022). Teachers have to implement a variety of methodologies and accept the constant transformation in ICT because university students are at the forefront of the new digital era; they can easily understand English texts today and better understand them, which has not happened for a decade. According to (Gyoomi & Jiyong, 2002, p. 22), “The use of digital devices in language learning can enhance learners’ learning motivation and attitudes. Because the digital device enables differentiation according to the learners’ language proficiencies or characteristics, as well as providing immediate feedback and active interactions.”

Unfortunately, for some researchers, it is not acceptable that nowadays, students depend more on their devices to improve their studies than print books. However, the reality in the classrooms and virtual classrooms in English classes is that these electronic tools are essential to the developing process while learning an L2. The new generations of university students are constantly moving in different and fresh cultural environments; they live in a competitive world, so they need to advance in the same manner. A second language is elemental, so the speed of communication makes university students have to learn a second language; for them, comprehending texts in English through digital devices becomes one of their most valuable tools for their development and professional growth. Digital sources have allowed the progress of new programs in different educational software; the holistic development in the technological education fields allows university students to practice an L2 at any place and time. Additionally, social network sites and the Internet have recently been used to train students in digital English learning strategies with positive results in the digital learning environment “(Alias et al., 2012; Kim, 2017; Rahimi & Katal, 2012; Yoon, 2014, mentioned in Gyoomi & Jiyoung 2020, p. 24). In summary, university students improve their skills in English reading comprehension strategies through digital tools, so below are some perceptions of EFL students when practising digital reading for learning an L2.

2.8 Perceptions of EFL students

The students' perceptions of the comprehension of English electronic texts can be controversial, but some research results could be different. University students of different carriers and countries show some advantages when using electronic tools to learn or understand an L2. For instance 2015, a study was applied to EFL students in Iran and ESL in Malaysia. The teaching reading in these groups of students is on print texts; nevertheless, these empirical groups appreciated a different methodology in literature learning in electronic reading, and the results of this research showed that digital reading comprehension is more efficient for EFL and ESL groups than the groups that practised traditional print reading methods. (Shirin, 2016). “In total, %83 of EFL College students and % 82 of ESL college students preferred digital reading to print reading”. “Few of them also mentioned that they can read and understand in both methods, but because for years they were trained to use print texts, they just prefer to

have the text physically on the paper.” (Shirin, 2016, p. 114). Although some students in that study preferred to read on a paper, the opinion of students in more recent studies is different about the technological advances to the comprehension of texts in English. The students’ perceptions have changed considerably; fifteen years ago, some studies gave distinct results. In the Learning Bloom Mastery Theory, the perception of (Kazu, & Ozdemir, 2005 mentioned in Benny, 20019, p. 195) was that it gives the possibility to take and practice their preferences’ learning tools to enable successful learning. The students’ perceptions damage the form of the learning process. Therefore, (Baker-Evelth, as cited in Parded, 2007 and cited in Benny, 2019, p. 195), “claimed that their perception affects students and teachers to use of reject digital texts.” (And Sun et al., 2012 cited in Benny, 2019, p. 1995) “Reported that students’ perceptions how helpful e-books are for facilitating their learning has a direct to their learning outcomes.” Therefore, students’ perceptions affirms that e-books have a direct connection with the learning outcomes it to say that the score of learning students will improve if they believe that an e-book is useful. In addition, the outcomes of learning in digital books affect the SP. Furthermore, reading on devices such as e-books or e-book builders may make students feel fulfilled using electronic texts (Shiratuddin & Landoni, 2003).

On the other hand, grade students likened to faculty, see that e-texts are favourable since they improve their information search (Shelburne, 2009, as cited in Benny, 2019, p. 195). Moreover, research in India noticed that 90% of students felt pleased with the uses of e-books, and the educational use comparison of digital books, the university students apply these digital resources (Anuradha & Usha, 2006 mentioned in Benny, 2019, p. 195). The students’ perceptions started to have considerable changes as they used more digital tools since they realized that e-books or digital texts have an enormous impact on the English learning process, so the electronic information through their devices enhances them.

Language knowledge. Academics may think the traditional methods are more efficient because their teaching is through print books or texts, and the digital tools can sometimes be complex. Likewise, other authors show that the SP about digital reading holistically enhances their studies and knowledge obtained in DTX. Graduate students prefer more than ungraduated students the uses of e-books as mention (Lewellen et al., 2016) and (Carroll et al., 2016 as mention Benny, 2019, p. 196) “found that digital texts were favoured over printed texts general reference books .” Thus, the use of digital

texts for daily teaching-learning is more considerable overall for university students since reading digital texts is more exciting, motivating, and comfortable. Hence, the experience of the practices in e-books was cheerful and efficient for reading comprehension because they can access any information anywhere. Indeed, students have another perspective on using digital tools. University students prefer to read more on their devices, and it will make them more autonomous. It is considerably essential that these kinds of tools have revolutionized the world of teaching, especially in obtaining information through reading comprehension in English. Both teachers and students today perceive that the use of technology for reading literacy in electronic books is increasing, which means that by practising these skills with constancy, favourable results are obtained and prefer the use of digital compression reading since, according to the educational level the information in digital media has been adjusted so that the readings are following what the students need to improve their knowledge, multicultural learning. Therefore, they can develop better reading and writing communication skills.

Therefore, it can deduced that some reasons why students may prefer to use their cell phones for reading comprehension in English are:

-Accessibility: Cell phones are portable devices that allow access to many digital resources anytime, anywhere, and make it easier for students to read English texts from their mobile devices without carrying books or computers.

-Inter-activity: Digital applications and resources in cell phones often incorporate interactive elements, such as multiple choice testing, drag-and-drop exercises, and listening and pronunciation activities. These interactive features can make reading in English more attractive and stimulating for students, allowing them to actively participate in the learning process.

-Convenience and flexibility: Cell phones are personal devices that many people carry. Students can take advantage of waiting times, such as on public transport or during breaks between classes, to read English texts from their phones. This flexibility allows them to use their time efficiently and make the most of the moments available to practice reading in English. It is important to note that while cell phones can be helpful in reading comprehension in English, it is necessary to promote a healthy balance between the use of technology and other study practices, such as reading on paper or using computers. Each student has different learning preferences and styles, so it is

essential to tailor study strategies to individual needs. After knowing the opinion of some EFL students when using digital resources, we give steps to understand better the concept and utility of an ORCEC.

2.9 Online Reading Comprehension English class (ORCEC)

The English reading comprehension courses were created to assist university students in obtaining a degree. Initially, the classes were offered in a face-to-face or blended format. However, due to the COVID-19 pandemic, the courses were moved strictly online. As a result, several digital concepts became necessary resources for these courses, becoming Online Reading Comprehension Courses. The structure of time and days in this ORCEC was the same as in person but was given on a specific platform such as a Meet or Zoom. Five hours per section or class, with one class per week, beginning at eight o'clock in the morning and attended by fifteen students. Some of these students required more knowledge of English, resulting in instructions and grammatical concepts being taught in Spanish. The class started with a specific explanation of the reading theme to establish a connection to the corresponding grammar. The course was conducted in both synchronous and asynchronous environments. The digital tools played a critical role in teaching the topic in class and improving the student's understanding throughout the course. Electronic resources also made the ORCEC more exciting and enabled the students to receive immediate feedback. They could search and discover information quickly and participate more actively in class. The digital tools sparked more interest in the ORCEC since the course's idea was for the student to complete tasks during the class using various applications and upload them automatically to the classroom platform. The teacher and students gained new skills in navigating various applications and websites thanks to using hypertexts. They helped the students become more independent in their learning for the course.

Online reading comprehension classes can be an excellent way for students to improve their reading skills in a virtual environment. During the ORCEC, the students could improve their vocabulary and understanding of literary devices or analyze complex texts. The course was designed to achieve the learning objectives and had interactive features. It included digital reading materials in PDF format, such as scientific texts, stories, and articles. An assessment plan was developed to evaluate the

student's understanding of the reading digital materials and their ability to apply the reading strategies they had learned. In addition, using expositions, essays, and other assessment methods was considered. Appropriate technology tools, such as online discussion forums, virtual reading groups, and interactive whiteboards, were chosen to enhance the learning experience. Various pedagogical approaches, such as collaborative, inquiry-based, or project-based, were considered to engage and motivate students and know their perceptions in a virtual environment.

2.10 Students in an ORCEC

Using applications resurfaces more strongly because the education classes were only given online due to the COVID-19 pandemic. Students and teachers had to do without digital devices and tools as a single means to have educationally holistic communication with students. The enormous use of new technologies unexpectedly led the population, especially educational institutions, to perceive the greatness and strength that can be given in online learning when it is well-founded. The impression generated by the constant use of technology for digital reading and the discovery of existing electronic resources that facilitate the comprehension of texts in English caused them to resurface, and new ones were created for the educational concept. Recognizing that some university students showed great attention to using different digital tools caused interest in knowing their perception of the ORCEC. The characteristic of perception, according to Reuchilin,1980. In Añaños, 1999:92) mentioned in Pilar C, 2006, shows that:

- It is selective because not all stimuli will be considered in the perceptual construction process. This section deals with the adaptive activity of the subject, allowing it to capture as much helpful information as possible.
- Its appreciation of size, shape, colour, and movement is constant.
- The individual and social context influence it.
- It usually works unconsciously very quickly.
- Perceptual organization is essential for perceiving both isolated objects and sets of objects.
- It is not done randomly but is governed by some principles.

On the other hand, according to (Garcia Albea, 1986, mentioned in Pilar C., 2006, p. 189), “There are two explanations on how representations are given: as mental images

and as abstract representations, without linking to a sensorial modality. Within the approach to information processing (IP), computational theory and the theory of Neisser's anticipatory schemes stand out". Therefore, if one of the characteristics of perception is to function unconsciously quickly, then as mentioned in Chapter I, "the immersion and technological normalization, make the students involuntarily improve their skills in the use of the digital tools." (Garcia Albea, 1986, mentioned in Pilar C., 2006, p. 189). Therefore, these skills create advantages of digital reading.

2.11 Advantages and disadvantages of online teaching

The advantage of finding information through technology is having fast multi-access to different sites in that reading is more normalized every day in a digital way. Printed reading preferences are changing considerably. Some prefer to continue reading printed texts because their concentration is better since there are no distractions as there can be in digital reading. A better understanding of reading through printed texts is one of the advantages that can stand out in printed reading. Furthermore, "they do not need to be plugged in or connected to the internet, making them a more accessible option for those who do not have access to these resources", mentioned Amanda Quibell (2023, p. 2,3).

Furthermore, print books are often viewed as more reliable and less prone to technical problems, such as malfunctions or lost data. "Overall, traditional print books have many advantages and offer several benefits over their digital counterparts". Amanda Quibell, (2023, p.3). Nowadays, printed books are created using advanced technology that allows for easy correction of words and phrases and duplication of texts. Moreover, technology allows for the designing and creating images that enhance the reader's understanding of the ideas presented in the text. The use of digital resources for printing not only results in better quality but also helps develop skills for effectively communicating one's ideas. Digital reading has its own set of advantages.

Reading on screens offers several advantages that reading print books does not, including the ability to store multiple books, to adjust accessibility settings, and to navigate easily. Digital reading allows the reader to access and store a large number of books on a single device, which is useful for travel or in small homes. Additionally, e-books often allow the reader to customize the font size, background colour, and other reading settings, such as text to speech, making them easier to read for those with visual impairments or who struggle with reading. Studies show that E-books with audio functions assisted in language learning (Hsieh & Huang, 2020), and digital books with pictures improved retention of information for learners (Wang & Chiu, 2020). Many

findings show that electronic screens are best for quick information gathering, communication, and navigation (Stoop et al., 2013). While print may be preferred by those who want a physical book in their hands, e-books offer several advantages to readers. (Quibell, 2021, p. 3).

After analyzing the advantages and disadvantages of online teaching, below is research from some universities in different countries that share the opinion of students when using digital tools for reading comprehension and acquiring knowledge of an L2.

