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Original articles

Digital Competences of English University Teachers at Universidad Americana of Costa Rica

Competencias Digitales de los Docentes de Inglés de la Universidad Americana de Costa Rica

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Abstract

Technology has come to society bringing with it an endless number of new applications and accessories that have facilitated the daily life of many at work, school and family level. These technologies have impacted all spheres of society, so the process of education is permeated by these changes, and therefore all levels of education. In the case of university teaching, the role of the teacher is in a period of change, in which the teacher must have the adequate and effective technological knowledge and skills. So, the objective of this study is to identify the digital competences of university teaching staff, in this case, the teachers of the English Language Teaching major of Universidad Americana, through an interpretative qualitative study. It was intended to know through an in-depth interview applied to the English teachers, about the knowledge on the use of new technologies in their courses. Within the results, it can be ascertained that English Language teaching staff of Universidad Americana of Costa Rica have an appropriate level of digital teaching competences despite the fact that they have obtained through empirical means, with a self-taught attitude and with their own experimentations in the teaching and learning process. Among the recommendations, it can be mentioned that the use of ICT leads to a process of constant updating of new applications, devices and software, which should be a teaching commitment to be carried out for life.

Keywords: Digital competences, teachers' competences, didactical resources use, technological competences, Information and Communication Technologies.

Summary: Introduction, Method, Results and Discussion and Conclusions and Recommendations.

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Resumen

La tecnología ha llegado a la sociedad trayendo consigo un sinfín de nuevas aplicaciones y accesorios que han facilitado la vida diaria de muchas personas en el trabajo, la escuela y la familia. Estas tecnologías han impactado en todas las esferas de la sociedad, por lo que el proceso educativo está impregnado de cambios, y esto aplica a todos los niveles de educación. En el caso de la docencia universitaria, el papel del profesor está en un período de cambio, en el que el docente debe tener los conocimientos y habilidades tecnológicas adecuadas y efectivas. Por lo tanto, el objetivo de este estudio es identificar las competencias digitales del personal docente universitario, en este caso, los profesores de la carrera de Enseñanza del Idioma Inglés de la Universidad Americana, a través de un estudio cualitativo interpretativo. Se indagó, a través de una entrevista de profundidad aplicada a los docentes de inglés, su conocimiento sobre el uso de las nuevas tecnologías en sus cursos. Dentro de los resultados, se puede afirmar que el personal docente de enseñanza del idioma inglés de la Universidad Americana de Costa Rica tiene un nivel adecuado de competencias digitales a pesar de haberlas adquirido de forma empírica, con una actitud autodidacta y a través de sus propios experimentos y adaptaciones en el proceso de enseñanza y aprendizaje. Entre las recomendaciones, se puede mencionar que el uso de las TIC conduce a un proceso de actualización constante de nuevas aplicaciones, dispositivos y software, lo cual debería ser un compromiso docente que se lleve a cabo de por vida.

Palabras clave: Competencias digitales, competencias docentes, uso didáctico de recursos, competencias tecnológicas, Tecnologías de la Información y Comunicación.

Introduction

Information and Communication Technologies (ICT), defined as technological resources composed of equipment, devices, programs and applications necessary for the storage and transmission of information through the Internet interface, have impacted most spheres of society due to the need for acceleration and efficiency in the so-called digital society (Borromeo and Ramírez, 2016; Echeverría, 2014).

Education is one of the spheres of society that has been influenced and permeated by these new technologies, transforming the educational field and its actors. Teachers are an essential part of the teaching process and greatly influence learning. Therefore, it is vital that they have the appropriate skills, knowledge and competences to promote and establish suitable spaces for knowledge creation and skills development through the use of ICT, according to the demands of the 21st century (Carballo, et al, 2015).

When competence is dimensioned to the actions of the teacher, a variety of teaching competences are linked to the interdisciplinary field covering pedagogical, curricular, didactic aspects, among others. Through the Common Framework of Digital Teaching Competence, issued in Spain in 2017, there is a basis for digital teaching competences in the context of higher education. To reinforce the previous statement, the study of Salinas, Benito, and Lizana (2014) indicates that among the components that must include are both technological knowledge and the pedagogical aspect, as well as the effect of technological devices on both people and the teaching process.

The teacher does not only need to be literate in the use of technologies but also to combine different teaching competences and adapt them to an integral use of technologies. Additionally, the teacher must be a learning companion, requiring skills that allow the development of a complex set of tasks and skills that involve support in the cognitive, socio-affective, and didactic plans (Gros, 2011).

Based on this premise, the purpose of this research is to describe the digital skills possessed by university teachers of the English Teaching major and its graduate programs at the three campuses of Universidad Americana in Costa Rica.

Background on models and frameworks of digital teaching competences

Digital competences are described by Sánchez, Gama, and Zanatta (2015) as the knowledge and management of ICT by users. The teacher, through digital competences, is able to design materials and instructional strategies according to the needs of the current century, adapting to the technological advancements of the time (Aguirre & Ruiz, 2012).

