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Emotional Engagement and ICT-driven Transformations in Older Adults' Language Learning

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ABSTRACT

In today's interconnected world, increasing longevity has elevated the societal role of older adults, fostering their active participation. Education, particularly language learning supported by technology, empowers this demographic to thrive in a globalized society. Integrating Information and Communication Technologies (ICT) into language learning not only enhances linguistic competence and digital inclusion but also boosts emotional well-being by building confidence, reducing anxiety, and fostering a sense of accomplishment. This study explores the impact of ICT on linguistic, digital, and emotional dimensions in older adults, using data from questionnaires and interviews with 24 participants at the University of Granada, Spain. Findings reveal strong digital engagement, motivation, and familiarity with digital tools, while ICT also fosters positive emotional outcomes, including confidence and social belonging, despite challenges like pronunciation and limited literacy. The results highlight the need for tailored educational approaches to promote meaningful, inclusive, and emotionally enriching learning experiences.

Keywords: older adults; English; ICT; emotional engagement; linguistic and digital competence

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Introduction

Numerous sociodemographic studies reveal a widespread increase in the elderly population, both in Spain and globally. Longevity is a defining characteristic of today's society, as per data from the National Statistics Institute (INE, 2019), with 9,057,193 elderly individuals currently registered in Spain. These figures underscore the need to approach this stage of life with strategies that enhance quality of life, not only in physical and cognitive terms but also in emotional and social dimensions.

Aging is statistically understood as an increase in the proportion of older individuals and a rise in the average age of the population. Currently, there is a significant increase in the number of individuals aged 65 and above, especially those aged 80 and older. This progressive aging in most countries is driven by factors such as declining birth rates and the postponement of mortality (Cambero & Díaz, 2019). As outlined by the IMSERSO Report (2018), this demographic transformation is expected to continue, with the elderly population in Spain projected to reach 34.6% by 2065. On a global scale, the percentage of people aged 60 and over is set to nearly double between 2015 and 2050, rising from 12% to 22% (World Health Organization, 2024). This significant demographic shift underscores the increasing prevalence of aging populations worldwide, emphasizing the urgent need for policies and initiatives that foster their inclusion and active participation in society.

Addressing these shifts requires a focused approach to aging-related challenges, particularly by promoting social inclusion, enhancing emotional well-being, and expanding lifelong learning opportunities. Such efforts empower older adults to remain engaged and valuable contributors to societal development, ensuring they thrive in an increasingly interconnected and dynamic world (López-Pérez et al., 2008; Ahmadi et al., 2022; Del Barrio et al., 2018).

The rising life expectancy presents challenges in various areas, including healthcare, family support systems, and education. Among these, education emerges as a crucial domain for fostering active and emotionally fulfilling aging. Developing educational programs tailored to the unique needs and experiences of older individuals is essential for enhancing not only their cognitive and social capacities but also their emotional engagement and self-esteem (González et al., 2022).

This demographic revolution necessitates a multidisciplinary approach to aging, recognizing the importance of addressing emotional, social, and cognitive dimensions. Active aging, as defined by the World Health Organization, emphasizes optimizing health, safety, participation, and lifelong learning (González-Cuizi, 2021; Limón-Mendizábal, 2018; Foster & Walker, 2015; Giovanna, 2017). These pillars underscore the role of emotional factors, such as the confidence to navigate new experiences and the motivation to stay engaged in social and educational activities.

Education tailored to older adults, including programs like senior classrooms (Torres, 2022), has shown potential to transform lives by providing tools for emotional resilience, social connection, and cognitive stimulation. Specifically, the inclusion of older adults in university programs aligns with their desire for greater social participation and personal growth, offering an avenue to reinforce emotional well-being through meaningful learning experiences (Corral-Robles et al., 2023).

Language learning for older adults presents a unique opportunity to combine cognitive, social, and emotional benefits. While language acquisition is often associated with childhood, older adults bring distinct motivations and a readiness to engage emotionally with the learning process (Martínez-Heredia et al., 2024). Andragogy principles (Knowles, 2014; Ozuah, 2016) advocate for

teaching approaches that prioritize autonomy and active participation, aligning content with learners' expectations and emotional needs.