2.12 Research in the field

Various studies worldwide have explored the topics of reading and digital classes. Students at the University of Kristen Indonesia had a favourable opinion of blended classes. They approved of learning through a platform that allowed them to access new knowledge and develop their abilities. (Parlidungan, 2010). Similarly, research conducted in Turkey showed positive outcomes in the effects of blended learning on English as a Foreign Language (EFL) students' vocabulary learning. Several researchers have conducted online learning studies, showing that using electronic media to learn new vocabulary leads to improvement and better understanding. Furthermore, tools such as videos or blogs allow students to practice the language outside of class. (Sazen, 2015).

It is important to note that there is no single way of blended route. Blended online vocabulary instruction could be effective to help EFL learners improve their vocabulary knowledge if digital tools are selected in accordance with students' needs and interests. Needs analysis should be conducted to make the best selection of online tools and activities for each particular group of students. Blended learning, when well implemented, has the potential to support vocabulary learning process since it increases the amount of learning compared to that in-class learning. (Sasen, 2015, p. 646).

Regarding reading comprehension in digital form, some studies show that digital narrations have helped improve the interpretation of comprehension texts to others to learn more on research topics, which at the same time allows students to create their meanings or structures like their learning, as mentioned in a study conducted in Malaysia by (Rofiza, 2019, p.150).

Therefore, another study conducted in Indonesia shows positivism by explicitly using the Whats app tool for blended learning in the context of reading comprehension. Most participating students mentioned that this tool was helpful and practical, allowing

them to be more autonomous in performing text comprehension practices. (Liya, 2018). The examination of these articles focused on online teaching gives a favourable response for the learner when using digital tools, so for students to feel favoured during an online class, it will also depend on the skill the teacher presents when teaching this type of class. It should be noted that if students have positively accepted the teaching of English in a virtual environment, it is because the digital tools facilitate understanding of all the skills taught in learning a second language.

2.13 Conclusion

Overall, the study presented the most relevant themes to know the university students' perception when using digital tools to enhance comprehension of English texts; this research will continue in Chapter 3, which consists of the methodology that will be processed regarding the data collection analysis.

CHAPTER III

Methodology

Introduction

The purpose of this chapter is to explain the methodology used to answer the research questions. Specifically, this chapter investigates how digital tools can enhance English text comprehension. Additionally, it provides details about the participants and context of the study, as well as an overview of the data collection and analysis process. Lastly, the chapter concludes with a summary of its findings.

3.1 Research instance

This study follows the Observation Method; therefore, it is based on observed experiences during face-to-face or online classes, which allows one to have an opinion about the phenomenon. "Observation Method is described as a method to observe and describe the behaviour of a subject, and it involves the basic technique of simply watching the phenomena until some hunch or insight is gained" (Kumar, 2022, p.1). This observation method is similar to the survey method since the participants can be questioned through the observation's beliefs. "Survey Method: The brief interview or discussion with some person about a relevant topic. It is used to take opinions, thoughts, and feelings." (Neelam Pawar, 2020 p.48).

Furthermore, the empirical and systematic form gives quantitative characteristics representing a development group, successive and approving, according to (Roberto H., 2014). Therefore, the delineation of variables from the hypothesis questions facilitates the measurement analysis to conclude with a series of statistics provided by the answers of the university participants, which mention the result of the use of digital tools to improve the reading of English text comprehension, so the characteristics of this method can tell us the time and magnitude to form a general concept of the results of the participating university group, and so that intuition is shown objective.

The quantitative method helps recognize the population model to specify research planning, data collection, and analysis to interpret applied research correctly (Creswell, 2009). Qualitative methodology is also part of this research, taking into account that it is characterized by what people think about the phenomenon studied, with an *ethnographic* approach focused on the experience of the daily life of the

individual, which allows understanding the social practice to analyze the data of opinions and experience, which can be expressed in words. “Ethnography focuses on culture of group of people, which includes share attributes, language, practices, structure, value, norms, and material things, evaluate human lifestyle” (Neelam Pawar, 2020, p. 47).

In addition, qualitative research explores and understands the meaning individuals or groups ascribe to a social or human problem. “The research process involves emerging questions and procedures, data typically collected in the participant’s setting, data analysis inductively building from particulars to general themes, and the researcher making interpretations of the meaning of the data.” (Creswell, 2007-2009, p. 22). Finally, the mixed method is used to analyze and understand the results of the quantitative and qualitative methods in a better way.

Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration” (R. Burkner, et, 200, p. 122).

The demographic information applied in the sections of the questionnaire helped to obtain relevant data for the aims of the investigation. In addition, understanding the participants’ motivation can support getting the results. According to the United Nations, *demographic data* is “quantitative information about the characteristics of a human population, such as age, sex, education level, income, occupation, and other social and economic factors” (United Nations, 2013). Demographic data is essential for understanding populations and their characteristics and is used in various fields and applications. Participants’ descriptions help the research by adding meaning and quality to the study experience.

3.2 Participants

This study considered the participation of fifteen students of a public university in central Mexico who study English through extracurricular courses focused on reading comprehension in English and other language skills. These courses can be blended or online for 5 hours a week. The participants were eight females and seven males, ages 18 to 30, and came from different university careers; some had already finished these, and

others were in process. Most students have an A1 level or lower, and the aim of practising the English language through this approach is for students to obtain their degrees and simultaneously understand information that helps them in their professional development.

To facilitate the results of this study, the participants answered a questionnaire (Google Forms) in which they gave their point of view or perception when using digital tools to improve reading comprehension in English and to facilitate the understanding of the vocabulary of that language. These results allowed us to describe the context of this research in a more complete form.

3.3 Research Context

This study was carried out at a university in central Mexico City. This institution offers extracurricular courses in the English language, and some of these courses are more focused on the practice of reading comprehension. These courses have been offered face-to-face and blended, allowing students to interact more with digital tools during their learning and obtain better results. Due to the COVID-19 pandemic, the methodology of the courses and the interaction with the students had to be online. Teachers and university students implemented different digital devices and improved and learned new strategies to facilitate reading English comprehension in online classes. It caused the university's educational offer and the students' request to establish virtual courses, so these skills continued to be implemented, favouring both parties' time and space.

During the online classes, Meet and Zoom were used as digital platforms. The primary tool for teaching was an e-book or a PDF book, which helped students improve their English reading comprehension by covering related topics. Exercises were shared through PDF documents and WhatsApp and displayed on the screen to aid learning. To engage with students, various applications and links were suggested to access multimodal texts. Additionally, students were encouraged to use an audio reading application and record their voices in another app while reading, making the learning process more interactive, practical, valuable, and exciting.

Finally, tasks were assigned on the Classroom platform to improve the learning and teaching process. Good feedback is provided to help students enhance their skills in understanding English texts. With favourable results, the frequent use of various digital

tools can lead to developing new skills and experiencing complete professional growth. The following instruments were created to achieve the desired objective of the research more holistically.

3.4 Instruments

Quantitative and qualitative methods were applied to fifteen university students to collect data following a methodology of observation. In order to collect the most accurate information possible, resources were taken from a survey, which was done utilizing a questionnaire in Google Forms format, as well as a semi-structured interview, which was applied to four participants. Questionnaires are “a series of questions asked to individuals to obtain statistically useful information about a given topic. They are a valuable method of collecting a wide range of information from many individuals, often referred to as respondents. Adequate questionnaire construction is critical to the success of a survey” (Roopa & Rani, 2017) p. 273. The survey was conducted in Spanish to avoid confusion and ensure all participants could complete it without problems. Closed-ended questions related to the main research questions’ variables were included, and the Likert scale was used for analysis. The questionnaire comprises five sections, shown in Figure 3.4 below. As well as a semi-structured interview, which was applied to four participants.

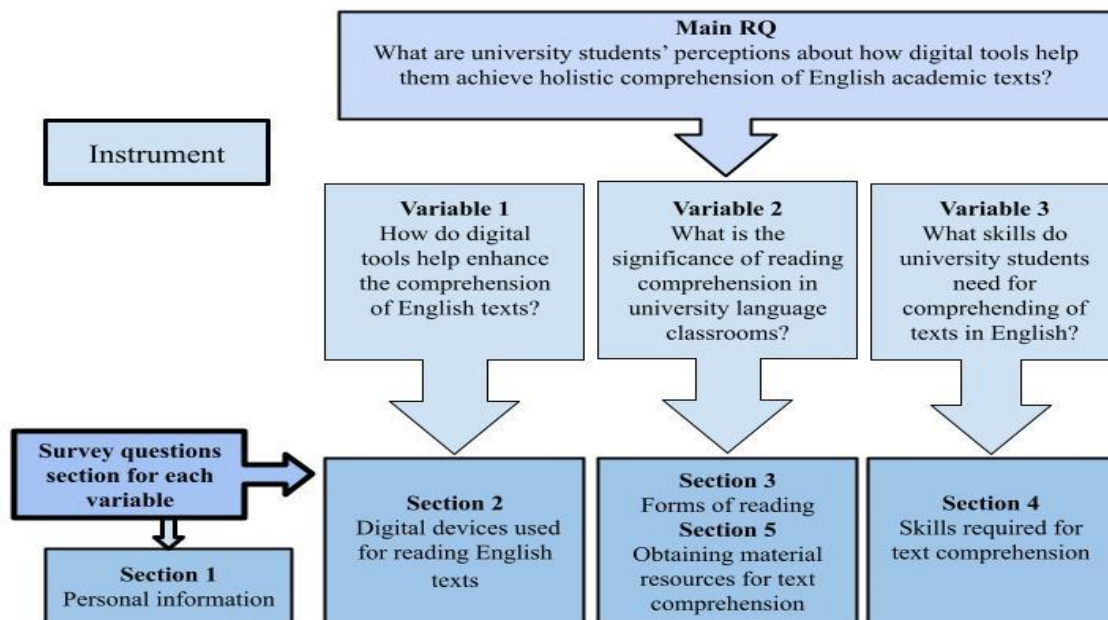


Figure 3.4 Breakdown of the research question to obtain survey questions section.

Questionnaires are “a series of questions asked to individuals to obtain statistically useful information about a given topic. They are a valuable method of collecting a wide range of information from a large number of individuals, often referred to as respondents. Adequate questionnaire construction is critical to the success of a survey” (Roopa & Rani, 2017) p. 273.

The five sections were broken down from the three main variables to create the 40 survey questions. The questions are frequent and on an agree and disagree scale to gather information from participants as best as possible. The first section contains six questions about “personal information”, such as age, activities, and English proficiency. The second section, corresponding to the variable (1), comprises two sections. The first section (2.0), “Identifying the digital devices used to read English texts”, has four questions, and the second section (2.1) has 6 questions, asking about “how often they realized some activities for enhancing the understanding of English texts and academic knowledge”.

In section three, corresponding to the variable (2), there are two sections; in the first section (3.0), there are three questions about the “participant’s preferred digital and printed reading types”; additionally, in the second section (3.1) about the “usefulness of reading comprehension in English”, include 9 questions; variable (2) was focused on this. Section four (4.0), concentrated on variable 3, includes a section with nine questions that focus on the “skills required for text comprehension”, while section five (5.0), also belonging to variable (2), contains a section with four questions related to “obtaining material resources for understanding texts”. The questionnaire concludes with a request for participation in an interview, which aims to gain a deeper understanding of the participant’s perspective.

3.5 Interview

As for the interview, four participants were chosen and were interviewed through the Zoom platform. This interview investigates “students’ perceptions of how digital tools help them achieve a holistic understanding of academic texts in English.” The interview was conducted in two sessions of the platform zoom; in the first session, only one participant was interviewed and asked only four questions, while in the second session, only three participants were interviewed which participants were carefully selected to collect qualitative data and gain enriching perspectives on the research topic.