Among the diverse models of digital teaching competences analyzed, some examples include:

Tabla 1

Digital competences models

Model's author	Description
iSkills (2007)	Developed by the Educational Testing Service, from now hereinafter ETS, measures the ability to think critically in a digital environment through a series of real-world tasks.
NETST (2008)	The National Educational Technology Standards for Teachers model developed by the International Society for Technology in Education, hereinafter ISTE, specifies the conditions for an adequate integration of technology in education.
Koehler and Mishra (2008)	The TPACK model (Technological Pedagogical Content Knowledge), updated in 2016 with a second edition, focuses on the knowledge and skills teachers need to meaningfully integrate technology into instruction in specific content areas.
ACTIC model (2009)	The model of the ACTIC project (Accreditation of Competences in Information and Communication Technologies), developed jointly by various departments of the government of Catalunya, highlights eight competences broken down into competency actions.
Pozos (2010)	The model focuses on the integration of the Digital Competence of University Professors in their Professional Teaching Development.
Prendes (2010)	The model named "Competencias TIC para la docencia en la Universidad Pública Española" allows the analysis of competences exclusively within the university context.
UNESCO (2008, 2016)	The framework called the "UNESCO ICT Competency Framework for Teachers" is an update of the original version published in 2008. This framework encompasses both the technological aspects in conjunction with the aspects related to the pedagogical work, within the term competence.
Carrera and Coiduras (2012)	The model focuses on inquiring about the components of digital competence that are common to teachers and students.
Larraz (2013)	The model developed called "Digital Competence at the University", defines the concept of digital competence and proposes a rubric to work around four literacies: informational, technological, multimedia and communicative.
Ferrari (2013)	The DIGCOMP model by the Institute for Prospective Technology (IPTS) of the European Commission, is a project on digital competence to improve the understanding and development of this competence at European level.
Fraser et al (2013)	The DigiLit Leicester framework, created with the collaboration of the Department of Education of Leicester (United Kingdom), Montfort University and 25 schools in the city, distinguishes 6 areas of competence.
Ramirez and Casillas (2014)	In their book called "Háblame de TIC. Tecnología Digital en la Educación Superior", talk about new skills and digital knowledge for university teachers.
Rangel (2015)	Presents the proposal of a profile of digital teaching competences and describes thirteen competences grouped into three dimensions: technological, informational and pedagogical.
INTEF (2017)	The model "Marco Común de Competencia Digital Docente", developed by Instituto Nacional de Tecnologías Educativa y de Formación del Profesorado from Spain, hereinafter INTEF, makes a proposal that specifies digital competence through 21 sub-competences organized into 3 levels of domain and five competence areas.

Model's author	Description
Pinto, Cortés, and Alfaro (2017)	The Spiral Development Model of TICTACTEP Competences focuses on teaching practices, on the flexible and genuine use of digital technology, beyond its instrumental use and its pedagogical articulation, oriented to educational innovation.

Source: Own elaboration based on Durán, et al (2016).

The previous models encompass a number of different competences based on the various contexts in which they are implemented and developed. For the purposes of this research, they are counted and analyzed to understand the corresponding components, elements, and acquire different perspectives on them. Additionally, the study conducted by Durán, Gutiérrez, and Prendes (2016) is of great assistance in comprehending the different models or frameworks of digital teaching competences and how these models can be classified according to dimensions or categories. This analysis is presented in the following table, which is used to synthesize the information.

Tabla 2

Dimensions and competences

Dimensions	Authors	Identified Competences
Technical knowledge of devices, applications, networks, among other ICTs	Koehler and Mishra (2008)	The technological competences described as knowledge about technological capabilities and applications.
	ACTIC model (2009)	They coincide about the knowledge, management and use of devices, operating systems, processing of text, image, numerical, data, audio, and video files, as well as navigation and communication through the network
	Prendes (2010)	
	UNESCO (2011)	They coincide about the knowledge about devices, computer tools and network applications, and ability to evaluate their didactic potential. There is an informational dimension that includes localization and retrieval skills, ethical, and legal analysis, and selection of information.
	Carrera and Coiduras (2012)	
	Rangel (2015)	
	Larraz (2013)	Considers two categories, the technological one that includes competences such as digital citizenship, the organization and management of hardware and software, the processing of data in different formats and network communication and the second category called multimedia that includes competences such as creation of multimedia messages from a critical dimension.
	Ramirez and Casillas (2014)	Digital knowledge in terms of technological appropriation by teachers, instead of digital skills. Therefore, they include skills as part of practical knowledge.
Communication and information	Larraz (2013)	Communication of knowledge from an international approach, then technological communication, digital citizenship, and the creation of multimedia messages.
	Ramirez and Casillas (2014)	Includes elements of communication, such as: the use of WhatsApp, chat, email, social networks, distributed learning platforms, blogs, video calls and text messages, the use of social web services to subscribe, read, publish, participate in forums, consult *wikis,* and use social networks.
	ETS (2007)	Knowledge to collect and / or retrieve information from the network
	ACTIC model (2009)	They coincide on the efficient treatment and management of the information existing in the web encourages collaboration, creation and participation in virtual media
	Ferrari (2013)	
	Carreras and Coiduras (2012)	
	Fraser et al. (2013).	
Pedagogical, methodological, didactic and evaluative elements	Koehler and Mishra (2008)	It includes two categories, one of pedagogical competences and another of disciplinary competences.
	UNESCO (2011)	It includes the categories of curriculum, assessment, and pedagogy
	Pozos (2010)	The didactic, curricular, and pedagogical aspect around the use of ICT, which contemplates the planning and design of learning experiences in face-to-face, virtual and hybrid environments.