The use of ICT in language learning has shown to significantly enhance these emotional benefits (Bensalem et al., 2024; Derakhshan & Zhang, 2024; Matas-Terrón & Franco-Caballero, 2015; Qi & Derakhshan, 2024; Teo et al., 2022). Technologies such as apps, artificial intelligence, and online platforms not only provide opportunities for linguistic development but also foster emotional engagement, such as confidence building, reduced anxiety, and a sense of accomplishment (Derakhshan et al., 2025; Liu & Wang, 2024; Xin & Derakhshan, 2024). Studies by Vroman et al. (2015) and Ortega-Tudela and Ortiz-Colon (2015) demonstrate how ICT facilitates social interaction, promotes a sense of belonging, and sustains motivation—key emotional drivers for older adults.

Moreover, ICT has proven effective in mitigating negative emotions such as social isolation, a frequent concern among the elderly. By encouraging active participation in digital environments, ICT supports emotional well-being alongside linguistic and cognitive development. Challenges such as overcoming technological barriers and adapting to new tools are met with opportunities for confidence building and empowerment, as noted in studies by Gatti et al. (2017) and Hubbard (2013).

The integration of ICT into English learning for older adults highlights the importance of emotional engagement as a core element of the learning process. These tools not only improve language proficiency but also foster emotional resilience, motivation, and a sense of social belonging. By addressing both the cognitive and emotional needs of older learners, ICT-enabled education emerges as a transformative approach to lifelong learning (Martín, 2017; Hernando & Phillippi, 2013).

Despite its potential, there remains a notable gap in the literature on the specific emotional dynamics involved in ICT-facilitated language learning for older adults (Falco & Kuz, 2016). While studies often focus on linguistic and digital competencies, the nuanced emotional outcomes, such as enhanced well-being and reduced anxiety, deserve greater exploration. Addressing this gap is essential for educators, policymakers, and researchers aiming to implement inclusive, emotionally enriching educational initiatives tailored to the needs of the elderly (García & Niño, 2023; Martín, 2017; Valenzuela-Zambrano et al., 2021).

This study seeks to bridge this gap by examining the linguistic, digital, and emotional implications of ICT integration in English learning for older adults, providing insights into how education can promote emotional well-being and active aging in a globalized society.

In this context, and for the reasons presented earlier, the present research addresses the following research questions:

RQ1: What linguistic, digital and emotional opportunities do elderly adults experience with the introduction of ICT in English classes?

RQ2: What linguistic, digital and emotional challenges do elderly adults face with the introduction of ICT in English classes?

From these research questions, the overarching objective is to analyze the linguistic, digital and emotional challenges and opportunities associated with the introduction of ICT in English learning for older individuals in the Permanent Open Training Classroom at the University of Granada.

Methodology

Research Design

The phenomenon under study in this research is complex and multidimensional. Therefore, it has been deemed beneficial to employ a mixed methods approach, overcoming the limitations of relying solely on quantitative or qualitative research, specifically utilizing a convergent parallel design. This approach allows for an analysis that benefits from methodological complementarity, leading to a more comprehensive understanding of the study's subject (Creswell & Plano Clark, 2018). In particular, this mixed-methods study focuses on examining the perception of older individuals regarding the implementation of ICT in the English classroom, with an emphasis on its linguistic, digital and emotional impact.

Participants

This study collected data from older students undergoing English training in the Permanent Open Training Classroom at the University of Granada (Spain), encompassing both the Granada and Melilla campuses. Specifically, data were gathered from two groups at the Granada campus and the sole group located in Melilla. Prior to participating in the study, all participants received information about the nature of the study. They indicated on the form that they had understood the information and provided their consent for their participation to be anonymously recorded. A total of 24 students, comprising 9 males (62.5%) and 15 females (37.5%), agreed to participate in the study. The age of the students ranged from 58 to 77 years, with the majority (16.7%) falling between 63 and 68 years old.

Table 1
Sample Distribution by Groups

Groups	Levels	Total N°
Group 1 Granada	I	9
Group 2 Granada	II	6
Group 3 Melilla	I & II	9
Total N°		24

Instruments

For the collection of both quantitative and qualitative data, two instruments were employed, which we proceed to describe.

