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Digital Skills, ICTs and Students' Needs: A Case Study in Social Work Degree, University of Zaragoza (Aragón-Spain)

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Abstract: Technological innovations are related to information and communication technologies (ICTs), which in turn have become a fundamental pillar in the field of education. Social work professionals require new approaches to take on the new type of work demanded by the digital society, specializing in research into the innovation of these new forms of action through technology. This article analyses whether university training is in tune with the new skills and abilities required for professional interventions in the twenty-first century. A total of 288 surveys were carried out on 309 students. Each survey consisted of 25 questions on the five digital skills areas. The results indicate that training in digital skills must gain space in university training plans, just as the pandemic became a starting point for the massive use of ICTs. The conclusions point to the importance of improving training in digital competences and skills for future generations of social workers, who, although they are digital natives, will need to know how to use ICTs in their social work.

Keywords: higher education; social work; digital skills; ICTs

1. Introduction

Education, a pillar common to all countries, is a right enshrined in the legislations of different countries as a basis for the training of citizens. However, the society in which we are immersed is changing in the use of instruments, resources and procedures, and this is what we call technology [1]. In recent decades, the structural transformation that has motivated the digital revolution and the application of new technologies has changed our vision of society [2]. In fact, a number of philosophers argue that the digital revolution has taken on a significance that transcends the realm of technology; it has brought about a revolution in human consciousness [3–7], that is, a revolution which leads to fundamental shifts in people's worldviews [8].

In the field of education in particular, this shift in teachers' and student university worldviews is expected to have a direct impact on the educational practices [9]. It is for this reason, which is especially relevant to the use of digital competences, that being competent in its use implies a prestige that differentiates some individuals from the rest.

So, our research tries to answer these questions: do teachers' digital skills help to improve students? In which way? What skills would teachers need? The use of a technology implies having competencies in its use, so being competent in its use implies a prestige that differentiates some individuals from the rest. Throughout history there have been great technological advances that have transformed the world as it was known, but the ones that interest us most in this article are those related to information and knowledge.

One of the most outstanding of these advances was the printing press. The printing revolution meant that written media played a fundamental role in the proliferation of information, giving rise to easier access to that information for the different strata of society. Other notable inventions in the transmission of information have been the radio and television. In the twentieth century, several events occurred that differentiated it was the

century of the mass media. Technological development in print media, radio, television and cinema assumed a very important role in the communication of information to citizens [10]. In the last half of the twentieth century, the so-called "Communication Society" changed: A new invention appeared, capable of storing information, and not only that, but eventually it would be able to transmit it through a network. If, up to now, communication processes were based on an active sender and a passive receiver, it is now the other way around: the receiver has become active and the sender passive [11]. A new theory has also appeared—the theory of interactive digital communication, in which the important point is not the sender, the receiver, or the medium, but the understanding of virtual spaces [11]. All these technical innovations are changing how information and knowledge are accessed. The challenge that remains now is to cultivate competence in the use of this technology through education in today's society, known as the Digital Society.

The 2003 World Summit on Information and Knowledge in Geneva introduced the term "Digital Society". The different countries sought a consensus to define the changes taking place in relation to technology, competition and the potential they saw for the immediate future. This consensus led them to the conclusion that education is always associated with the progress of societies and linked to the level of development in the countries, as education in first-world countries is not the same as education in third-world countries.

To contextualise education in the twenty-first century, we must look back to the end of the twentieth century, when the Delors Report appeared. In 1996, the International Commission on Education for the twenty-first century, chaired by Jacques Delors, presented a report to the United Nations Educational, Scientific and Cultural Organization (UNESCO) in which the slogan was "education holds a treasure"; the report proposed four fundamental pillars for education in the twenty-first century (see Table 1). The report spoke of the skills and attitudes necessary for the new citizens of the Information and Knowledge Society.

Table 1. Fundamental pillars for education in the twenty-first century.

Fundamental Pillars for Education in the Twenty-First Century	
Learning to know	Motivating students to create their own study strategies using technology.
Learning to do	Solving problems with the knowledge acquired in class related to daily tasks.
Learning to live together	Implementing games or dynamics.
Learning to be	Providing feedback so that students are able to identify their strengths and opportunities.