Dimensions	Authors	Identified Competences
	Carrera and Coiduras (2012)	The design of activities and situations of learning and evaluation that incorporate ICT according to their didactic potential.
	Rangel (2015)	It includes the pedagogical dimension in its profile of digital competences, which is structured of competences such as critical and favorable attitude to the possibility of integrating ICT in teaching practice, design and implementation of teaching and learning strategies mediated by ICT.
	Pinto, et al (2017)	Composed of technological, pedagogical, communicative, management and research competences, whose spiral format allows enriching the educational process based on the potential impact on innovation processes and social appropriation of knowledge.
Cybersecurity, access to adequate and updated equipment, instruction, digital identity, legality, and ethics around the use of ICT	ISTE (2008)	They coincide in promoting responsibility and digital citizenship
	ACTIC model (2009)	
	Fraser et al. (2013)	
	Pozos (2010)	It includes diversity, ethics and responsible use of ICT and awareness about the environment, health, and occupational safety with the use of ICT in the teaching profession
	Ramirez and Casillas (2014)	Digital citizenship composed of more specific elements to reflect on the duty of safety, access, and instruction for both the teacher and the educational community
Teacher training on the use of ICT	Prendes (2010)	Teacher training and innovation with ICT for the performance of its tasks.
	Fraser et al. (2013)	Technology that supports professional development
	UNESCO (2008)	The ability to create, distribute, share, and use new knowledge by integrating technological skills in all its contexts, including university teaching

Source: Own elaboration based on *Durán, Gutiérrez, and Prendes (2016).*

This table enabled us to understand the contributions of the different models analyzed regarding the types of competences present in other contexts and how they can be structured based on different categories or dimensions depending on the educational scenarios in which they are developed. As well, it is of great importance to understand the field, how the competences can be classified, which one of them are really necessary for the teacher's work and which ones are contemplated from different perspectives and also, they were relevant to distribute these competences among different dimensions in the instrument.

Use of ICT in University Teaching

A large number of tools, resources, media, and formats enable didactic strategies to facilitate the construction of knowledge according to the needs of students in the educational environment of the 21st century (Basantes et al., 2017).

First, Clavijo and Quintero (2012) identified areas of improvement through a mixed methodology. These areas include pedagogical training on the use of ICT and the multiplicity of teaching requirements and challenges required to achieve an efficient and appropriate integration of these technologies. Similarly, Echeverría (2014), through a quantitative study based on the opinions of teachers at the School of Counseling and Special Education of the University of Costa Rica, highlights the importance of teacher training on the didactic use of ICT.

Additionally, the quantitative research by Ramirez and Borromeo (2016) presented the results of two postgraduate studies, identifying teacher training on the use of ICT and the underutilization of resources as weaknesses resulting from a lack of training. This coincides with the findings of the research conducted by Rodríguez, Restrepo, and García (2017), which emphasizes, through a quantitative approach, the underutilization of technological resources by teachers due to a lack of appropriate training in the use of ICT.

Considering the aforementioned cases, it is evident that the use of ICT is not solely about the management and technical knowledge of applications, capabilities, networks, and software. It is important to complement technical knowledge with didactic aspects in the context of university work. The routes taken by teachers in this regard must align with the curriculum of each course and program. The mixed study conducted by Fallas (2014) allowed for the consolidation of ICT competences and identified that dedication and interest in ICT by teachers, along with reflective use focused on the design and development of learning experiences that apply creative and productive approaches, are necessary.

Another interesting case regarding interest and teaching commitment to the use of ICT is highlighted in the qualitative study carried out by Chaves, Chaves, and Rojas (2015). This study identified and analyzed areas of improvement such as the optimal level of ICT use by teachers and bridging the gap in terms of the physical technological resources available on campus and the wide range that exists in the market.

In the quantitative study by Sánchez et al (2015), among the identified areas of improvement, there is a particular emphasis on the lack of promotion of the production and management of digital resources by both students and teachers. Additionally, continuous updating and teacher training on different ICTs, as well as the need for digital skills in relation to the teaching profession, are highlighted.

The analysis conducted allows us to understand that there is indeed an underuse of ICT, as well as its potentialities, in the context of university teaching. Furthermore, relevant elements such as training, the didactic approach, technical knowledge, and the commitment of teachers to update devices and utilize the features of these resources, as well as the need for digital skills among university teachers, have been identified.

Context and approach to the research problem

At this point, the following guiding question arises for this research process: What are the digital competences possessed by university teachers of the School of English Teaching at Universidad Americana?

The English Teaching program at Universidad Americana is taken into consideration, as it has been the place of work for the researcher for over 7 years. The study aims to address the university teachers of the said school across the three campuses of Universidad Americana in Costa Rica. Furthermore, considering the context of the institution and the existing research conducted to date, it can be noted that the issue of digital competences in university teachers of the English Teaching program has not been previously addressed.

Based on the previously assessed background and analysis, the research question for this project is as follows: What are the digital competences possessed by university teachers of the English Teaching program at Universidad Americana in Costa Rica?

General objective

To describe the digital competences possessed by university teachers of the English Teaching program at Universidad Americana of Costa Rica.

Specific objectives

1. To identify the digital competences possessed by university teachers of the English Teaching program.

2. To understand the digital competences possessed by university teachers of the English Teaching program.

Method

Research focus

This research process is based on elements of qualitative research, specifically a phenomenological approach, as it aims to understand the reality of the digital competences that university teachers possess. As a phenomenological study, the intention is to gain insights through a qualitative approach by exploring the perspectives of the subjects related to the study problem. They will express their management and knowledge about the use of new technologies. This study follows an interpretative approach, as described by Ceballos-Herrera (2009), who argues that reality is constructed by the people involved in the problem being studied. Their individual perspectives converge, shaping the ontological character of the object of study. Building upon Ceballos' work (2009), the interpretative qualitative paradigm aims to reduce the separation between the object of study and the individuals involved.