Firstly, the Belda-Medina questionnaire Belda-Medina questionnaire (2020) on the use of ICT in adults was utilized and adapted to the characteristics of our study. This questionnaire attempted to capture the emotional dimensions related to ICT use in language learning, including participants' levels of confidence, motivation, and anxiety when engaging with digital tools. This questionnaire comprises:

- Informed consent
- Personal data, years learning English, English proficiency level, and known languages.

- Statements on general aspects of ICT use, employing a Likert scale ranging from 1 (Completely Disagree) to 5 (Completely Agree).

- Statements about their use of ICT during their English learning practice and the emotional experiences associated with these practices.

Secondly, a group interview was designed and conducted through discussion groups, with a specific focus on exploring both the practical and emotional experiences of participants when engaging with ICT in their English learning. This interview was validated through an expert panel to ensure it captured insights into confidence, motivation, and any emotional challenges related to the use of technology.

Before administering both instruments, we focused on examining the role of ICT in English teaching. Although participants had already used ICT regularly in class with their instructors, the aim was to analyze how these approaches influenced participants' emotional engagement, such as their sense of achievement, frustration, or enjoyment.

In this study, participant data has been handled with the utmost confidentiality and scientific rigor, reserving its use for research works following the scientific method required in each case. This study adheres to the criteria of the ethical committee responsible for human experimentation at the University of Granada (3890/CEIH/2023) and the Declaration of Helsinki from 1975, updated in 1983. During the interview process, informed consent and permission were requested and freely granted by the participants. They were adequately informed of the objectives and topics to be addressed, prioritizing the preservation of their identity.

Data Analysis Process

The quantitative data analysis process was carried out using descriptive statistics, including percentage analysis, frequency, means, and standard deviation. IBM SPSS version 28 for Windows 11 was employed for this purpose.

Regarding the qualitative data analysis process, thematic analysis was chosen as the selected qualitative method for this study. Thematic analysis is suitable for uncovering common or shared meanings, allowing for a deep understanding of experiences, thoughts, or behaviors (Kiger & Varpio, 2020). An inductive approach was used for the analysis, based on the narratives of the students that took place in the conducted discussion groups. These narratives constituted the primary source of data, and researchers were responsible for analyzing them to draw conclusions (explanations and interpretations). This involved a cyclical process consisting of six fundamental stages: familiarization, coding, searching for themes, reviewing themes, defining and naming themes, interpreting data, and drawing conclusions (Flick, 2014). Thorough familiarization with the data was necessary, involving multiple readings of the narratives to immerse in the content, similar to a holistic content reading process. During this phase, major themes arising from the students' narratives were identified, corresponding to different categories and subcategories. This process involved identifying emerging themes (such as flexibility in learning, motivation, fear of failure, overcoming challenges, confidence building, and enjoyment, among others) in the text by breaking them down into relatively small content units, which were then subjected to descriptive treatment (Sparker, 2005).

Following these stages, the data were categorized and coded using the qualitative analysis software NVivo, aiming to reveal trends, patterns, structures, and communication discourses. In addition to discerning trends and patterns, this analysis software facilitated the quantification of the presence of themes in the students' narratives. It allowed us to assess how frequently students

referred to different themes (categories and subcategories) in their narratives (Gbrich, 2007). The transformed qualitative data were reviewed by two tenured professors and one full professor, experts in languages, pedagogy for older adults, and technology, who assessed its credibility and relevance. Additionally, member checking was employed to enhance the study's validity. This meticulous review process aimed to ensure the reliability and validity of the study. The final stage involved interpreting the data to formulate conclusions. During this step, all information was prepared to capture the richness of the data and translate the interpretations of various researchers into results.

Table 2 presents the final themes and categories extracted through the six phases described above.