Source: The authors.

The first pillar refers to the fact that individuals must understand the world around them and thus develop their professional capabilities. The purpose is to teach the student to have a broad general culture of various subjects, but at the same time to stimulate the critical sense so that the student would be able to decipher and investigate reality, because the process of acquiring knowledge never ends.

The second pillar alludes to how to put the knowledge acquired in higher or university education into practice in the professional arena. This means adapting teaching to the labour market. Not only should an effort be made to prepare the individual in relation to knowledge, but training should be personalised in the development of increasingly necessary competencies, as the intellectual tasks demanded by the labour market increase.

The third pillar is one of the greatest challenges to be met and is closely linked to competitiveness, which highly developed in the labour world, especially in relation to individual competitiveness. The Delors Report mentions the importance of creating an environment in the classroom where this circumstance is not aggravated and where common projects can be formulated. An important characteristic of the common project is that it ensures we know ourselves first to be able to appreciate others—and to appreciate

that competitiveness is healthy. It is important to generate this characteristic in the classroom to teach students to work on motivating cooperative projects beyond the classroom routine [12].

The last pillar considers the integral development of the student as a person, which is emphasised in the achievement of autonomous thinking and individual judgment. It is necessary to provide students with lines along which they can develop their creativity and at the same time allow them to understand the world around them.

These pillars are fundamental to prevent the underestimation of the possibilities of each individual and to achieve the necessary competencies together with technologies which will provide a continuous enrichment of the knowledge so necessary in the education of future generations and which they will need to develop the talents necessary for entering the labour market. These questions will help in contextualising education in the twenty-first century [12,13], taking into account that several factors are involved in the equation: information and communication technologies (ICTs), students, teachers and methodology [14]. The digital transformation in which we live is much more than the way we interact, transmit or process, it is a revolution at all levels, including our consciousness. [4].

1.1. Information and Communication Technologies

ICTs are tools that help in the search for information and knowledge. They provide a new dimension for communication, with a more global vision in hyper-connectivity and in saving time and space. ICTs should not be seen as an instrument of change, but as an instrument of improvement [7]. Nevertheless, ICTs have changed how we see many areas of our lives and have become a determining factor in how we socialise and interact in areas as varied as education and the labour market, which are two of the factors that concern us in this article.

ICTs should not be underestimated in the field of education, and they are beginning to be a determining factor in the field's evolution for the future. Some educational circles prefer to refer to ICTs as tools, while in other spaces ICTs are already being referred to as shapers of education, creating a different education applicable to the needs of the labour market [8]. The importance of ICTs does not lie in the changes they bring about in education but in the uses we can make of them for our incorporation in the labour market and in our daily life [15]. This requires a period of ICT learning. This learning will change and vary as the technological tools improve, so it must be clear that learning takes place throughout one's life.

To talk about ICTs in education, we must start from a conceptual framework established in Europe with the e-learning programme [16,17]. In 2007 and 2013, the Lifelong Learning Programme (LLP) European funding mechanism in education and training, which was replaced in 2014 by the Erasmus programme, constituted ICT as one of its transversal axes within its programme that was a priority to achieve. Despite all the initiatives created at the time, reports continued to reveal that one of the most notable obstacles to success is the lack of ICT skills, as revealed by the European Digital Agenda report [18]. In Spain, the Spanish government has implemented measures in recent decades to improve the network and digital services for citizens and to ensure their connectivity [19]. Another change was the enactment of the Organic Law of 10 December 2013 on the Improvement of the Quality of Education (LOMCE), which in section XI refers to the incorporation of ICT in the education system. Finally, the enactment of the Organic Law of 29 December 2020 (LOMLOE) committed to an approach to education for the twenty-first century. It should be noted that the Law speaks of a change in methodology to achieve this goal, as well as seeking keys to the training of teachers and students, and is not only compatible in the educational environment but at a personal and labour level for citizen development.