In terms of its axiological character, Ceballos (2009) states that knowledge is a personal elaboration, and the importance given to the reality of each participant may vary. Therefore, the researcher must acknowledge their own experience or intentions regarding the object of study to ensure the research process remains unbiased.

Participants

To conduct this research, Universidad Americana of Costa Rica was selected, specifically focusing on the university teachers of the English Teaching program from the three existing campuses in the national territory. Since this program is currently undergoing reaccreditation by the National Accreditation System of Higher Education of Costa Rica, it is interesting to analyze this particular unit and determine the digital competences possessed by these individuals.

The selection of participants was based on voluntary participation, as the opportunity was offered to several teachers taking into account their differing schedules. Subsequently, convenience sampling was employed (Tamayo, 2001) using criteria such as representativeness of each campus, the type of course taught, age group, among others. Furthermore, in order to include samples from all three campuses that constitute the population, teachers were chosen from each campus, namely San José, Cartago, and Heredia.

Data Collection instruments

As indicated by Robles (2011), the in-depth interview is the ideal instrument as it follows a conversational model between equals, enabling a deeper understanding of the context related to the object of study. This instrument will facilitate the acquisition of characteristics and fundamental aspects from the interviewees and those involved with the object of study.

Development and implementation of the instrument

The dimensions addressed in the interview are as follows: Teacher Training on the use of ICT, which includes four items; Appropriation and Teaching Experience, which includes four items; Digital Literacy, which is structured by seven items; and Challenges and Teaching Commitment, which consists of five items.

It is worth noting that the instrument was validated through the judgment of experts in the field. Three teachers with expertise in the use and appropriation of ICT in university teaching provided their observations to refine the questions and ensure the validity of the in-

depth interview instrument. To ensure a conducive context for data collection without any intervention, the interviewees were asked to convene in a virtual meeting room on the Microsoft Teams platform of Universidad Americana. This approach adhered to the health protocols of the university in response to the Covid-19 pandemic.

Data Analysis

The data is entered into the Atlas.Ti software to facilitate appropriate data analysis. This enables the categorization, encoding, and organization of the obtained information into data families.

Through the use of the Atlas.Ti software, it is possible to identify keywords that generate inputs for further analysis. Additionally, this software allows the information from the answers to be captured in semantic networks, enhancing understanding and presenting relevant information in a visual manner.

Results and Discussion

The first section provided information regarding the demographics of the individuals interviewed, including their age range, their profession, their number of years of teaching experience in university level and their highest academic degree.

Tabla 3

Demographics

Age range	Profession	Number of years teaching experience in higher education	Highest academic degree
This characteristic spans from 30 to 49 years old	English teachers in the university	The range varies from 5 to 23 years	Three of the interviewees hold a Graduated English Language Teaching Degree
	They have additional jobs in the Ministry of Public Education or private educational institutions, and even in other fields such as sociology and finance analysis.		Three of the interviewees hold a master's degree related with Education
	It highlights the reality in the country, where it is common and necessary to have multiple jobs for economic, professional, or experiential reasons.		

Source: Own elaboration based on the obtained information.

The information is gathered and analyzed using the Atlas.Ti software. The first category is represented by a semantic web, which enhances understanding of the data relationships.

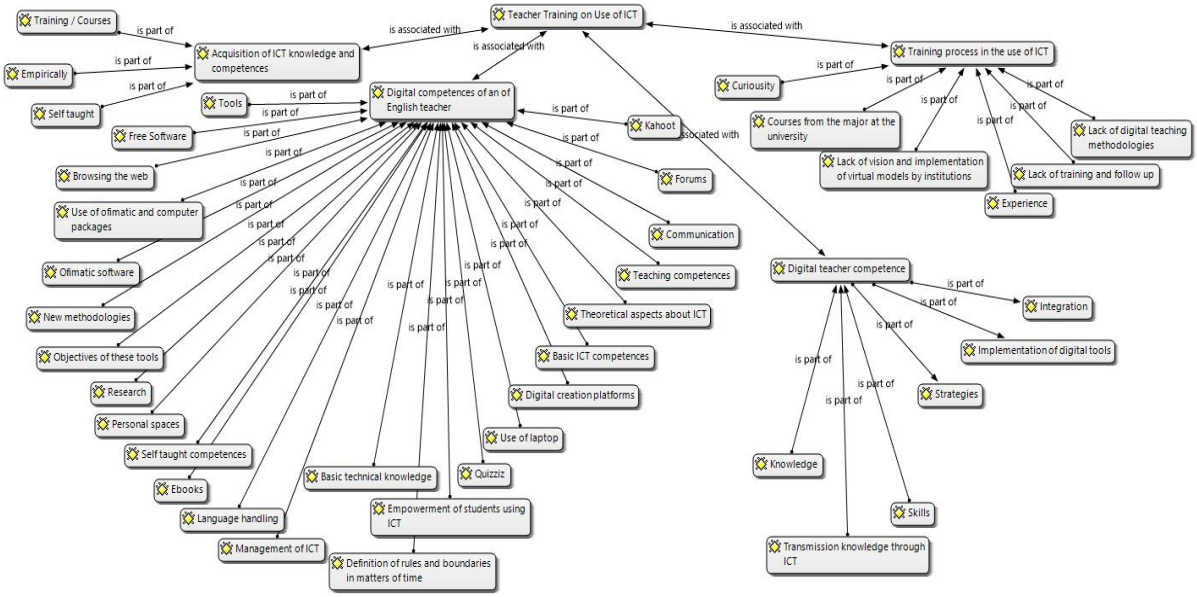
Continuing with the second section of the interview, which focuses on Teacher Training on the use of ICT, the majority of university teachers in the English teaching program at Universidad Americana are familiar with the term "digital teaching competence." They agree that it encompasses the knowledge, skills, and strategies required for implementing ICT, including the use of technological tools to create learning environments, promote communication, and enhance the teaching process.