Table 2
Definitive Themes and Categories

Themes	Codes	Categories	Codes
Emotion-Driven Learning Through ICT	LT	1. Perceptions and Feelings about ICT Use	LTP
		2. Motivational Impact of ICT in Learning	LTM
		3. Emotional Benefits of Flexible Learning	LTF
		4. Engagement through Diverse Resources	LTR
Emotional and Linguistic Impact of ICT on English Language Learning	TI	1. Linguistic and Emotional Benefits: Improvement in vocabulary, grammar, and oral and auditory practice.	TIB
		2. Linguistic and Emotional Challenges: pronunciation, auditory difficulties	TID
		3. Confidence building with ICT and Language Learning	TIC
		4. Overcoming Fears with Technology and English Language	TIF
Emotional Growth Through Digital Competence Development	DI	1. Emotional Satisfaction from Increased Digital Competence	DID
		2. Empowerment through Digital Autonomy	DIA
Emotions and Social Belonging fostered by ICT	SI	1. Emotional Rewards of Greater Social Connection	SIC
		2. Ambivalent Feelings about Reduced Face-to-Face Interaction	SIP

Results

As mentioned earlier, in educational research, a convergent parallel design refers to a research strategy that simultaneously combines both quantitative and qualitative methods with equal importance in the same study to address a research problem or a series of research questions.

In this approach, quantitative and qualitative data were collected and analyzed in parallel and then compared or combined to gain a more comprehensive understanding of the studied phenomenon. By using both approaches, the strengths of each can be leveraged, addressing

limitations that might arise if only one approach were used. For this reason, in this section, we will present the results of both methodological approaches to provide a richer and deeper insight into the subject.

Firstly, we present the quantitative data:

Regarding the availability of different electronic devices, all senior participants report having a computer and a mobile phone at home ($N = 24/100\%$). The majority ($N = 18/75\%$) has an active profile only on Facebook, while ($N = 5$) 20.8% have profiles on Facebook, Twitter, Instagram, TikTok, and LinkedIn, with only ($N = 1$) 4.2% admitting to using TikTok.

For preferred resources when working in English class, ($N = 8$) 33.3% state that using a computer with Internet access, books, audios, a digital board, as well as other electronic devices enhances class work. Only the computer ($N = 6/25\%$), the book ($N = 5/20.8\%$), and the digital board ($N = 3/12.5\%$) are chosen as sole resources. ($N = 20$) 83.3% claim to know how to use the computer or tablet, search for needed information on the Internet, download and listen to podcasts. Only ($N = 5$) 16.7% assert familiarity or use of the computer or tablet, writing emails to family and friends, or sending messages through the mobile phone.

The answers to the statement, "When I need to know something, I first look it up on the Internet," show that 58.3% of respondents agree, while 33.3% completely agree, indicating a strong tendency to use the internet for information. Only 8.3% were indifferent. The cumulative percentages demonstrate that all responses are accounted for, with the majority relying on the internet as their primary source for seeking information.

The responses to the item, "When I have to read news, I do it more often on my mobile, tablet, or computer than in printed format," show that the majority of respondents (62.5%) completely agree, indicating a strong preference for digital devices over printed formats for reading news. An additional 8.3% agree with the statement, while only 4.2% are indifferent. The cumulative percentages reveal that 75% of respondents favor digital formats for reading news, with the remaining 25% either indifferent or agreeing to a lesser extent.

The responses to the item, "When I want to read a book, I prefer to do it electronically," indicate that 37.5% of respondents disagree with this preference, showing a stronger inclination toward reading physical books. A smaller group, 16.7%, completely disagrees with this idea, while 4.2% agree, and 16.7% completely agree. The remaining 25% are indifferent. Cumulatively, 54.2% do not prefer electronic books, and only 16.7% of respondents favor the electronic format. This highlights a general preference for reading physical books over electronic versions, with a notable portion indifferent to the format.

The data regarding the item, "I have carried out digital activities in class," reveals that a significant majority, 87.5% of respondents, have participated in digital activities during class. In contrast, 12.5% have not engaged in these activities. The cumulative percentage reaches 100%, confirming that all respondents are represented, with the overwhelming majority having experience with digital activities in the classroom.

Finally, the most used applications in class have been Kahoot, YouTube, Duolingo, and various social networks. The responses to the statement, "I have used any of the following applications or programs in class," show that 50% of respondents have used YouTube, making it the most popular application among those listed. Other applications include Duolingo, used by 20.8% of respondents, and social networks, which 16.7% have utilized. Kahoot was used by 12.5% of respondents.