To alleviate the lack of ICT skills in the educational field, an analytical tool is needed to propose a theoretical model that integrates pedagogical methodologies before ICT can

be considered to be integrated into education. Several proposals have been launched to incorporate ICTs in education, one of which is shown in Table 2.

Table 2. Proposal for ICTs in education.

| Proposal for ICTs in Education |
|---|
| 1. Eliminate space-time barriers between teacher and student |
| 2. Making teaching more flexible |
| 3. Broadening the educational offer for the student |
| 4. Encourage both cooperative learning and self-learning |
| 5. Individualization of teaching |
| 6. Enhancement of lifelong learning |
| 7. Interactivity and interconnection of the participants in the educational offer |
| 8. Adaptation of the media to the needs and characteristics of the subjects |
| 9. Helping subjects with special needs to communicate and interact with their environment |

Source: Broadly based in [20].

In addition to the ICT proposal in the table above, there other difficulties that complicate the incorporation of ICTs, including lack of equipment, lack of teacher skills and lack of integration in the teaching model, in addition to the opposition, in many cases, of the students' own families to the use of ICT [21].

1.2. Digital Skills

The first definition of digital competencies was given in 2006 by the European Parliament and the European Council. This definition refers exclusively to the safe use of ICT in all areas (work, leisure, communication). This is in addition to knowing how to use electronic devices to store, evaluate, reproduce and exchange information and participate via the Internet [22]. For other authors [23], digital competencies are the result of the sum of multiple digital literacy—that is, they are directly linked to the use of technology not only for one's own use but also for society. In short, all authors agree that digital competencies are the sum of skills and abilities applied to ICT in both our social and professional environment.

Digital competence can thus be defined as the set of skills that enable the safe use of ICTs and the ability to process, store, share and develop multimedia content [24]. The digital competencies that citizens should have [25] are divided into five main areas (Figure 1) that encompass all the competencies necessary for citizens to integrate well into the Digital Society.
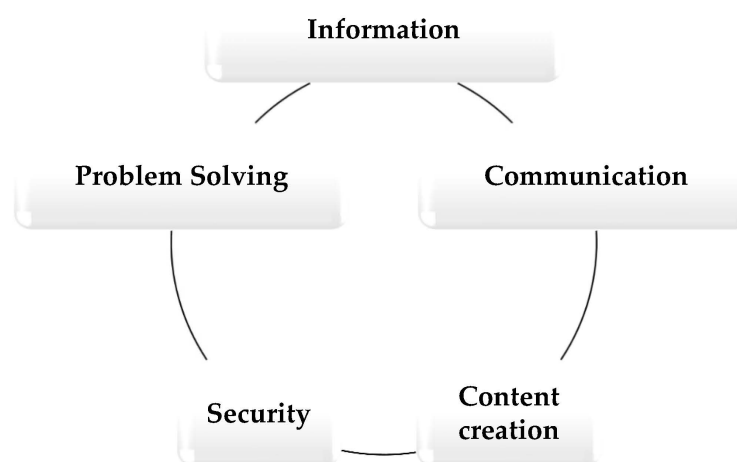
Figure 1. Digital skills areas. Source: the authors.

These five areas refer to the ability to use technological knowledge and skills to efficiently optimise processes in all areas of our lives. The following table shows a breakdown of the items that make up the different areas.

1.3. Other Variables in the Education Equation

When referring to higher education, we must take into account other variables in the equation: students and teachers. A fundamental characteristic of students in this millennium is that they are supposed to be "digital natives" [26] (also called the NetGeneration [27,28]), and all people born after the 1990s tend to have different capabilities in the use of technological tools. In this section, we consider the importance of the generation gap, which is also called the socio-cognitive gap, because it not only divides generations, but also divides individuals by the use of ICT [21]. This is something to keep in mind, because our educational system was not designed for this eventuality [29].

It has been proven that the use of digital tools is altering parts of our brain and producing a learning reinforcement in the areas that control these skills, which may explain the differences between digital natives and immigrants [30]. The greater the contact with technologies, the greater their development. The most notable differences that stand out between students and the way teachers teach belong to the culture of the image intertwined with the oral and the written. While teaching structures in higher education have not reacted to this digital language, students have [26,31], thus creating a difference in what students expect when they enter higher education.