These teachers have acquired their digital ICT skills through a combination of self-learning and online training offered by other institutions. It is worth noting that all interviewees

agree on being self-taught and express a willingness to experiment with new digital tools, especially during the pandemic.

Figure 1

Category: Teacher Training on the use of ICT



Source: Own elaboration through Atlas.Ti

Regarding their training process in the use of ICT, different perspectives emerge. In some cases, they describe it as simple, as some of them are digital natives with prior experience in using ICT tools. They also highlight the attitudes required for experimentation and integration, such as patience and careful consideration to maximize the use of these technologies.

In other cases, they indicate that the training process was complicated due to the lack of institutional training and follow-up on methodologies and techniques that integrate the use of ICT, such as creating learning environments, adopting new perspectives, and implementing virtual or distance learning models.

Moving on to the essential digital competences that university teachers in the English teaching program should possess, they point out the importance of understanding the theoretical aspects of ICT, knowing how to use tools and their objectives, creating and utilizing digital platforms, engaging in forums, using tools like Quizziz, Kahoot, and eBooks. Several interviewees agree that having basic technical knowledge about ICT, such as familiarity with hardware and devices, internet browsing skills, and promoting student empowerment in ICT usage, is crucial.

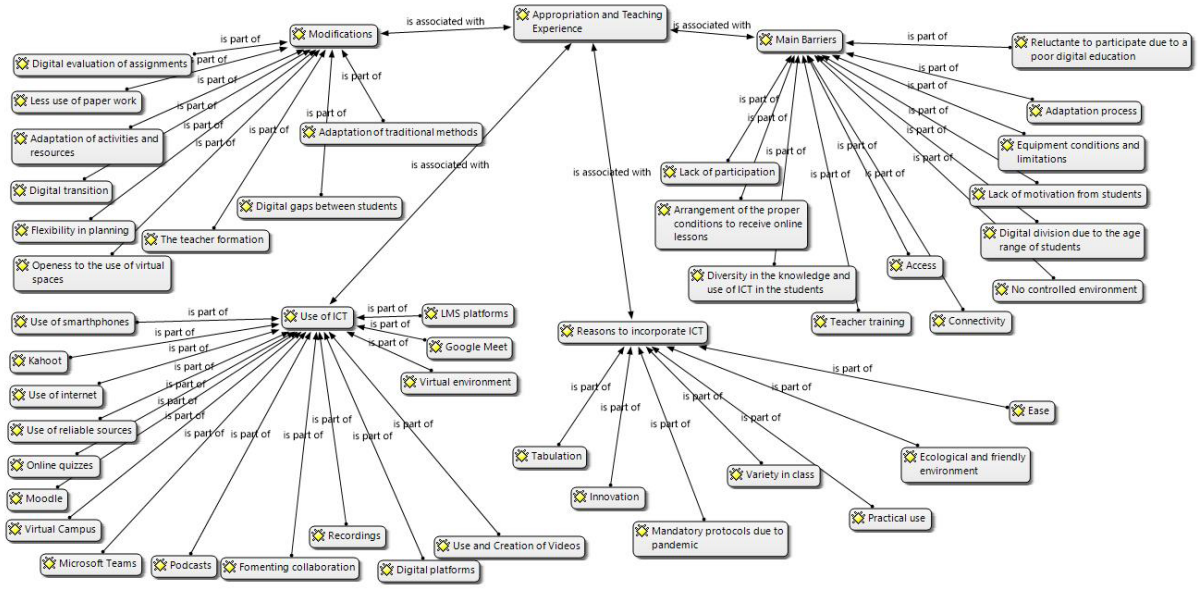
Additional criteria include defining rules and boundaries for using these tools, respecting service hours and personal spaces, adopting new methodologies, utilizing office packages, employing IOs, Linux, and free software, utilizing digital platforms, and continuously updating knowledge about these tools.

The next section of the interview focused on Appropriation and Teaching Experience, specifically regarding the use and integration of ICT in their courses. Teachers expressed varied

perspectives, with some emphasizing their teaching methodologies while others focused on the specific tools they use. The following semantic web provides further details on this category.

Figure 2

Category: Appropriation and Teaching Experience



Source: Own elaboration through Atlas. Ti

Some teachers indicated that they encourage collaboration, the use of the internet, reliance on credible sources, and the utilization of virtual environments. Others focus on the tools they employ to develop their courses, but they do not describe the methodologies or techniques they apply or their intended purposes. Some of the mentioned tools include Moodle, Microsoft Teams, Google Meet, online quizzes, digital platforms, video podcasts, Kahoot, interactive boards, recordings, and the use of the university's virtual campus.

In addition to the mandatory transition to virtual education due to protocols and the pandemic, teachers cite various reasons for incorporating ICT. These include fostering innovation, facilitating access, ensuring ease of use, enhancing practicality in aspects of rules, organization, and evaluation, and staying updated with teaching knowledge. They also mention the ecological benefits of using these technologies to promote environmentally friendly practices.