The responses from the surveys reveal a strong preference for digital tools and online resources. However, there is a general preference for physical books over electronic ones, with a significant portion indifferent to the format. Overall, the data shows widespread use of digital technologies for learning and information gathering.

Secondly, we proceed to describe the qualitative data based on the categories previously outlined in Table 2:

This section begins with the theme ‘Emotion-Driven Learning Through ICT’ (LT), which explores the role of emotions in shaping the experiences of older adults as they engage with ICT in English learning. It focuses on how emotional factors—such as motivation, satisfaction, confidence, and frustration—interact with their perceptions of ICT use, their learning processes, and their engagement with digital tools.

This theme emerged as the most frequently coded during the analysis, reflecting its prominence in the narratives of the elderly participants during the discussion groups. A total of 48 references were identified, distributed across the categories of ‘Perceptions and Feelings About ICT Use’ (LTP), ‘Motivational Impact of ICT in Learning’ (LTM), ‘Emotional Benefits of Flexible Learning’ (LTF), and ‘Engagement Through Diverse Resources’ (LTR). These categories highlight the emotional nuances of participants’ experiences, including their perceptions of ICT, the motivation it fosters, the emotional relief from flexible learning options, and the engagement derived from diverse, interactive resources.

The category with the highest number of mentions was ‘Perceptions and Feelings About ICT Use’ (LTP), with a total of 15 references. This category captures the emotional nuances of participants’ experiences, focusing on how they perceive and interact with ICT in their English classes. The following statements provide valuable insights into their opinions on this subject.

Student 8. [I find the ICT very interesting, primarily because their use in class creates a sense of urgency that stimulates your mind. It pushes you to think quickly and stay engaged, as you need to follow the sequence of activities within a limited time frame, which helps activate and challenge your neurons].

On the other hand, a perception shared by several of the interviewed students is as follows:

Student 6. [Yes, I find the use of ICT engaging and enjoyable, but I also see it as a complement to traditional classroom methods. Striking a balance between the two approaches would be ideal, as both can work effectively together to enhance the learning experience].

Another frequently mentioned category was ‘Motivational Impact of ICT in Learning’ (LTM), which received 12 references. This category reflects the participants’ shared view that ICT serves as a powerful motivator, encouraging them to persist in their learning journey, particularly in the context of language acquisition. The following testimony encapsulates this sentiment, highlighting the role of ICT in sustaining their motivation and engagement.

Student 2. [Yes, absolutely. Overall, we believe that motivation is one of the most important factors in learning. Technology can serve as a significant motivator. While the primary drive comes from the need to learn and communicate in English, ICT acts as a powerful tool that enhances and supports our intrinsic motivation to learn and improve in the language].

The categories ‘Emotional Benefits of Flexible Learning’ (LTF) and ‘Engagement Through Diverse Resources’ (LTR) received 10 and 11 mentions, respectively, underscoring their importance in participants’ experiences. These categories highlight how ICT not only provides

practical advantages but also fosters positive emotional outcomes, such as a sense of autonomy, enjoyment, and empowerment in the learning process.

In terms of flexibility, participants emphasized how ICT allows them to take control of their learning, reducing stress and making the experience more enjoyable. The ability to study at their own pace and on their own terms creates a sense of freedom and satisfaction, as reflected in the following testimony:

Student 3. [You can listen to podcasts, watch movies whenever you want, use apps like Duolingo, and do it all at your own pace. You choose the time and place, which makes the whole process more relaxing and enjoyable].

Similarly, the wide variety of resources available through ICT fosters a deeper emotional connection to learning by making it more dynamic and engaging. Participants appreciated how digital tools made learning feel less rigid and more stimulating, as illustrated in this testimony:

Student 1. [The Internet offers so much material, and it's much more enjoyable than just using a book. The diversity keeps me interested and motivated to keep learning].

These reflections demonstrate how ICT contributes to a more emotionally fulfilling learning experience, blending flexibility with a rich array of resources that enhance both engagement and emotional satisfaction.