In this process, they were asked five questions derived from the research questions. The themes for the questions are as follows:

1. Opinion when performing exercises with English texts through digital tools
2. Opinion when reading an English text on a digital device and a printed text
3. Perception to investigate information in English through digital tools
4. Recommendation for reading digital texts in English

The information collected provides a deeper and more detailed understanding of the subject, contributing to generating knowledge and fortifying the academic and professional field in an ORCEC or virtual educational field. In order to preserve confidentiality and protect the identity of the participants, the actual names of the participants have been changed. Therefore, throughout this study, participants will be referred to using fictitious names or pseudonyms named “participant number.” Once the instrument was finished, the next step was to pilot the instruments, of which the questionnaire could only be piloted with 3 participants not belonging to this study. However, the interview was no longer possible in this process due to time limitations.

3.6 Piloting stage

Before implementing the questionnaire to the entire sample of participants, a pilot was carried out to evaluate the clarity and relevance of the items, as well as the feasibility of the instrument. A pilot group of 4 university students was selected to participate in this preliminary study phase. They were sent the questionnaire designed for this research via WhatsApp and asked to complete it by analyzing the questions in detail. Then, qualitatively, participants shared their comments and suggestions on the structure and understanding of the items. Thus, the information on their experiences was collected in detail.

Participants 1 and 3 found no problem answering the questions. However, participant number one, a graphic design career student, suggested changes in colours and images to make it friendlier for participants when reading questions. Regarding Participant 2, he suggested changing one of the questions in section 4, arguing that it was very similar to another question in section 3.1.

The data obtained in this pilot were analyzed to identify possible ambiguities in questions and areas for improvement. As a result of this piloting, adjustments were

made in the wording of some items to improve their understanding, and those that were not considered relevant by the participants were eliminated. The final version of the questionnaire, refined from the piloting results, was used in the main phase of the study. The questionnaire and interview results give us access to data collection to continue with the study.

3.7 Data gathering

This study was conducted for a period of two months, during which data was collected for eight weeks. The class sessions lasted for a total of 40 hours and focused on various study techniques for data collection. The techniques included conducting a survey using a questionnaire, developing an appropriate approach to conduct a group interview, and analyzing opinions based on developing multimodal or multi-semiotic skills.

Thus, multimodality can be defined simply as the diversity of ways of doing or conceiving a communicative action. Additionally, in the classroom context, various modes of communication are observed that are active, either orally or in writing, during the development of the various teaching and learning activities. Moreover, from the communicative approach to languages, multimodality involves using various didactic resources and stimulating the students themselves as essential linguistic resources. (Vera, 2014) P. 29.

After the course, participants were requested to collaborate by completing a questionnaire sent via WhatsApp. The students responded positively to the opportunity to participate in this project. After answering the questionnaire, their responses were automatically sent and compiled into graphs using Google Forms. Additionally, they were asked if they would be willing to participate in an interview through Zoom, where a portion of the surveyed students would be selected to do an online group interview was conducted and had a discussion topic where students could give their opinions and combine ideas from this study in a broader way. “The real-time nature of online interviews, whether one-on-one or focus group interviews as in face-to-face interviews, can encourage spontaneous interactions between participants and the researcher, whether they are involved in text-based one-on-one or group interviews or multi-based channel visual interviews.” (Nalita & Hugh, 2016) p. 1. First, the questionnaire’s results were read carefully, and each section’s result was distributed as best as possible. The

results were distributed in other graphic resources due to Google Forms needing to be more apparent. The outcomes were separated into tables or other graphic resources and were coloured to be highlighted, as shown in each corresponding graphic. Four questions were asked to four participants; this interview was made via Zoom, and chosen participants attended the interview to share their perspectives and experiences regarding using digital tools to enhance their comprehension of English texts during online courses. For the analysis of the interview, the results omitted the names of the participants, which were numbered; the answers were ordered from higher to lower according to the corresponding number and were written in both Spanish and English, highlighting the most relevant of the answers to conclude later in the data analysis of the same.

3.8 Data Analysis

Data were analyzed based on the points of the Google Forms questionnaire sent to the participants. The questionnaire had five sections. As already mentioned and shown above. The first section focused on the personal or relevant information of the participants. The second section was made in two parts. The first was about the digital devices used to read English texts. The second part focused on the frequency of use of digital devices to improve the understanding of English texts and academic knowledge. In section 3, the analysis was conducted in two sections: the first is about the forms of reading, and the second is focused on the utility of understanding texts in English. The fourth section of the questionnaire was designed with 9 questions focused on how often they develop the skills needed for English comprehension texts. In the last section of the questionnaire, section 5, we wanted to know 4 questions that so often agree on specific preferences for understanding texts during the process of an English course. Individual questionnaires explored research questions qualitatively and quantitatively. The first step was to collect the data and carefully break down the results immediately in graphs, to later identify the specific percentages of each question and be able to adjust them again in Excel charts so that the information was better presented. Then, the researcher interpreted the analyzed data to obtain the results. The relevant information was then compared and contrasted in each questionnaire focused on the research questions. Finally, the graphs are shown with the final results that describe the opinions of the participants and the analysis to provide the corresponding literature.

3.9 Conclusion

Chapter 3 outlined the design and methodology of the research. It included data collection and analytical methods, data description, instrumentation, selection of participants and their profiles, procedures for data collection, and issues related to ethical procedures. The work will now continue in Chapter 4, where the results of the data analysis will be presented.

Chapter IV

Analysis and Results

Introduction

This chapter presents the results of the data analysis. As shown in previous chapters, this research aims to know university students' perceptions when using digital tools to improve their understanding of English texts. The purpose was to ensure the knowledge and enhancement of reading comprehension in English through digital texts. The focus group questionnaire was conducted in Spanish, the participants' native language, to obtain more reliable results and avoid misunderstanding, and was transcribed in English to show the results within the tables and graphics. The data and information collected corresponding to the results obtained will be justified through the quantitative method to provide the most outstanding characteristics of the subject under investigation and describe the group's preferences. The quantitative method is intended to analyze statistically the quantifiable data of the questionnaire applied to university students and, through tables or graphs, show the amounts and percentages according to the answers. The most relevant results will be highlighted with a colour that enhances the information to facilitate the convenience of the reader in understanding the text or graphics more quickly or accurately. It is essential to consider the research questions since, as mentioned, the questionnaire focuses on the variables broken down from the RQ. First, the analysis of the five questionnaire sections, comprising 15 questions, is presented. Section one consists of students' personal information. Section 2 focuses on digital devices used for reading English texts. Section 3, forms of reading; Section 4, skills needed for text comprehension; and Section 5, obtaining resource materials for text comprehension, ends with personal perceptions written openly by some participants. The conclusion of the chapter follows this.

4.1 Report data analysis group

Section 1 of the questionnaire analyses personal information gathered from 15 student participants. This section investigates demographic information, which is not directly relevant to the research questions but is still essential. Figure 4.1 illustrates this

information with a line of 7 blocks and arrows indicating the columns with the participants' details.

Nº Participant	Gender	Age range 18-50	Career belonging	Semester	Activity	Language level
S1	Female	21-30	Pharmaceutical chemical	9º completed	Job only	C1 Advance
S2	Male	36-40	Information technology	10º completed	Work and study	A2 Elementary
S3	Male	31-35	Communication and journalism	8º	Job only	A2-B1 Intermediate
S4	Female	21-30	Dental surgeon	10º	Job only	A2 Elementary
S5	Female	21-30	Pedagogy	8º	Job only	A1 Beginner
S6	Male	18-20	International relations	1º	Work and study	A1 Beginner
S7	Female	18-20	International relations	1º	Studio only	B2 Upper intermediate
S8	Male	18-20	International relations	1º	Work and study	A2-B1 Intermediate
S9	Female	21-30	Administration	8º	Work and study	A2-B1 Intermediate
S10	Male	21-30	Bachelor of Nursing	8º	Job only	A2-B1 Intermediate
S11	Female	41-45	Economics	9º	Work and study	A1 Beginner
S12	Male	21-30	Industrial design	6º	Studio only	A2-B1 Intermediate
S13	Male	21-30	Industrial design	6º	Studio only	B2 Upper intermediate
S14	Male	21-30	Pedagogy	8º not completed	Studio only	A2 Pre-intermediate
S15	Female	21-30	Pedagogy	8º not completed	Studio only	A2 Pre-intermediate

Figure 4.1 Personal information of the participants (total number of respondents 15)

The first column shows the number of participants, and the second column shows the gender; seven participants are females and eight males. In contrast, the third column shows the age range, which is from 18 to 50 years, followed by the fourth column indicating which career the participants belong to; the research was made more interesting by the diversity of the participants' careers so that later in the fifth column, they present the semester they are studying. In column six, their activity and employment status are shown; we can also note that 33.3% of the participants are working students. Finally, in the seventh column, the level of English they present is shown. One of the most relevant responses mentions that most participants had a basic level of English. The diversity of careers presented by this study's participants was relevant to analyzing the impact of electronic devices and digital tools. Thus, this shows that people with different concepts and activities can read and enhance their

comprehension of texts in English through the same tools and with the same aim. So, using digital tools to improve reading comprehension in English is essential so that students of different careers can access the information, save time, improve their understanding, and learn more attractively and significantly. “Depending on the specific learning aims, authentic digital texts can be used both in the classroom and extracurricular time, individual and group-work activities. Thus, technological devices change the teaching way to engage university students to learn English “. (Ratovskaya, S.V, 2020, mentioned in Ratovskaya, S.V, 2021), furthermore, they are used more to practice reading comprehension in English texts.

4.2 Section 2. Digital devices used for reading English texts.

The second section of the questionnaire consists of four items that focus on the “digital devices used for reading English texts”, as illustrated in Figure 4.2.

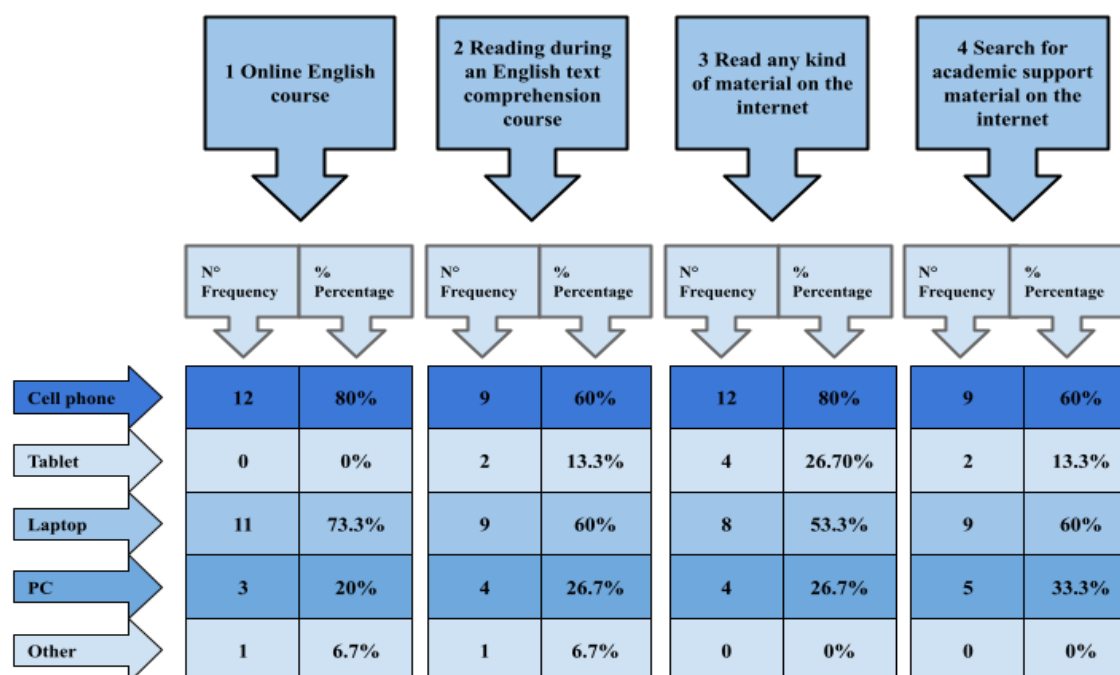


Figure 4.2 Section 2 Digital devices used for reading English texts

Out of 15 participants, 12 excelled in questions one and 3, and 9 excelled in questions two and 4, using cell phones. The four questions in this section examine the digital devices used to perform different activities in online English courses or English reading comprehension, for example, 1 In an online English course. 2 During the

Reading Comprehension English course. 3 Read any forms of material on the internet. 4 Search for academic support material on the internet. The results presented in Figure 4.2 indicate that most participants rely on their mobile phones for the activities mentioned. Specifically, 80% of the 15 participants used their cell phones for the online English course and read various online materials. The second most popular device was a laptop, with 73.3% to 53.3% of the participants performing the two activities mentioned before. Moreover, use it to read English text during a comprehension course and search for academic materials online. The use of tablets and PCs was lower than that of mobile phones and laptops for the mentioned activities in the survey, leaving 33% of participants below the surveyed average. According to (Ogata and Yano, 2005, mentioned in Abduljalil N, H & Ali A, 2016), mobile learning is mainly characterized by permanency, accessibility, immediacy, interactivity, and situating of instructional activities.