After reviewing the teaching guides of the thirty-two universities and university schools in Spain where the bachelor's degree in social work is taught, it has been verified that only in eight of them (Seville, Zaragoza, Cuenca, Salamanca, Barcelona, Badajoz, La Rioja and Navarra) are there subjects related to technologies. Of these universities, six have subjects with basic management of Word and Excel. Of these six, only two of them, Cuenca and Salamanca, have references to technologies applied to social work in their teaching guides.

The construction and acquisition of knowledge are carried out in different ways in the new generations. According to some authors, information processing is much faster due to the multiplicity of access channels [30,32], while on the contrary, the capacity for reflection is lost [33]. One of the biggest problems faced by today's teachers is the boredom of students, who are able to manage several tasks at the same time. Students live in continuous interactivity derived from social networks, chat, emails and WhatsApp (among others), so they do not find it rewarding to be a passive audience in the classroom: they want to be participants and protagonists [34].

There is also a decentralization of knowledge. Historically, knowledge has been in the hands of books, teachers and the family. This pattern is changing as new generations have unlimited access to information on any subject: they look for what they need [35], and with further increases in this information accessibility, young people can become producers of content within the network. Finally, their natural habitat is changing. Information and communication are no longer produced by traditional means, but take place in cyberspace, with the Internet being space par excellence, which is something that is difficult for digital immigrants (which many of the teachers are) to understand [36]. The social and cultural contexts in which the students develop must be added as a last requirement to all of the above [26].

Another variable in the education equation is the teacher. Teachers are guides in students' teaching–learning process, and it is necessary for students to learn and teachers to teach the necessary skills to integrate students into the demands of the twenty-first century. To focus this section, we will go back to the birth and development of ICT in the late 1970s, which was, at first, not given the necessary importance, nor was it remotely thought that ICT would eventually be included in all areas of life. However, from 1995 some people began to glimpse the importance of the subject as an area in which training would be necessary [37].

One of the most committed areas would be education, as education is the first step where citizens can learn good management of digital tools. Some authors [38] have already begun to talk about the importance that teachers be the first to have knowledge and skills in digital competencies. Teachers should be the first transmitters of knowledge in the management of ICT to improve student learning. This eventually led to the development of a model proposed and implemented in Spain to standardise the levels of teacher training based on UNESCO's proposals, which had three key points: to know (technical part), to know how to do (methodological part) and to know how to be (social and relational part). To introduce ICT knowledge with pedagogical methods, UNESCO elaborated a report in 2008 in which reference was already made to the need to reform the pedagogy used thus far and avoid digital illiteracy to reduce the digital divide.

The 2008 report highlighted three essential opportunities for improvement: teachers would have to give their students instrumental notions of digital technology, and to carry out this process, they should transform the didactic methodology and should also be able to give students cognitive notions—that is, to work on students' skills related not to knowledge but to information processing.

This would imply that traditional teaching methodologies would not be valid, but that other aspects such as the use of memory, attention, creativity or abstract thinking should be worked on with students. In 2008, UNESCO published the document *ICT Competency Standards for Teachers*, which is a guide for learning in the teaching process related to the development of basic digital skills. An example of the learning media that appear in the document would be the Open Educational Resources (OER), which are documents or multimedia material related to education that are free of license fees. This document emphasises three fundamental pillars: enhancing the basic level of ICT knowledge, generating knowledge and analysing the knowledge generated [39].

The document *Marco Común de Competencia Digital Docente* (Common Framework for Digital Teaching Competence) was elaborated in Spain in 2012 and is still in force today. This document is a compendium of information based on the documents *European Framework of Digital Competences for Citizenship: DIGCOMP 2.1* and *European Framework of Digital Competence for Educators*. This document gathers the work of Spain's Ministry of Education, Culture and Sport through the National Institute of Educational Technologies and Teacher Training together with the heads of the Autonomous Communities and teaching experts at all levels and lays the foundation to create a guide on the essential digital competencies in teacher training [31]. Teachers are taking on a new role in this new era, opening up to a new way of working and also of pushing students towards the new changes imposed by the knowledge and information society [39].