The theme 'Emotional and Linguistic Impact of ICT on English Language Learning' (II) garnered a total of 36 mentions during the interviews with older adults, highlighting its significance in their learning experiences. This theme explores both the positive and negative effects of ICT on the process of acquiring English, particularly within this demographic. The analysis revealed four distinct categories: 'Linguistic and Emotional Benefits: Improvements in vocabulary, grammar, and oral and auditory practice' (IIB), which underscore the confidence and satisfaction gained from mastering language skills; 'Linguistic and Emotional Challenges: Pronunciation and auditory difficulties' (IID), reflecting participants' frustrations and the resilience required to overcome these obstacles; 'Confidence Building with ICT and Language Learning' (IIC), which emphasizes how technology boosts self-assurance and reduces anxiety; and 'Overcoming Fears with Technology and English Language' (IIF), which focuses on how participants confront and manage fears related to using ICT and learning a new language.

The subtheme with the highest number of mentions was 'Linguistic and Emotional Benefits' (IIB), with a total of 20 references. Older adults widely recognized that ICT significantly enhances their language learning experience by improving vocabulary and grammar while offering valuable opportunities for oral and auditory practice. Participants highlighted the sense of accomplishment and confidence they gained through these improvements, as well as the emotional reassurance provided by the availability of diverse learning tools.

Student 5. [Yes, the use of ICT undoubtedly helps improve vocabulary, and for me, the most challenging aspect is listening. Having access to so many resources, both in class and at home, really supports me and makes me feel more confident in tackling this challenge].

On the other hand, participants also mentioned the subtheme 'Linguistic and Emotional Challenges' (IID) associated with the use of ICT, which received a total of 4 references. While fewer in number compared to the benefits, these challenges reveal significant emotional hurdles. Pronunciation and interaction were identified as particularly difficult areas for older adults, often causing frustration or feelings of inadequacy.

Student 8. [There are many resources but practicing pronunciation with ICT is complicated. Interacting with someone and getting feedback outside of class is also more challenging].

Another significant subtheme was ‘Confidence Building with ICT and Language Learning’ (IIC), which was mentioned 8 times. Participants shared that ICT fosters confidence by creating an interactive and supportive environment. This sense of self-assurance often stems from the ability to use technology effectively and see tangible progress in their language learning.

Similarly, the subtheme ‘Overcoming Fears with Technology and English Language’ (IIF) was referenced on four occasions. ICT was noted as a valuable tool for helping older adults address their apprehensions about technology and language learning, providing opportunities to experiment and practice without fear of judgment.

Student 7. [To overcome my fears a bit, I use a translator app to start speaking and then listen to myself. This helps me feel more confident and gradually overcome some of the fears we have as older adults when speaking another language.]

The third theme, ‘Emotional Growth Through Digital Competence Development’ (DI), highlights how ICT not only enhances language skills but also contributes to greater autonomy and emotional satisfaction through improved digital competence. Two categories emerged: ‘Emotional Satisfaction from Increased Digital Competence’ (DID), with seven mentions, and ‘Empowerment Through Digital Autonomy’ (DIA), with 5 mentions. Participants expressed that acquiring digital skills through ICT improved their confidence and independence, positively influencing their daily lives.

Student 3. [Yes, of course, using these digital activities in class helps us improve our digital competence. It makes me feel more comfortable and confident using them autonomously at home.]

The fourth and final theme, ‘Emotions and Social Belonging Fostered by ICT’ (SI), was referenced eight times. This theme examines how ICT strengthens social connections, providing emotional rewards and fostering a sense of inclusion. On 5 occasions, participants highlighted the category ‘Emotional Rewards of Greater Social Connection’ (SIC), emphasizing how digital tools allowed them to build meaningful relationships and feel more connected.

Student 6. [Yes, we are more connected with society. For example, using social networks to improve English has allowed me to connect with other people on the same platform. I even chat with an English woman I met on Facebook].

However, participants also mentioned ‘Ambivalent Feelings About Reduced Face-to-Face Interaction’ (SIP) 3 times. While ICT offers increased opportunities for online communication, some noted that it can limit the depth and quality of in-person interactions.