Therefore, today, mobile phones have become a pervasive tool in people's daily lives, including university students'. During the study, it was observed that students rely heavily on their cell phones to access the internet quickly, especially when the signal is weak or when they are taking classes at work. As a result, cell phones have become the most commonly used digital device due to their convenience and speed. However, it is essential to mention that nowadays, the general population reads more about electronic devices. In addition, as has been said in this investigation, the pandemic COVID -19 was an impact that made all fields of education use more new digital devices to give classes. At the same time, the student population was forced to get better electronic devices. Although this kind of reading comprehension course has been given in face-to-face and blended format, the students used different electronic resources for it. Still, they had to improve the devices to obtain better results during the ORCEC training. Throughout the course, students demonstrated progress in managing their devices. They could easily share their screens to display their work, quickly locate relevant vocabulary during class, and actively participate more in discussions.

Additionally, they had the chance to learn new electronic tools that enhanced their multicultural and linguistic knowledge. These tools also helped them improve their pronunciation accuracy and navigate more efficiently to find the needed information. Overall, using digital tools and specific electronic devices greatly supported their

learning experience. Through research, we can determine the frequency with which university students enhance their understanding of an ORCEC.

4.3 Section 2.1 Frequency to improve the understanding of texts in English and academic knowledge through different forms of reading

Having analyzed the personal information of participants and the use of devices for an ORCEC in section 2, we will examine the second part of this section noted as section 2.1, focused on knowing the frequency to improve the understanding of texts in English and academic knowledge through different forms of reading. The analysis in Figure 4.3 shows the most outstanding of the survey was in the 60% of the survey participants who frequently read about various digital tools.

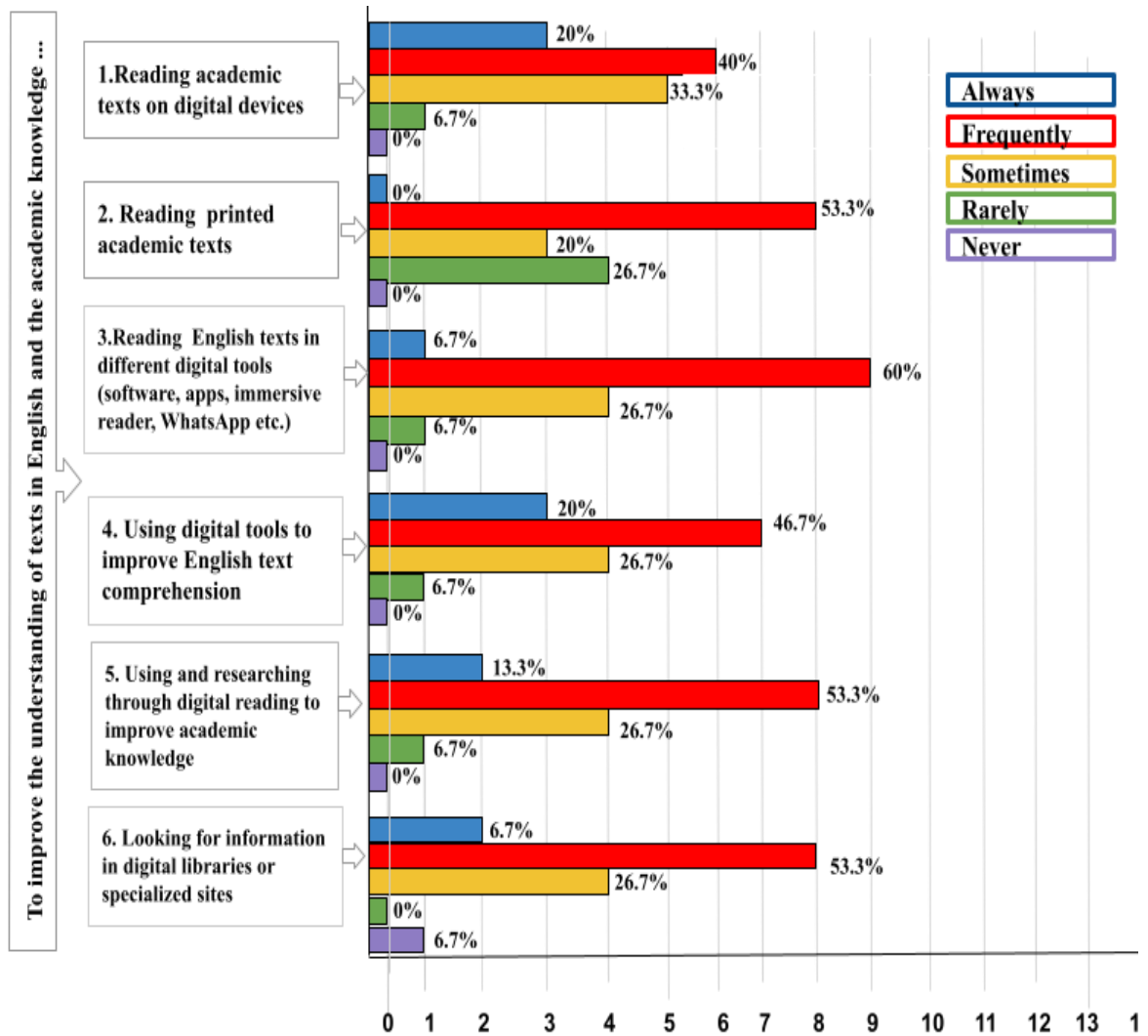


Figure 4.3 Frequency scale graphs to find out digital reading can improve the understanding of English texts

Section 2.1 is composed of 6 items; the first item examines the reading of academic texts on digital devices, and the second question is about reading printed academic texts. The third item corresponds to reading English texts with different digital tools, and the fourth is about using digital tools to improve English text comprehension. At the same time, question five asks about using and researching digital reading to improve academic knowledge.

Finally, item six examines looking for information in digital libraries or specialized sites. The perspective corresponds to the frequency of the forms of reading that are usually used to improve the comprehension of texts in English. In this analysis, the results are given as a reference for Likert scale response options in the frequency of 5 points, where the blue colour corresponds to the always item, red= frequently, yellow = sometimes, green= rare, and purple= never. Although individual preferences of university students may vary in these forms of reading, there are also specific circumstances under which they prefer digital or printed reading, presented in the analysis of Figure 4.3.

Based on the results presented in Figure 4.3, it can be observed that the red bar in the graph shows the highest percentage, which falls between 40% and 60%. This indicates that the majority of participants frequently use digital reading to enhance their understanding of academic texts, printed materials, and digital content, as well as to search for information from specialized sites and digital libraries. The yellow bar represents the highest percentage, which ranges from 20% to 33.3%, and suggests that often and sometimes, participants use digital reading to improve their comprehension and search for information. On the other hand, the blue bar shows that less than 20% of participants always use academic texts printed in English to enhance their knowledge. However, it is noteworthy that 26.7% of participants rarely use printed academic texts in English to improve themselves. According to (Serna, 2018), p. (7), “Ordinary books do not offer desirable benefits as do digital readings since they provide a variety of functionalities very capable of having a dynamic reading in which we can manage their listed pages”.

The graph results indicate that digital reading has improved university students’ understanding of English texts and academic knowledge. Then, this allows us to accept that university students surf more on their electronic devices to read using digital tools, making their use more common daily. As a result, English language teaching

institutions are encouraged to incorporate technology into their teaching methods and provide students with the necessary resources to enhance their learning experience. Furthermore, knowing what forms of reading university students prefer is essential to obtain more attention from the students.

4.4 Section 3 of the questionnaire: Forms of Reading

The following analysis presents section 3 of the questionnaire. Three questions belong to this section, which shows three graphs about the forms of reading, and these belong to each question. The first question, in Figure 4.4.1, is the preferred reading genre. The second question is related to the printed reading genre, presented in Figure 4.4.2, while Figure 4.4.3, belonging to question three, shows the digital reading genre.

In this section, the analysis focused on ten different reading genres preferred by 15 participants. The genres are comedy, culture, romance, politics, adventure, poetry, blogs, social networks, news, and others, which were chosen based on the preferences and forms of each participant.

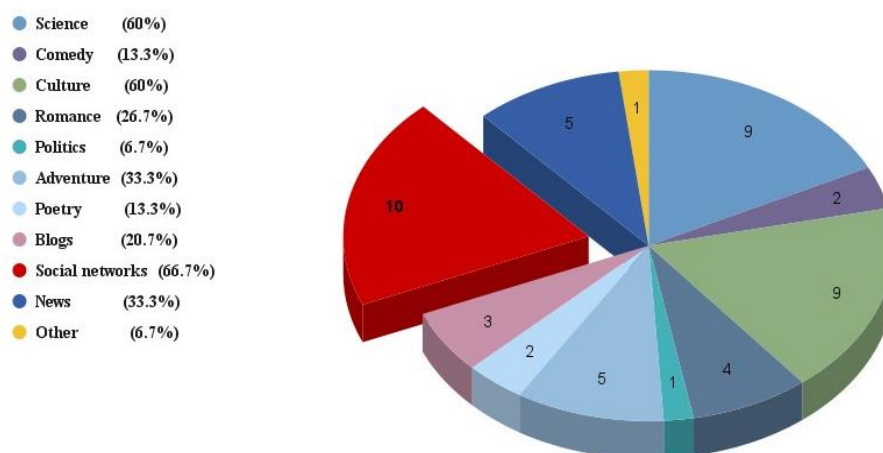


Figure 4.4.1. Preferred reading genre

The results from Figure 4.2 indicate that social networks were the participants' most preferred genre to read. Nine also indicated that their second most preferred genres were culture and adventure. The news genre had the similitude of 5 participants as in the adventure genre, and the less, with 6.7%, was politics. In the second question, *printed reading genre*, the data results show in Figure 4.4.2 that 66% of the participants prefer to read the cultural genre on paper, followed by science with 46.7% and poetry with

26.7%, leaving the other genres between 3 and 1% of preferences, while blogs had no relevance.

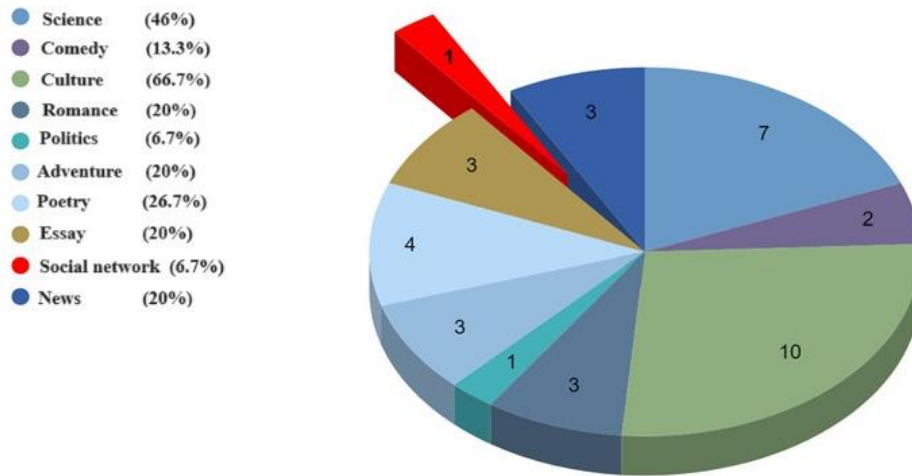


Figure 4.4.2 Printed reading genre

These results are similar to the preference of preferred literary genre, so they could be subjects of interest to university students due to the concept of their studies or career perform or have performed. By showing the cultural diversity naturally shown in the human being. This third question shows the data analysis corresponding to the preferred reading genre in digital form. Figure 4.4.3 reveals a similarity in the outstanding results in the two previous forms.