Regarding the main barriers faced in integrating ICT into university teaching, teachers highlight limited access and connectivity to the internet for students residing in remote rural areas. They also mention a lack of enthusiasm, motivation, and reluctance among students to participate in virtual environments due to inadequate education and digital culture. Another relevant aspect is the lack of diversity in ICT usage among students, as well as challenges related to adaptation processes, insufficient suitable equipment, and controlled spaces to facilitate virtual classes.

Moving on to changes or modifications made in didactic activities through the use of ICT, some teachers indicate that the changes are minimal because they possess training or experience in ICT and feel confident in its use. In other cases, a transition from traditional methods to new ones that incorporate ICT is observed. Additionally, the digital transition accelerates certain actions such as evaluation, data tabulation, and automated checks. The

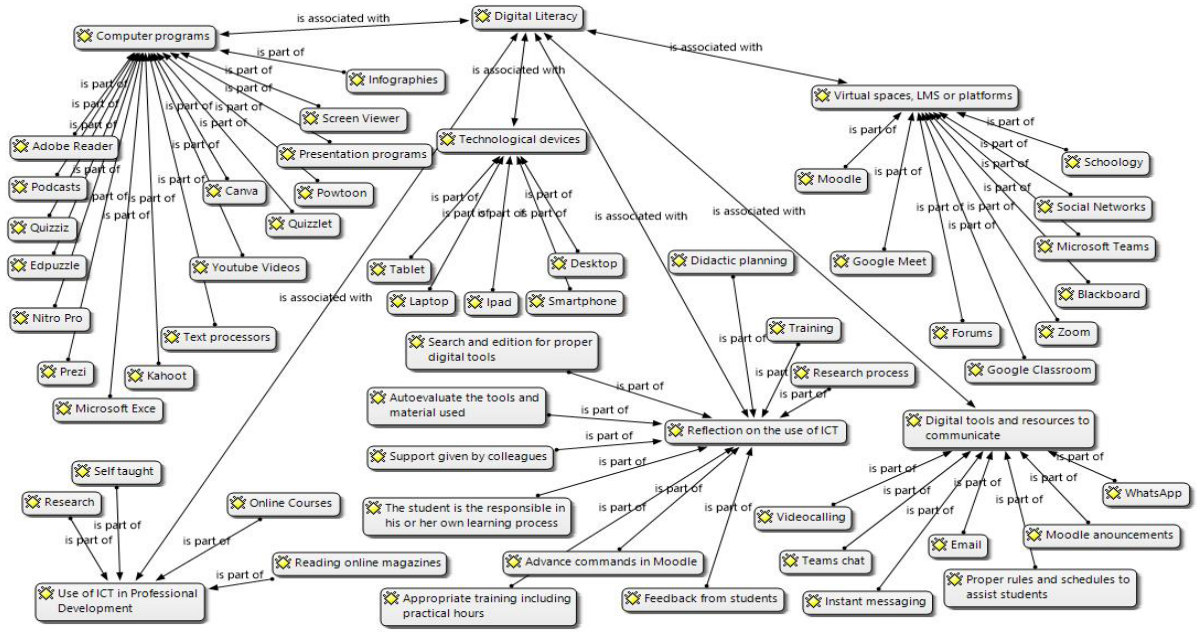
promotion of paperless practices in favor of the environment is also emphasized as a notable change in their courses.

Other cases involve trial and error in the process of integrating ICT, considering different student conditions, addressing gaps in digital literacy, and dealing with limited support from educational institutions. Furthermore, changes resulting from the inclusion of videos, audios, digital platforms, and other innovations, such as students recording videos using puppets and scripts, are mentioned.

For the third section, a semantic web is displayed to enhance understanding of the relationships within the data.

Figure 3

Category: Digital Literacy



Source: Own elaboration through Atlas. Ti

Regarding Digital Literacy, teachers indicated that among the tools they use are office programs such as Microsoft Excel, PowerPoint, Word, and Outlook, as well as other word processors. They also mentioned websites like Canva and Prezi for creating presentations, including the use of infographics. Other tools mentioned include PowToon, Kahoot, Quizziz, Quizlet, Nitro, Edpuzzle, podcasts, Adobe Reader, and YouTube for video creation and editing.

To facilitate communication in the classroom, professors utilize virtual spaces and collaboration platforms with educational purposes. These include Microsoft Teams and Moodle, which are the official communication channels of the university. Additionally, email and instant messaging applications in Teams and Moodle are used. For communication within the student and academic community, teachers mentioned WhatsApp groups, forums, announcements in Moodle, Google Meet, Zoom, social networks, and video calls. Some teachers have also had experiences with Google Classroom.

Interestingly, no teacher mentioned the use of Cambridge LMS and Cambridge One, despite the fact that these platforms are required for the development of service English courses and oral communication courses at the university.