Student 4. [The fact that we now have more online opportunities means many of us miss the chance to interact in person. Nevertheless, it's still a great opportunity to connect digitally].

The qualitative analysis complements the quantitative findings, underscoring the pivotal role of ICT in fostering emotional, cognitive, and social growth among older adults.

Discussion and Conclusions

This study provides insights into the linguistic, digital and emotional challenges and opportunities associated with the integration of ICT in the English learning process for older adults. The findings highlight the transformative potential of ICT to foster not only skills development but also emotional growth, emphasizing the importance of lifelong education for this demographic.

Older adults have traditionally exhibited resistance to adopting modern technologies due to generational differences and the digital divide, which often creates feelings of anxiety or inadequacy (Casamayou & González, 2017; Loo, 2020; Murciano et al., 2022). However, both quantitative and qualitative data reveal that, overall, participants demonstrate a high degree of familiarity with and access to electronic devices such as computers and mobile phones, forming a solid foundation for ICT-based learning (Navarrete et al., 2022; Padilla-Carmona et al., 2022).

The fact that most participants maintain active profiles on social networks such as Facebook, Twitter, Instagram, TikTok, and LinkedIn highlights their ability to navigate digital environments confidently and their potential for meaningful online interaction. This engagement demonstrates not only access to technology but also its active use for communication, information gathering, and fostering a sense of connection (Escuder et al., 2020). For many older adults, these digital interactions provide emotional benefits, such as reduced feelings of isolation, increased self-esteem, and a sense of belonging to a broader online community (Baglione & Rodolfo, 2023; Hormachea et al., 2023).

Within the university context, the development of interpersonal skills through ICT is reflected in activities such as Internet searches and reading news in electronic formats, which participants have embraced with confidence and adaptability (Manjarrés et al., 2021). Additionally, they frequently utilize virtual applications like Kahoot, YouTube, Duolingo, and other communication platforms in their English learning. These tools not only enhance linguistic and digital skills but also contribute to emotional engagement by making the learning process more dynamic, enjoyable, and rewarding (Palacios et al., 2024; Valencia et al., 2024). It is particularly noteworthy that the majority of participants have actively engaged in digital activities during class. This demonstrates the effective integration of ICT into the educational process, creating opportunities for interactive and engaging learning experiences that boost motivation and emotional satisfaction.

Regarding preferred resources for English classwork, it is encouraging to note that a significant portion of participants recognizes the value of electronic devices with Internet access, alongside traditional resources such as books, audios, and digital boards, in enhancing their learning experience. This openness to integrating ICT into the classroom reflects not only a willingness to embrace modern tools but also a growing sense of confidence and curiosity about leveraging technology to improve language skills. The use of diverse resources provides participants with a sense of empowerment and flexibility, making their learning journey more engaging and emotionally fulfilling (Li & Lontas, 2023; Padilla-Carmona et al., 2022; Tamayo et al., 2020).

Furthermore, most participants report proficiency in using computers or tablets, searching for information online, and downloading and listening to podcasts. These digital skills are critical for fully utilizing the wide range of online tools available for English learning (Parra, 2022). Importantly, this competence contributes to emotional growth by fostering self-assurance, reducing anxiety associated with technology, and enhancing their sense of autonomy (Mosquera, 2023).

In terms of attitudes toward technology, the data reveal that most participants turn to the Internet as their first choice for accessing information, reflecting trust in the web as a reliable knowledge source. Their preference for reading news on electronic devices rather than in print demonstrates a positive adaptation to digital media, showcasing their ability to navigate and benefit from technological advancements. However, the continued preference for reading books in print rather than electronically highlights their emotional attachment to traditional methods of learning, suggesting that while they are eager to adopt digital tools, they also value the familiarity and tactile experience of physical books.

This blend of embracing technology while maintaining a connection to traditional resources reflects a balanced and emotionally nuanced approach to learning, underscoring the importance of incorporating both modern and familiar elements into the educational process for older adults (Rodríguez, 2016).