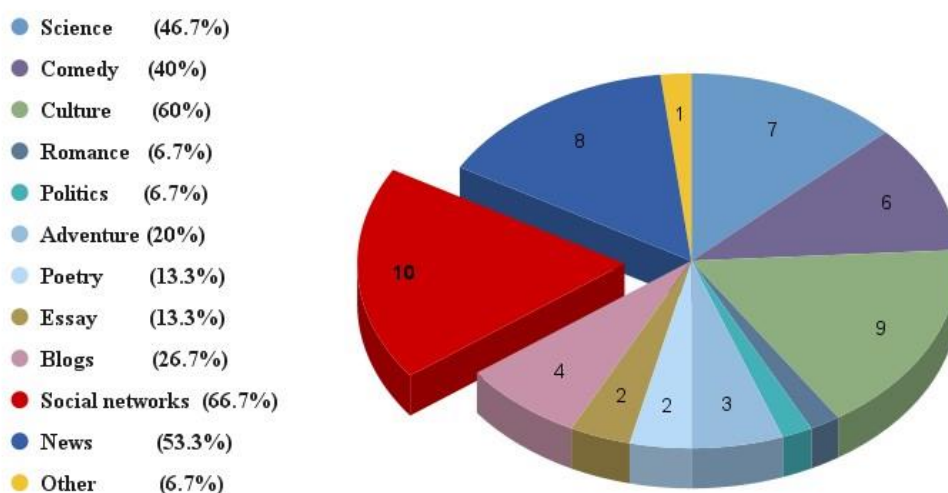


Figure 4.4.3 Digital reading gender

Regarding digital reading, participants preferred to read blogs, yielding a result of 26.7%, while in printed reading, reading blogs was 0%. Reading essays is not shown as a preferred reading as opposed to reading them digitally, yielding a 13.3% preference.

For the remaining genres in this form of digital reading, no 0% result is shown, which allows us to deduce that university students prefer electronic reading to reading any gender. However, some may need to catch up to the preference to read in print. Finally, as Elche and Yubero (2019) mention,

digital reading maintains the essence of traditional reading; therefore, the uses of digital reading of reading habits cannot be separated" (p. 54). Therefore, as Martos and Martos (2018) points out, "reading education can no longer be separated from media and digital culture (p. 21).

Digital reading has perhaps transformed reading gender preferences. Digital technology has also influenced how students access and consume training, which can affect their reading preferences. It is essential to note that such preferences are individual and may vary significantly among university students who took an ORCEC. Some may prefer literary fiction, others may be more interested in academic or non-fiction texts, and others may have specific preferences according to their study area, However, according to the results of the three graphs that belong to the questions in section 3, it can be shown that although there is a printed reading generosity that the reader may prefer, a greater variety of charities is selected to read digitally, which is of usefulness to reading and understanding texts in English.

4.5 Section 3.1 of the questionnaire: Utility of understanding texts in English

The analysis has now moved on to section 3.1 Figure 4.5 after studying the reading preferences of participants. This section examines whether the participants agree or disagree with the usefulness of understanding English texts. Out of 15 participants, 9 of them completely agreed that understanding English texts helps in learning a language including vocabulary, grammar, and pronunciation.

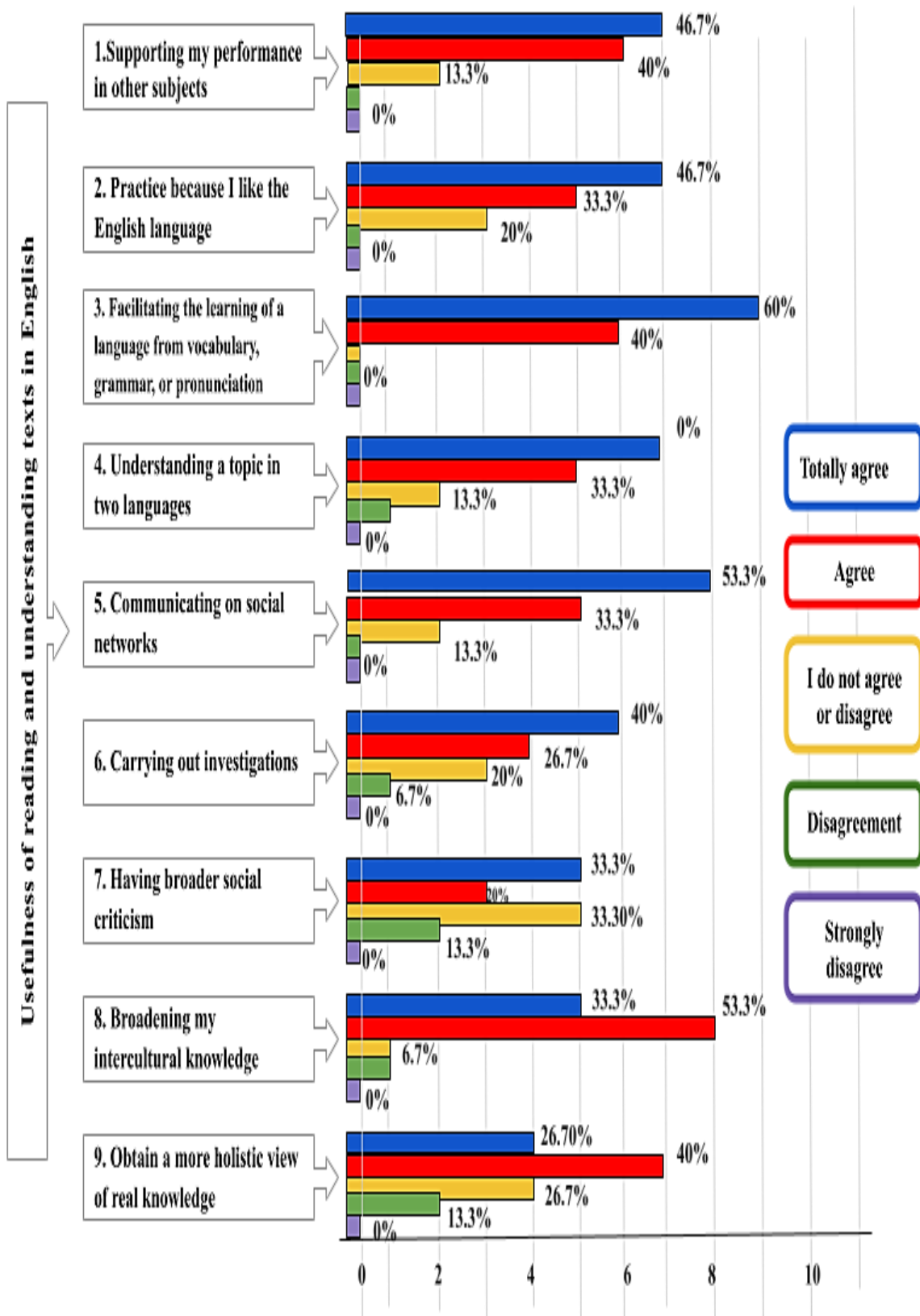


Figure 4.5 Utility of reading and understanding texts in English

Nine questions were measured on a Likert scale to determine the level of agreement and disagreement. The “totally agree” is distinguished in blue, “agree” in red, “do not agree or disagree” is in color yellow, while “disagreement” is in green, and “Strongly disagree” is in purple. The first question was about supporting preferences in other subjects; the second question was related to practice because we like the English language. The third question corresponds to facilitating language learning from vocabulary, grammar, or pronunciation. Question four was about understanding the topic in two languages. Question five presents communicating on social networks, while question six, was about carrying out investigations, and seven focused on broader social criticism. Question 8 was about broadening intercultural knowledge, and finally, question nine was about obtaining a more holistic view of real knowledge.

The results in Figure 4.5 show that most of the participants were in total agreement about the usefulness of understanding English texts. The highest percentage obtained were 60% and 53%, shown in the outstanding blue bar and indicated as totally in agreement. Followed by the red and again blue bar with a percentage of 53.3%. These percentages show agreement and total agreement that the usefulness of texts in English helps communication on social networks and broadens intercultural knowledge. It is well known that the students agreed and fully agreed on the nine activities selected for this section of the questionnaire, which resulted from the understanding of texts in English. These activities mentioned above are between 33.3% and 46.7%.

The research found that the participants strongly agreed on the benefits of reading English texts for improving their multicultural and general knowledge. Understanding English texts can enhance academic performance and aid in learning a second language until a more comprehensive understanding is achieved. The study also aimed to identify the skills that university students require to comprehend texts effectively.

4.6 Section 4 of the questionnaire: Skills needed for English comprehension texts

This section discusses the skills required for an English comprehension course. According to Figure 4.6, 15 of nine participants excelled in translating English texts into their native language for better understanding.

When you read a text in English how often...?