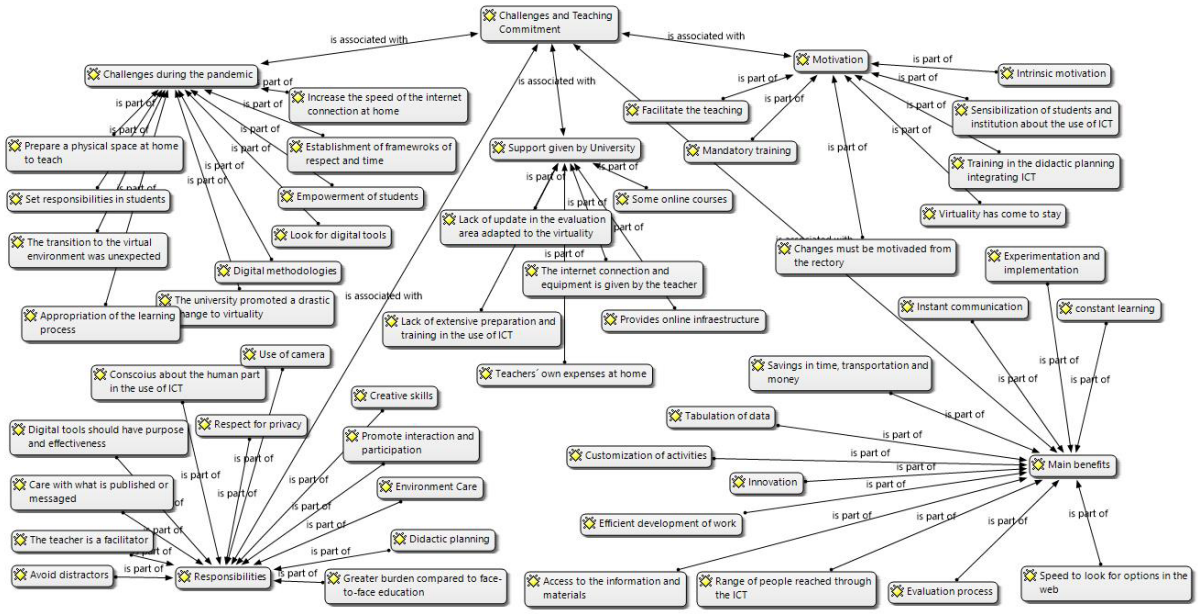
In terms of technological devices, teachers use personal computers, including both desktop and laptop computers. They also utilize smartphones, and in a few cases, tablets and iPads. Regarding their own professional development using ICT, some teachers mentioned attending training courses, while those who consider themselves self-taught mentioned reading online materials such as research papers and magazines. They also mentioned using manuals and online videos for assistance.

Teachers emphasize the importance of reflecting on the use of ICT and identifying areas in which they need to improve their knowledge and application to enhance their teaching. They recognize that reflection is extremely necessary in guiding the process of didactic planning. Teaching planning is considered the ideal time to evaluate experiences with the use of ICT, including tools, materials, and recommendations from colleagues that have proven to be productive. Areas for improvement within ICT mentioned by teachers include the use of advanced commands in Moodle and feedback obtained from students through Google Forms.

The final semantic web provides the concluding information for the last category to be analyzed, which pertains to challenges and teaching commitment.

Figure 4

Category: Challenges and Teaching Commitment



Source: Own elaboration through Atlas.Ti

In the last section regarding Challenges and Teaching Commitment, the teachers mentioned that several factors motivate the use of ICT to support the teaching process. These include mandatory and updated courses or training on the use of ICT and the methodologies and techniques associated with them. Intrinsic motivation plays a role in the duty to use ICT in the classroom. These new technologies should be seen as allies that facilitate the teaching process, and there should be awareness among students and the institution about their use.

At this point, it is mentioned that changes must come from the administration, who are the leaders of the university, by promoting training and support for both teachers and students. Currently, such support has been minimal.

Regarding the responsibilities that come with the use of ICT, teachers indicate that clear rules and instructions must be stipulated to avoid distractions such as social networks or chats during class. Privacy should also be respected, as students are responsible for their own learning process, and the teacher serves as a facilitator. Other points to consider are that didactic tools must have a purpose, and both the teacher and the student must understand it. Interaction and participation in class should be promoted by turning on the camera and using the microphone.

Among the benefits that teachers have obtained from the use of ICT are efficient work development, experimentation and implementation, quick and agile searches for tool options on the Internet, information tabulation, the opportunity to customize activities based on students' English proficiency level, instant communication, access to materials and information, economic savings and time saved on transportation and meals in university facilities, and finally, innovation.

The teachers mention that they faced several challenges during the adaptation of their courses to a completely virtual environment due to the pandemic. These challenges include searching for digital tools and methodologies, defining student responsibilities regarding the learning process, empowering students, and establishing rules and boundaries in virtual environments.

Other significant challenges include finding an ideal physical space to teach classes, preparing the work area, improving Internet connection speed, purchasing accessories and additional equipment, all of which resulted in financial expenses for the teachers. The transition to the virtual environment was unexpected, and the university promoted a drastic shift to virtuality without providing further preparation for the teachers due to the pandemic situation.

In response to the last question in the interview about the university's support in terms of infrastructure and preparation in the use of ICT, the teachers indicated that the university provides online technological infrastructure through Microsoft Office 365, which includes Microsoft Teams, Moodle, the virtual campus and, the rest of applications of Microsoft. However, the equipment and connection are provided by the teachers themselves, resulting in financial expenses borne by the teachers.

Additionally, it is mentioned that extensive preparation or training in the use of technologies was not provided, although short courses were offered to address this issue. However, these short training sessions would be much more effective in a face-to-face or hybrid model where practical aspects can be developed, rather than solely focusing on the theoretical part.

Conclusions and Recommendations

As can be seen, the English teachers of Universidad Americana of Costa Rica have acquired their level of digital teaching competences through empirical means and online courses. However, they have always approached it with a self-taught attitude and their own experimentation in the teaching and learning process. Patience and caution were identified on the part of teachers when planning and using ICT tools in their courses. Therefore, they do not take it lightly, as they are also interested in verifying the theory behind each new tool, application, methodology, or technique that they use.

There is still confusion among the teaching staff regarding what digital teaching competences truly encompass. This confusion is evident in their responses when asked about

certain software or features, where they tend to focus solely on the tools or didactic materials they use as teachers. It should be understood that a competence is composed of several elements, with the tools being just one part.