The qualitative analysis complements the quantitative findings, underscoring the pivotal role of ICT in fostering emotional, cognitive, and social growth among older adults. ICT learning significantly enhances motivation by creating engaging and dynamic experiences that drive their willingness to persist in the learning process (Montes & Vallejo, 2016; Padilla, 2023). The flexibility provided by ICT empowers learners to take control of their studies, reducing stress and fostering a sense of autonomy and satisfaction. Moreover, the variety of resources available through ICT enriches participants' lives, offering not only opportunities for language improvement but also a platform for emotional engagement, including confidence building and overcoming fears associated with language learning and technology use (Mosquera, 2023; Palacios et al., 2024). The development of digital competence through ICT strengthens their independence and self-esteem, creating a sense of accomplishment and empowerment.

Simultaneously, ICT fosters social interaction and a sense of belonging by connecting older adults to a global community of English learners and speakers. These meaningful interactions enhance their emotional well-being by reducing isolation and promoting inclusivity. Additionally, the opportunity to engage with diverse cultures through ICT cultivates an appreciation for cultural diversity and strengthens emotional connections within and beyond their immediate social environments (Onofre, 2023). The use of ICT in English learning goes beyond linguistic and digital skills, serving as a transformative tool that enriches the emotional, social, and cultural dimensions of older adults' lives, ultimately fostering holistic personal growth and integration into a globalized society (Bonilla & Díaz, 2014).

In addition to our findings, it is important to note that these results are supported by previous research related to language learning in the elderly and the use of ICT. Various studies and authors have explored similar topics and arrived at parallel conclusions, such as González-Oñate et al. (2015) and Arteaga et al. (2019). These studies highlight how older adults use the Internet as a tool for learning, staying informed, communicating, and entertaining themselves, even though this process can sometimes be challenging. Emotional aspects are central to these experiences, as online interactivity not only facilitates interaction and communication but also provides opportunities for older adults to build self-esteem, reduce feelings of isolation, and strengthen their sense of belonging (Montaner-Villalba & Martel-Robaina, 2024). It has been found that older adults use the Internet to acquire technological skills, access information through news and digital media, and connect with their social and family environment (Agudo et al., 2012). Participation in ICT-related activities has been shown to bring about positive emotional and social changes, such as improved family relationships, greater participation in opinion forums, increased interest and curiosity, enhanced self-esteem, independence, functional skills, and overall activity (Bensalem et al., 2024; Fernández et al., 2018; García & Martínez, 2017; González et al., 2012; Liu & Wang, 2024; Prado & Cadavieco, 2013; Qi & Derakhshan, 2024; Uquillas & Córdova, 2021).

Additional studies in this field further support these findings and their significance. Torres (2022) in their research on groups of older adults in the university setting, highlighted the motivational impact of new technologies in English learning, contributing not only to cognitive gains but also to greater personal and social fulfillment. Castañeda and Selwyn (2018) have emphasized the importance of investigating how ICT can enrich the education of older adults, particularly by fostering social participation and access to global opportunities. Marshall (2018) conducted a study on the effectiveness of mobile applications in English vocabulary learning for older adults. Their results underscored the emotional benefits of using these applications, such as reduced anxiety, increased confidence, and a sense of achievement, alongside their utility in enhancing language skills. Similarly, Vroman et al. (2015), in their research on language learning in older adults, highlighted the unique motivations and emotional challenges that this group presents, emphasizing the importance of addressing these emotional dimensions to create supportive and engaging learning environments.

These studies, along with our results, contribute to a more comprehensive understanding of how ICT can enrich language learning in the elderly and its profound impact on emotional well-being, quality of life, and digital inclusion. The convergence of findings from various research supports the importance of continuing to explore and promote educational approaches that harness the potential of ICT, ensuring that both the cognitive and emotional needs of older adults are met.

In summary, by addressing both the challenges and opportunities this study emphasizes that the integration of ICT in English teaching for older adults goes beyond linguistic and digital competence. ICT serves as an emotional catalyst, boosting confidence, reducing anxiety, and fostering motivation, ultimately enriching the overall learning experience. These findings underscore the need for educational institutions to design programs tailored to the emotional, cognitive, and social needs of older learners, providing adequate support, such as initiation courses on ICT and ongoing guidance.

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