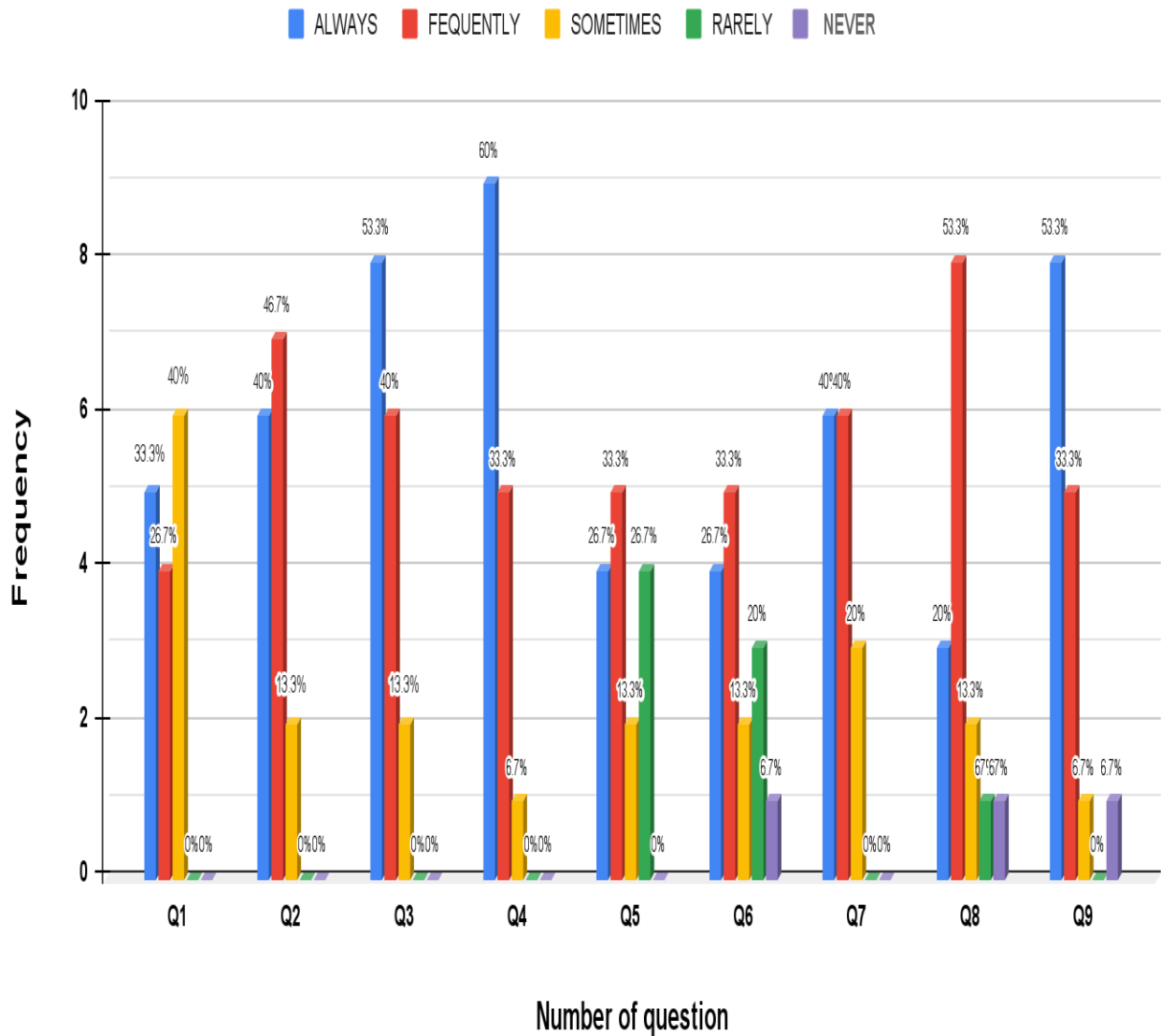


Figure 4.6 Skills needed for text comprehension

The questions in this section were rated on a frequency scale from always to never, with each bar displayed in different colours to make analysis easier. The questions included: 1. Consulting support material tools. 2. Analyzing drawings and graphics in texts for better understanding. 3. Guessing the meaning of unknown words or phrases based on the text's content. 4. Translating English words and phrases in the native language to better understand the text. 5. Reading pre-printed text for comprehension. 6. Reading hypertexts while simultaneously accessing different related links to facilitate and accelerate research exploration and understanding. 7. Linking and conceptualizing

information. 8. Quickly searching for information on different digital tools. 9. Using digital tools to be more creative, autonomous, participatory, and share ideas.

Findings from this item (figure 4.6) show (blue bar in question 4) that translating English words and phrases in their native language helps them better understand the text and is the most relevant skill for participants. This indicates that 60 % of the students always develop this ability to enhance their understanding of English.

Another outstanding ability was found in questions three and nine, which had a high frequency of “always,” which showed that the students could guess the meaning of unknown words based on the context’ content and be more creative and autonomous when using digital tools. Questions 8 and 4 also demonstrate that university students frequently quickly search for required information in different digital tools, analyzing drawings and graphics in texts for better understanding. On the other hand, participants also demonstrated a 40 % in the frequency degrees of “always, “frequently”, and “sometimes” in “Linking and conceptualizing information” question 7 and “Consult supporting material or tools (e.g., the dictionary) to try to understand reading better,” question 1, with “rarely” and “never” levels below 26% to 0% for the skills shown in this analysis. This part of the research shows that for students to improve their understanding of English texts, they can also incorporate digital tools to improve their skills when they read English texts, due to the participants translating words and seeing the images to understand better the reading in English so that they can be more participative, creative and autonomous. So we can demonstrate that university students nowadays use more digital devices in activities related to reading comprehension in English, which are the skills they need for a better understanding of texts, and that, at the same time, allows us to know what university students prefer during an ORCEC.

4.7 Section 5 of the questionnaire: Preferences English course for texts comprehension

The following report analyzes section five of the questionnaire. This section focused on obtaining material resources for text comprehension through the participants’ preferences. On a scale of agree and disagree, four questions are shown in Figure 4.7

The first question is whether the teacher will provide the material that will be used (PDF, web page, photos, e-books, photocopies, etc.). Question 2 focuses on being more autonomous and looking for the appropriate material. The printed reading in

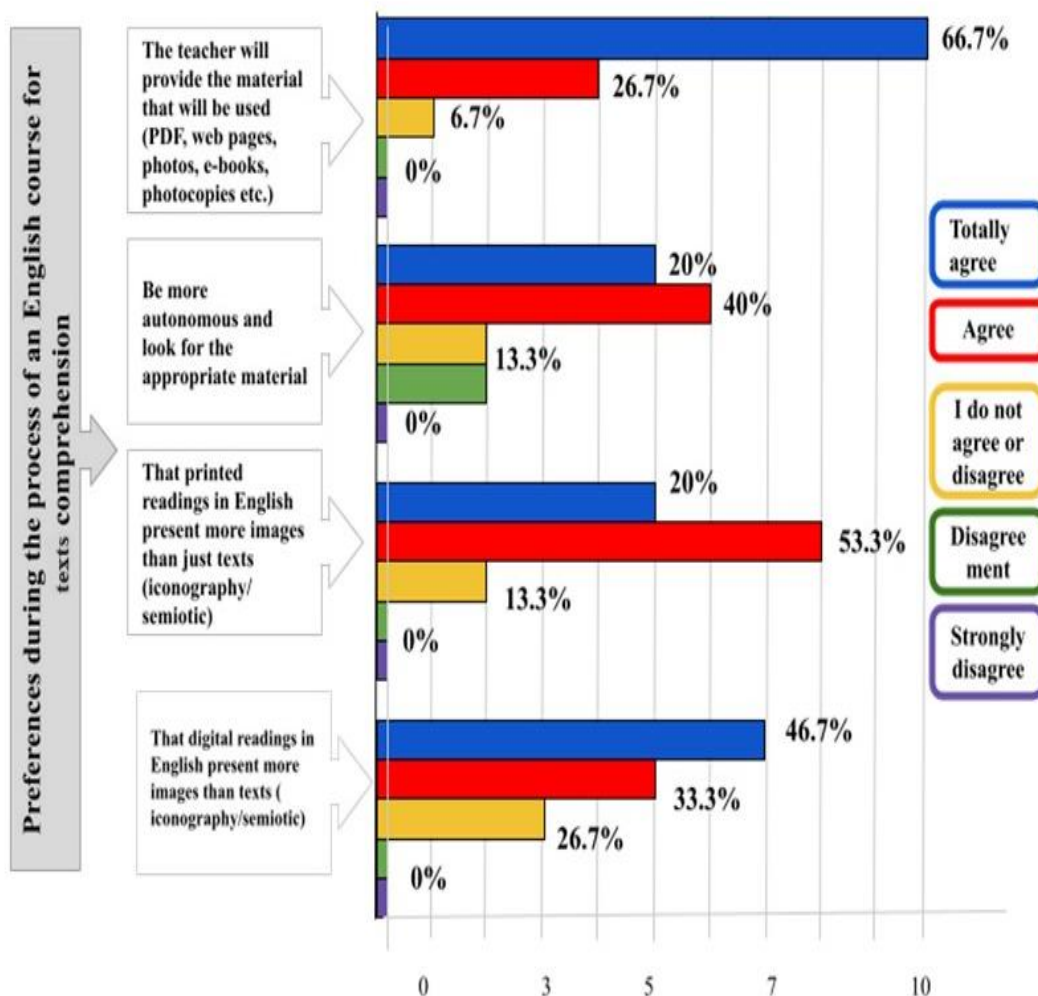


Figure 4.7 Obtaining material resources for text comprehension

English presents more images than just texts presented in question 3, and finally, question 4 was about digital reading in English presenting more images than texts.

The following Figure 4.7 that the participants "totally agree" with 66.7% that "the teacher will provide the material that will be used (PDF, web pages, photos, e-books, photocopies, etc.)" In this result, the participants show that they prefer the ease of material resources for the English reading classes, so digital devices and hardware can give this practicality.

Furthermore, 46.7% "totally agree" that the resources in "digital readings in English present more images than texts (iconography/semiotic)." Also, they had a similarity of 53.3% and 40% "agree" with "That printed readings in English present more images than just texts (iconography/ semiotic)" This is because students are more immersed in the use of tools, which can show more color and images that call their attention to a better understanding of the texts. The participants showed to be more autonomous and look for the appropriate material. The items of "disagreement and strongly disagree" were 0%, showing that the preferences for the material resources for the understanding of English texts are more attached to the digital resources.

Finally, by analyzing the four questions, it can be shown that the preferences to acquire the material resources during the process of the reading comprehension courses in English are attached to the materials that can be purchased on the internet. Therefore, it will facilitate both the student and the teacher to get the resource faster and more updated.

Having analyzed the questionnaire to learn more deeply the opinions of university students on how digital tools help them to holistically improve their understanding of English texts, the interview data of the participants focused on the research questions and the questionnaire are examined.

4.8 Interview

The interview was structured and took place with 4 participants in 2 sessions via Zoom. One participant was interviewed in the first session and the remaining 3 in the second session. The first question was "Opinion when performing exercises with English texts through digital tools". The second question was "Opinion when reading an English text on a digital device and a printed text". While the third focused on "Perception to investigate information in English through digital tools", finally question 4 was addressed to "Recommendation for reading digital texts in English". Therefore, the analysis of the interview is shown below to know more details about the opinions of the participants when using digital tools for understanding texts in English.

4.9 Interview question 1: Opinion when performing exercises with English texts through digital tools

In exploring participants' opinions of participants 1 and 4, on performing English text exercises using digital tools, they asserted

Interviewee 1:

- This facilitates us a lot because the understanding of the ideas that the author writes because soon is more direct, and has given us access to information that is not only from Mexico but also from other countries. So,
- when we do a mental picture, a questionnaire, or an examination, we have more up-to-date information and these tools because they help us to have better progress in our ideas, better control, and therefore better translation and knowledge that come from other parts of the world.

Interviewee 4:

- I consider that the formats are more diverse in digital platforms, and that allows us, be able to rehearse or have exercises under different schemes that facilitate a great diversity of understanding of the same subject.

The above extracts show the opinions of participants; they mentioned that previously they had to use their dictionary to translate words when performing exercises in English. However, artificial intelligence has helped to make translations easier, because the understanding of the ideas that the author writes sometimes is more direct and difficult to understand. Participant 4 notes that there are different formats to help to understand an L2, because digital platforms, allow exercises in different schemes. According to the definition by Kirkwood and Price (2014) mentioned in Nishat (2022) p, 49. Technology Enhanced Learning (TEL) refers to the use of information and communication technologies in the pedagogical teaching-learning process.

4.9.1 Interview question 2: Opinion when reading an English text on a digital device and a printed text

Students interviewees 3 and 4 experienced certain opinions about reading an English text and print text and they mentioned

Interviewee 3

For me, it is easier to have it as in digital; for the subject that I always go as in movement, then at any time, I can have it there, and I do not need to be like that

loading the notebook or have it printed, but yes sometimes it is easier to underline to make annotations, but I think it is easier for me more digital

Interviewee 4

- The way I see it is much better. I do not know if it is because of my generation, but having the text physically, because, it allows me to make drafts to make annotations for myself. It is much better to handle English documents by reading English documents in a physical format

The extracts present participants' views when they read an English text on a digital device and a printed text. As we can see, the participant 3 mentions that it is easier to read digitally due to the practicality of taking it anywhere, unlike printed text.

Participant 1, an information technology student, believes that having texts in physical form is inferior to digital reading because digital texts can be accessed anywhere with ease and provide more information without the need to carry multiple books. On the other hand, participant 4, an economics student, prefers physical texts due to the participant can do registers on hand and prefer read printed texts. Although, participant 4 showed interest about digital tools and the facility that this gives for researching something and get faster information. It is worth noting, that participant 1 reads more digital texts due to the nature of their degree, and he thinks that digital reading is better because he do not need to carry up books, and is more practical for him. Although, to tell the truth, reading texts in English today forces us to use technological resources to obtain the clearest information and have rapid and meaningful progress.

4.9.2 Interview Question 3: Perception to investigate information in English through digital tools

Excerpts from question 3 below show the opinions of university students when researching information in English through digital tools.

Interviewee 2

- Yes, I am practically 100% in favor of using digital tools indeed already and virtually any system that you can rely on as artificial intelligence, to search bibliographies of a specific topic that you need and recommend books, etc.