1.4. The Non-Exception of Social Work

This research analyses and discusses the transformation of teaching and the transmission of knowledge and skills that will be necessary to train better professionals at the service of a society under full Internetization. It opens an approach focused on new challenges to begin to digitise social work. This has generated a growing concern about the training of new professionals looking for the innovation of new plans and work tools through development and research, but not only for new professionals.

This paper provides a more open view of the use and application of technologies to the field of social work to show the wide range of possibilities they offer in facilitating and improving intervention strategies for and with people, and in data collection and processing. ICT can serve as a research tool for the design and management of new projects with a technological component that supports our daily know-how. However, to apply technologies in the field of social work or in any other field, a set of skills and competencies is needed—in this case digital—for the management of resources and applications, as well as to adapt the training received to the technological needs and demands that social workers are required to meet every day. The mastery of these digital competencies is no longer a question of innovation but has become necessary in the training of future professionals [40].

The study of digital competencies has been carried out from different perspectives. One of these is the area of education (referring specifically to higher education) [20,41]. In the field of education, strategic lines are being marked at the basic education levels, where work is being done to reinforce basic digital competencies. In the field of higher education, steps are also being taken to strengthen the competencies of future professionals who will be integrated into all sectors of human activity. ICTs are important in knowledge management and production, but there is a basic problem: although the strategic lines are marked, there is still little actual use in the school environment by teachers and students of the introduced technologies, which means that the incorporation of future graduates into the labour market is less competitive at the end of their training.

Social work is no exception. The current generations that have grown up in this digital environment are supposed to have better digital competence, given that, in basic educational settings (primary and secondary), ICTs are being introduced more forcefully—for example, digital whiteboards in classrooms, tablets, use of email, content in the cloud, educational digital platforms, use of mobile phones in classes and Internet consultations, among others. When the transition to higher education takes place, the adaptation of teachers, infrastructures and careers has to be in line with these new societal demands. For all these reasons, our goal is to carry out an analysis between the areas of digital competences of professors and students of Social Work at the University of Zaragoza. The working hypothesis of this research is that the main driver of digitisation in students' training is the existence of teachers with digital skills. Other research has explored similar ideas in the analysis of digitisation [42]. It is being shown that knowledge and training in digital skills is more important than access to technology. Teachers themselves as a group are undergoing a reconstruction of their professional identity, and in that process, they are improving their digital skills attending to the new needs of the digital society [43].

2. Materials and Methods

A descriptive study was carried out for this research [44], which was quasi-experimental, because only some of the variables of the phenomenon to be studied were controlled. This study measured the subjects' self-perception of digital competencies in the areas of information, communication, content creation, security and problem solving. These five areas were further subdivided into 25 defining values. These variables were defined on the basis of the model proposed in the European DIGCOMP framework [25,45], see Table 3, which classifies digital competencies into five areas and relates the indicators proposed in the model to the variables proposed in this study.

The data collection technique was quantitative, and the survey methodology was used [1]. We worked on the design of an instrument that defends the different variables presented. The data collected directly from the survey were analysed, because the items in the questionnaire make it possible to establish answers that provide the necessary information to answer the questions raised about the information to be analysed. The analysis of the data collected in the questions provides greater clarity about the preferences of most participants. Taking into account that the chosen groups were able to express their opinion on the topic to be dealt with, the information was assumed to be reliable in the analysis of the items.

An online Google Docs form was used, with multiple choice or Likert scale questions to focus on the research items. A qualitative question was placed at the end of the questionnaire allowing participants to freely express their opinion by answering how they perceive their digital competencies and the importance these may have for their future as social workers [13]. The questions were quantitative in nature and oriented to the participant's choice. The survey was divided into four sections to make it more attractive to answer, as online questionnaires can be boring or fatiguing if they are too long [46]. The sections were divided based on the indicators to be analysed. It should also be noted that two identical surveys were carried out with two different control groups.

Table 3. Study variables.