Regarding the identification of digital competences by the English teaching staff of Universidad Americana of Costa Rica, an appreciation of theoretical aspects of ICT can be observed. They also show an understanding of the possible objectives, uses, and methodologies in the classroom. It is evident that there is a trial period to improve and adapt the didactic use of ICT in their classes. Teachers use software packages and office programs, create and use platforms, utilize online forums and eBooks, and employ other types of software such as iOS or Linux, including free software. Additionally, they make use of virtual platforms for the development of their activities, encouraging both individual and collaborative work among their students to promote student empowerment. Some of these platforms include learning management systems (LMS) like Moodle and Microsoft Teams. They also mention using other options as contingency plans or in other institutions where they work. Examples of different LMS they are familiar with include Blackboard, Schoology, and Google Classroom. As for virtual meeting platforms, they use Zoom and Google Meet.

Among the applications these teachers use are Kahoot, Quizziz, Quizlet, presentation programs such as Microsoft PowerPoint, Prezi, or Canva, word processors, Powtoon, Screen Viewer, Edpuzzle, among others. For communication purposes, the most common applications used are WhatsApp and email, although very few use the instant messaging features of Microsoft Teams or Moodle. Additionally, one aspect that received significant attention is the definition of rules, limits, and schedules related to attention, class, communication, and personal spaces between students and teachers, as well as among colleagues.

Most teachers primarily use laptops and smartphones, while very few use tablets. Another important aspect related to devices is that they possess some technical knowledge of the equipment and hardware they operate. This indicates the importance of avoiding the need to call technical support, allowing any device-related issues, connectivity problems, or other eventualities to be addressed as soon as possible without disrupting class time.

Within the understanding of these digital teaching competences, it can be noted that teachers are interested in new methodologies to guide their work through the use of ICT. Since the transition to virtual environments due to the pandemic, they have faced challenges such as lack of student motivation, interest, and commitment, as well as technical difficulties such as poor-quality connectivity and interference due to weather or inadequate infrastructure. These problems can be addressed through training, and it is even suggested that such training should be mandatory for educational institutions as we move toward a completely virtual or bimodal era.

It is emphasized that thorough planning allows reflection on the used ICT tools and methodologies, thereby improving the curriculum and the learning process.

Based on the above, it can be concluded that the English teaching staff of Universidad Americana of Costa Rica has described their digital teaching competences due to their interest in innovation, improving their classes, and the abrupt transition caused by the pandemic.

Among the recommendations, it should be mentioned that the use of ICT needs a constant process of updating knowledge about new applications and software. This should be a lifelong commitment for teachers. Furthermore, there must be a commitment not only from

the teachers but also from the universities to provide their English teachers with the appropriate equipment and infrastructure to carry out their work in the most effective way possible. This can be achieved through training, not only at a theoretical level but also at a practical level to develop their digital teaching competences. As the English teachers mentioned, ICT provides numerous benefits, such as tools that expedite the planning and mediation process in both teaching and learning, which is very helpful for them.

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Annex

QUESTION GUIDE
IN-DEPTH INTERVIEW

UNIVERSIDAD AMERICANA

Good afternoon Mr. /Mrs. / Miss. _____ I also want to mention that the comments and information you provide will be very valuable for the research project called **"The digital competences of the university teachers of the baccalaureate and bachelor's degree in English Teaching major of Universidad Americana".** This in-depth interview is aimed at teachers' staff on the subject of study. It should be clarified that all the information collected will be used confidentially and anonymously. In advance, you are thanked for your collaboration.

Interviewee Profile:
What is your age?
What is your profession?
How many years of teaching experience do you have?
What is your highest academic degree?

Categories	Questions
Teacher Training on the use of ICT	1. What do you understand by "digital teacher competence"? Have you heard about the term before? 2. Did you acquire your ICT knowledge and competences empirically or through training? Explain. 3. Can you describe your training process in the use of ICT? 4. In your experience, what digital competences should a university teacher of English teaching possess? Why?
Appropriation and Teaching Experience	5. How do you use and incorporate the use of ICT into your courses? 6. What are the reasons for incorporating ICT into your courses? 7. As a teacher, are the main barriers to incorporating ICT into everyday use in university teaching? 8. What changes or modifications have you made in the didactic activities mediated by the use of ICT since the beginning of your teaching career? Why have you made these changes?
Digital Literacy	9. What kind of computer programs do you use in your teaching and professional work? (e.g. Excel, Photoshop, PowerPoint, etc.) 10. What virtual spaces do you use to encourage communication in the classroom? 11. What learning management platforms or systems do you use in the development of your classes? (Examples of platforms like Teams, Zoom, Google Meet; and learning management systems such as Moodle, Blackboard, Schoology, among others). 12. What technological devices and applications do you use or link to perform these activities? 13. Do you use ICT in your own professional development, and how? 14. Do you spend time reflecting on how ICTs contribute to improving your teaching practice? What ICT do you think should strengthen your knowledge and applications for your improvement as a teacher? 15. Do you typically use digital tools and resources to communicate with your students and colleagues?
Challenges and Teaching Commitment	16. How could teachers be motivated to include the use of ICT to support teaching? 17. What responsibilities does the use of ICT in class entail? 18. What are the main benefits you get from using ICT? 19. What challenges did you face during the pandemic, having to adapt your courses to a virtual environment? 20. Does the university provide you with infrastructure and preparation in the use of ICT for your teaching tasks? In what way?