Interviewee 4

- I think it is much more convenient and beneficial to use digital media for research. With just a few clicks, you can access a vast amount of information that you would not find by physically searching through libraries. Even in English-speaking institutions, the libraries may not have a diverse range of titles available. In contrast, digital platforms provide much better management and accessibility of information for research purposes.

As we can analyze in the above extracts, the 2 participants agree on technological resources to investigate easier and faster form. Digital material that the students have access to can find a diversity of information that enhances their knowledge and improves their abilities to research or obtain whatever information. Participant 2 agrees with using digital resources because the technology is fundamental for this participant due to the electronic system and the artificial intelligence helping to conduct research or look for specific themes. In addition, participant 4 notes that research through digital media is more advantageous since one has a great diversity in seconds.

4.9.3 Interview question 4: Recommendation for reading digital texts in English

After analyzing the perceptions of the 4 participants for the use of digital texts in English, in question 4 marked opinions are observed according to their recommendation for reading comprehension of English texts on a digital device.

Interviewee 3

- Well, yes, it would be to have the text on hand in digital; I mean, even if you have it only printed, you can, I do not know, this scan, you can even transcribe it, and there have I do not know, even in Word well, make annotations there so underline this even to paste an image there for you to be provided more.

Interviewee 4

- Well, I, in particular, what do is to have applications that support me and so, to have a dictionary, synonyms, a tool of conjugations, to have, can, and/or use markers within the digital part, have the facility to highlight the text to put some as in a PDF, put some text that gives me the meaning of some word, go the whole part of the digital format as a word processor that allows me to do what you do manually and that you cannot so quickly as copy and paste for example or not edit the text.

Participant 3 recommends that if you have printed text, you can digitize it, and participant 4 recommends having applications that support it, such as dictionaries, synonyms, conjugation tools, and using digital markers to highlight PDF text. Mantei, Lipscombe, Cronin, and Kervin (2019) suggest that "digital texts are resources created in written, oral, visual, and/or multimodal modes that are produced through digital or electronic technology" [8]. Mentioned in Svetlana, 2021 p. 365.

4.10 Conclusion

The findings discussed and presented above provided us with several significant explanations of the opinions of a group of university students when using digital tools to improve the comprehension of English texts. The first section of the instrument allowed the analysis of the personal information of the participants, which shows that despite the age, profession, and level of English, technology plays a vital role in learning another language. In section 2, the digital devices used by university students for an ORCC and for reading text comprehension in English were analyzed, allowing us to see that cell phones are the most common electronic devices for these and other activities. At the same time, it was shown how often participants perform certain activities to improve their understanding and knowledge of academic texts in English. This showed that they perform digital reading more frequently for that activity. According to Section 3, the type of reading preferred both on paper and in digital form was shown, with electronic reading standing out considerably. At the same point, the usefulness of reading texts in English was analyzed, highlighting that this facilitates the learning of a language in different contexts, such as grammar, vocabulary, and pronunciation, in addition to showing that students fully agreed that understanding English texts are helpful for them to communicate on social networks. Finally, sections 4 and 5 showed the material skills and resources that students need to understand reading in English, making clear that this ability is to translate words or phrases and rely more on using digital tools to be more creative and participatory. Besides that, they prefer that the teacher provide them with the material in any digital or printed format but that more images are present as iconographies or semiotics for understanding academic texts in English. We can infer that electronic tools are crucial in today's ORCC operations.

On the other hand, the interview responses again showed the participants' preference to use digital tools in an EL in a virtual environment. This allowed us to

conclude that most university students constantly take digital resources for their learning development, both in a second language, in an academic environment and in daily life. The results of both instruments show that education is going towards a digitalized environment where both students and teachers need to improve online teaching and learning to facilitate the use of the tools every day and get the expected success.

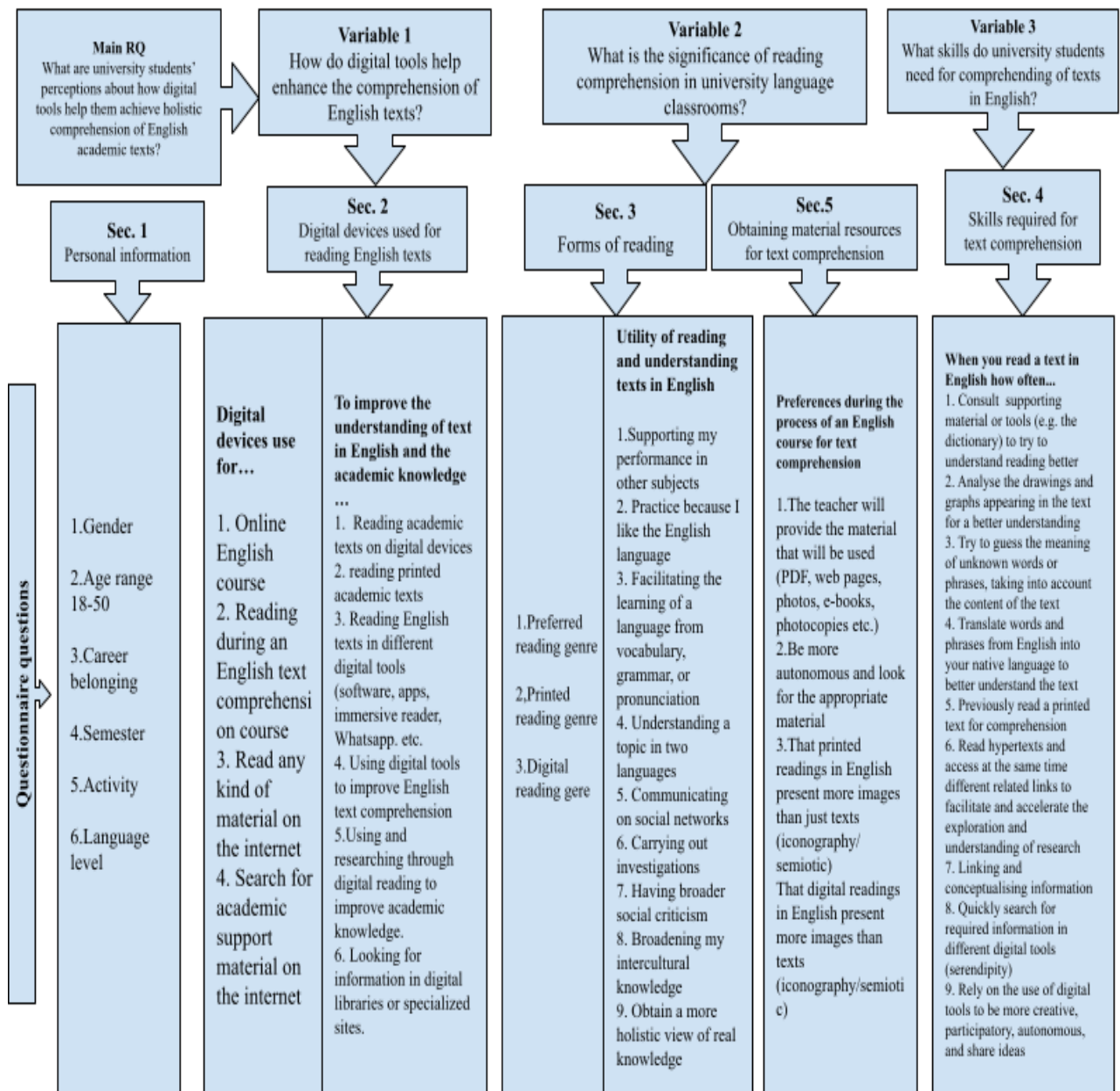
CHAPTER V

Conclusion

Introduction

This research aimed to identify university students' perceptions when using digital tools to enhance academic texts in English. They were stated in the first chapters by highlighting their significance in the extent to which they contribute to the gap. Furthermore, this chapter will discuss the conclusion of this research.

Table 5.0 Findings Research Questions



Firstly, this investigation aims at the attachment of the (RQs). Second, it will summarize the study's limitations, follow possible areas for the investigation, and finally, the conclusions will be drawn. This study allowed us to investigate the perception of a group of 15 university students of how digital tools help achieve a complete understanding of academic texts in English. The data collection procedure was designed using Google Forms and through interviews and Zoom, facilitating technology analysis. The research questions posed in this instrument were carried out according to the central question of the research. Three variables were broken down as the main ones (RQs) to get the five questions section, as shown in chapters 1 and 4. This breakdown of questions led us to conclude that each section of the Google Form will derive several questions under the frequency range. Agreement and disagreement on the Likert scale are 40 questions from the context of personal information to preferences for activities at the comprehension of English texts, as shown in Table 5.0.

5.1 Summary of key findings

This study was concluded to describe the perception of the use of digital tools during an ORCEC. Another important factor was knowing the skills that participants have developed to have a better understanding of texts. The strategies used allowed students in a virtual context to have preferences to obtain the materials in the course. However, it is essential to mention that this research demonstrated that the general population reads more about electronic devices. Also, as has been said in this investigation, the pandemic COVID -19 was an impact that made all fields of education use more new digital devices. At the same time, the student population was forced to get better electronic devices. Although this kind of reading comprehension course has been given in face-to-face and blended format, the students used different electronic resources for it. Still, they had to improve the devices to obtain better results during the ORCEC training. Throughout the course, students demonstrated progress in managing their devices. They could easily share their screens to display their work, quickly locate relevant vocabulary during class, and actively participate more in discussions. Additionally, they had the chance to learn new electronic tools that enhanced their multicultural and linguistic knowledge. These tools also helped them improve their pronunciation accuracy and navigate more efficiently to find the needed information.

Overall, using digital tools and specific electronic devices greatly supported their learning experience. During the study, it was observed that students rely heavily on their cell phones to access the internet quickly, especially when the signal is weak or when they were taking classes at work. As a result, cell phones have become the most commonly used digital device due to their convenience and speed.

5.2 Implications and Contributions

This study was able to conclude according to the perceptions of university students. The positive contribution of the students helped to carry out the analysis of this research. According to their experiences and perceptions during a virtual course of reading comprehension. Using digital tools contributed favourably to making the class more dynamic and students more participatory. Although this research was carried out virtually in the course context, participants could respond favourably to research instruments. At the same time, they were demonstrating the rapidity of collecting information digitally. The implications that could be observed during the course were to have a more obsolete digital device or a low reception of the internet.

5.3 Directions for further research

This research was analyzed under an online concept. It was possible to identify that students use their digital devices to read. Learning the English language may be easy after having a cell phone, and these devices allow the student to navigate and investigate new theories and ways of learning. Both students and teachers constantly need to learn new forms of teaching-learning. Although it can be observed that some participants still read printed texts, they continue relying on digital tools to have better results. It is visible that the digital age is making extraordinary changes, constantly facilitating the renewal of information. However, it worries how fast past generations must improve their technological skills. Being at the forefront of the new generation will allow us to compare printed and digital information and improve in the field of research.

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Appendix 1 Evidence of class

A screenshot of a Google Meet session. The interface shows a grid of 22 participants. The names visible are: Humberto Rivas, Isabel María del Rayo Mendoza, Jose Carlos Rivera Lima, Victor Carmona, Isaac J. Martínez Rivera, Viviana Alcantara, Veronica Morales, Sam Arevalo, Melani Samantha Soriano Mora, Daniel Abiza, Leslie Herrera, Julieta Quintero, Eduardo Eslava S, Quintanilla Ortiz Itzel Emma, Javier Tapia, Karen Sixto, Aralos Ramirez Yael Alejandra, Gabriela Osorio, Mafeer low, Cintia Almeida, Humberto Rivas, and Tu. The bottom of the screen shows a control bar with icons for mute, video, chat, and other meeting functions. The time is 14:56 and the meeting name is 'Cenlex casco IIS'.

A screenshot of a Google Meet session where a presentation slide is being shared. The slide contains the following text:

The Spanish suspected that the Aztec would attack them. The toxcatl festival was celebrated when 200 Spanish soldiers under the command of Pedro Alvarado began to massacre the dancers and the spectators. The Mexica responded to the attack by getting the Spaniards, but they wounded Motezuma and dies three days later. That same night Hernan Cortés ordered to kill the lords remained in the palace.

The slide also features a historical illustration of the Toxcatl festival, showing Aztec warriors and dancers in a courtyard. The Meet interface shows the presenter, Isabel María del Rayo Mendoza González, and a grid of other participants. The time is 13:28.

Appendix 2 Spanish Instrument

“Researching university students’ perception about digital tools help them achieve holistic comprehension of English academic texts”

QUESTIONNAIRE

Apreciable estudiante el objetivo de este cuestionario es para saber tu opinión acerca de la ayuda que te pueden ofrecer las herramientas digitales para mejorar la lectura de comprensión en inglés, tus respuestas son individuales y personales, por lo que agradecemos tu honestidad, no es necesario que escribas tu nombre. Deseamos disfrutes esta actividad y sea productiva en las estrategias aplicadas para la comprensión de textos académicos en inglés durante o después de tu carrera universitaria.

Instrucciones: Después de leer cada sección y/o párrafo responde marcando con una X escribe la opción que corresponda con tu caso, de acuerdo a las escalas presentadas.

Sección 1

1.0 Información personal

Marca la opción que te sea más apropiada y/o escribe según sea el caso

1	Género	Masculino		Femenino		Otro	
---	--------	-----------	--	----------	--	------	--

2	Edad	18 a 20	21 a 30	31 a 35	36 a 40	41 a 45	46 a 50	Mayor a 50

3	Nombre de tu carrera	
---	----------------------	--

4	Concluiste tu carrera	si	no
---	-----------------------	----	----

5	Semestre	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°

6	¿A qué te dedicas?	Solo trabajo	Solo estudio	Trabajo y estudio	Ninguna de las dos	Otra

7	Nivel de inglés considerado	A1 Beginner	A2 Elementary	A2-B1 Pre-intermediate	B2 upper intermediate	C1-C2 Advance

Sección 2

2.0 Dispositivos digitales utilizados para la lectura de textos en inglés

Indica en la actividad el recurso digital que usas de acuerdo a cada opción

	<i>Dispositivo digital que uso para :</i>	Celular	Tablet	Laptop	PC	Otro
1	Curso de inglés online					
2	Lecturas durante un curso de comprensión de textos en Inglés					
3	Leer cualquier tipo de material en internet					
4	Buscar material académico de apoyo en internet					

2.1 Frecuencia con la que realizas las siguientes actividades

Escoge la acción que mejor exprese tu opinión

	<i>Para mejorar el entendimiento de textos en inglés y mis conocimientos académicos...</i>	Nunca	Rara vez	Algunas veces	Frecuentemente	Siempre
1	Leer textos académicos en dispositivos digitales					
2	Leer textos académicos impresos					
3	Leo textos en inglés en diferentes herramientas digitales (software, apps, lector inmersivo, WhatsApp etc.)					

4	Uso herramientas digitales para mejorar la comprensión de textos en inglés					
5	Uso e investigo a través de la lectura digital para mejorar mis conocimientos académicos					
6	Busco información en bibliotecas digitales o sitios especializados					

Sección 3

3.0 Formas de lectura

Indica los tipos de lectura que lees más a menudo de acuerdo al género que se presenta. Puedes marcar más de una opción

		Ciencias	Comedia	Cultura	Romance	Política	Aventura	Poesía	Ensayo	Blogs	Redes sociales	Otra
1	Género de lectura preferido											
2	Género de lectura impresa											
3	Género de lectura digital											
4	Género que más lees											

3.1 Utilidad de leer y comprender textos en inglés

De los siguientes enunciados, indica la opción que más represente tu opinión

	<i>Cuando leo textos en inglés me son útiles para ...</i>	Muy en desacuerdo	Desacuerdo	No estoy de acuerdo ni en desacuerdo	De acuerdo	Totalmente de acuerdo
1	Apoyar mi desempeño de otras asignaturas					
2	Practicar porque me gusta el idioma inglés					
3	Facilita el aprendizaje de un idioma desde vocabulario, gramática y/o pronunciación					

4	Comprender un tema en dos lenguas					
5	Comunicarme en redes sociales					
6	Realizar investigaciones					
7	Tener una crítica social más amplia					
8	Ampliar mi conocimiento intercultural					
9	Obtener una perspectiva más holística de conocimiento real					

Sección 4

4.0 Habilidades necesarias para la comprensión de textos.

De los siguientes enunciados de frecuencia indica cual es el que representa tu opinión para el desarrollo de habilidades en la lectura de comprensión

	<i>Cuando lees un texto en inglés que tan seguido...</i>	Nunca	Rara vez	Algunas veces	Frecuentemente	Siempre
1	Consultas material o herramientas de apoyo (ej. el diccionario) para tratar de entender mejor la lectura					
2	Analizas los dibujos y gráficos que aparecen en el texto para comprenderlo mejor					
3	Tratas de adivinar el significado de palabras o frases desconocidas tomando en cuenta el contenido del texto					
4	Traduces palabras y frases del inglés a tu lengua materna para comprender mejor el texto					
5	Lees previamente un texto impreso para la comprensión					
6	Lees hipertextos y accedes a la vez a diferentes enlaces relacionados para facilitar y acelerar la exploración y el entendimiento de la investigación					
7	Asocias y conceptualizar información					

8	Buscas con rapidez información requerida en diferentes herramientas digitales (hallazgo valioso que se produce de manera accidental o casual,)					
9	Te apoyas en el uso de herramientas digitales para ser más creativo, participativo, autónomo y compartir ideas					

Sección 5

5.0 Obtención de recursos materiales para la comprensión de textos.

De los siguientes enunciados escoge la opción que mejor represente tu opinión

	<i>Durante el proceso de un curso de inglés para la comprensión de textos prefiero...</i>	Nunca	Rara vez	Algunas veces	Frecuentemente	Siempre
1	Que el profesor me facilite el material que se usará (PDF, páginas web, fotos, e-books, fotocopias etc)					
2	Ser más autónomo y buscar el material apropiado y que sea de mi agrado					
3	Que las lecturas impresas en inglés presenten más imágenes que solo textos (iconografía/ semiótica)					
4	Que las lecturas digitales en inglés presenten más imágenes que textos (iconografía/semiótica)					

¡Gracias por compartir con nosotros tus aptitudes y pensamientos!

Appendix 3 English Instrument

“Researching university students’ perception about digital tools help them achieve holistic comprehension of English academic texts”

QUESTIONNAIRE

Appreciable student, this questionnaire aims to know your opinion about the help digital tools can offer you to improve reading comprehension in English; your answers are individual and personal, so we appreciate your honesty. You do not need to write your name. We want you to enjoy this activity and be productive in the strategies applied to comprehend academic texts in English during or after your university career.

Instructions: After reading each section or paragraph, respond by checking with an X type the option that corresponds to your case, according to the scales presented.

Section 1

1.0 Personal information

Check the option that is most appropriate and/or write as the case may be

1	Gender	Masculine		Feminine		Other	
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2	Age range	18 a 20	21 a 30	31 a 35	36 a 40	41 a 45	46 a 50	Over 50

3	Career belonging	
---	------------------	--

4	You finished your career	yes	no
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5	Semester	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°

6	Activity	Job only	Study only	work and study	Neither	Other

7	Language level	A1 Beginner	A2 Elementary	A2-B1 Pre-intermediate	B2 upper intermediate	C1-C2 Advance

Section 2

2.0 Digital devices used for reading English texts

Indicate in the activity the digital resource that you use according to each option

	<i>Digital device I use for...</i>	Cell phone	Tablet	Laptop	PC	Other
1	Online English course					
2	Reading during an English text comprehension course					
3	Read any kind of material on the internet					
4	Search for academic support material on the internet					

2.1 Frequency to improve the understanding of texts in English and academic knowledge

Choose the action that best expresses your opinion

	<i>To improve the understanding of texts in English and academic knowledge....</i>	Always	Frequently	Sometimes	Rarely	Never
1	Reading academic texts on digital devices					
2	Reading printed academic texts					
3	Reading English texts ub different digital tools (software, apps, immersive reader, WhatsApp etc.)					
4	Using digital tools to improve English text comprehension					
5	Using and researching through digital reading to improve academic knowledge					
6	Looking for information in digital libraries or spec					

Section 3

3.0 Forms of reading

Indicate the types of reading you read most often according to the gender presented.
You can check more than one option

		Science	Comedy	Culture	Romance	Politics	Aventure	Poetry	Essay	Blogs	Social networks	News	Other
1	Preferred reading genre												
2	Printed reading genre												
3	Digital reading gender												

3.1 Utility of understanding texts in English

Of the following statements, indicate the option that most represents your opinion

	<i>When I read English texts they are useful for ...</i>	Totally agree	Agree	I do not agree or disagree	Disagreement	Strongly disagree
1	Supporting my performance in other subjects					
2	Practice because I like the English language					
3	Facilitating the learning of a language from vocabulary grammar or pronunciation					
4	Understanding a topic in two languages					
5	Communicating on social networks					
6	Carrying out investigations					
7	Having broader social criticism					
8	Broadening my intercultural knowledge					
9	Obtain a more holistic view of real knowledge					

Section 4

4.0 Skills needed for English comprehension texts

Of the following frequency statements indicates which one represents your opinion for the development of skills in reading comprehension

	<i>When you read a text in English how often...?</i>	Always	Frequently	Sometimes	Rarely	Never
1	Consult supporting material or tools (e.g. the dictionary) to try to understand reading					
2	Analyze the drawings and graphs appearing in the text for a better understanding					
3	Try to guess the meaning of unknown words or phrases, taking into account the content of the text					
4	Translate words and phrases from English into your native language to better understand the text					
5	Previously read a printed text for comprehension					
6	Read hypertexts and access at the same time different related links to facilitate and accelerate the exploration and understanding of research					
7	Linking and conceptualizing information					
8	Quickly search for required information in different digital tools (serendipity)					
9	Rely on the use of digital tools to be more creative, participatory, autonomous, and share ideas					

Section 5

Obtaining material resources for text comprehension.

From the following statements, choose the option that best represents your opinion

	<i>During the process of an English course for text comprehension, I prefer...</i>	Always	Frequently	Sometimes	Rarely	Never
1	The teacher will provide the material that will be used (PDF, web page, photo, e-books, photocopies, etc.)					
2	Be more autonomous and look for the appropriate material					
3	That printed readings in English present more images than just texts (iconography/semiotic)					
4	That digital reading in English present more images than texts (iconography/semiotic)					

Thank you for sharing your skills and thoughts with us!

Appendix 4 Interview Participant 4

Questions	Answers
<p>Question 1:</p> <p>Opinion when performing exercise with English texts through digital tools</p>	<p>I consider that the formats are more diverse in digital platforms, and that allows us to have, be able to rehearse or have exercises under different schemes that facilitate a great diversity of understanding the same subject..</p>
<p>Question 2:</p> <p>Opinion when reading an English text on a digital device and a printed text</p>	<p>The way I see it is much better. I do not know if it is because of my generation, but having the text physically because it allows me to make drafts to make annotations for myself. It is much better to handle English documents by reading English documents in physical format.</p>
<p>Question 3:</p> <p>Perception to investigate information in English digital tools</p>	<p>I think it is much more convenient and beneficial to use digital media for research. With just a few clicks, you can access a vast amount of information that you would not find by physically searching through libraries. Even in English-speaking institutions, the libraries may not have a diverse range of titles available. In contrast, digital platforms provide much better management and accessibility of information for research purposes.</p>

<p>Question 4:</p> <p>Recommendation for reading digital texts in English</p>	<p>Well, I, in particular, what I do is to have applications that support me and so, to have a dictionary, synonyms, a tool of conjugations, to have, can, and/or use markers within the digital part, have the facility to highlight the text to put some as in a PDF, put some text that gives me the meaning of some word, go the whole part of the digital format as a word processor that allows me to do what you do manually and that you can not so easily as copy and paste for example not edit the text go.</p>
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