Study Variables		
AREAS OF DIGITAL SKILLS	Information	1. Navigating digital environments
	Communication	2. Selecting information and digital content
	Content creation	3. Storing and retrieving information data 4. Working and using digital tools 5. Sending e-mails, using social networks and chat 6. Using public digital services (add, health information, online appointments, administrations) 7. Creating and managing multiple digital identities 8. Being able to manage digital data 9. Differentiating between false and true information 10. Protecting one's online reputation to avoid cyberbullying 11. Giving instructions to the computer to perform mechanical tasks (graphs, tables, indexes) 12. Taking and editing pictures 13. Creating and editing text, images 14. Making presentations with images 15. Recording videos with a mobile phone or tablet
	Security	16. Protecting devices from threats
	Troubleshooting	17. Sharing and protecting personal data online 18. Safely downloading data from one device to another 19. Launching a computer program 20. Downloading new applications 21. Identifying technical problems 22. Ability to solve technical problems 23. Selecting and using computer programs to customise one's digital environment and improve one's work 24. Updating applications 25. Helping and teaching others to use technologies

Source: The authors.

A ten-question questionnaire survey was conducted which asked questions related to the five areas that define the digital competencies of the two groups to be compared. The approach was carried out with items measured with a Likert Scale to allow respondents to reflect on their knowledge and skills in the area of digital competencies, as well as other questions with more qualitative answers. The information provided can be used to analyse whether the use of ICTs [47] is taken advantage of and to take into account the set of knowledge and skills that allow a safe and efficient use of technologies and to determine in which areas the respondents are less trained or informed.

For this study, the population was defined as the students and teachers in the programme for the degree in social work in the Faculty of Social and Labour Sciences of the University of Zaragoza [48]. We selected students integrated into the university community who are beginning to be aware of the profession they have chosen. The second control group for comparison were the teachers who teach in the degree programme. We wanted to make a comparison to observe, analyse and even identify whether the theoretical knowledge received and learned in relation to digital competencies is in line with what is currently required in professional practice. A total of 288 surveys were answered (268 from students and 20 from teachers), from a total of 309 students and 33 teachers. The sample was thus representative due to the high level of participation.

Limits to the Methodology

The survey provides a scientific perspective, but there is no doubt that it yielded problems when applied which must be taken into account [1]. The first limitation is the way the questions were asked; some are of a closed nature, with limited response options, while

others are of an open nature, where the interlocutor can talk about a topic in its entirety, even if it deviates from what may be of interest to the researcher. In open responses, another problem that arises is the opinion of the person interviewed, which may be tainted by the maturing process he/she has had with the information. Another problem is that the survey may not reveal what people know about a subject, but rather what they think they know. Finally, the survey was based on information that the interviewees have, even if it was not complete due to a lack of available data. The qualitative question was treated by analysing the responses and grouping those with equivalent meaning; similar responses—or those with a similar tendency—were counted and their percentage relative to the entire sample obtained.

3. Results

The data collected were used to determine the differences between the two groups with which the survey was carried out, with particular attention to the differences in their digital competencies. The results were divided into four blocks in which the different sections to be analysed were collected to allow for easier location of any particular piece of data. Only the most outstanding value among the multiple answers given by the control groups for each section were included in the results. A brief overview of the results can be found in Table 4.

Table 4. Summary of the main results obtained.

		Results: Teachers	Results: Students
	Information	(1) 80% navigate digital environment. (2) 80% select information (3) 40% store and retrieve data	(1) 60% navigate digital environment (2) 67% select information (3) 63% store and retrieve data
	Communication	(4) 35% work with and use digital tools (5) 55% send e-mails and use social networks and chat rooms (6) 90% use public digital services (7) 35% manage digital data (8) 56% differentiate false information from real information (9) 36% create and manage multiple digital identities (10) 53% protect themselves from cyberbullying	(4) 57% work with and use digital tools (5) 57% send e-mails and use social networks and chat rooms (6) 53% use public digital services (7) 60% manage digital data (8) 35% differentiate false information from true information (9) 46% create and manage multiple digital identities (10) 40% protect themselves to avoid cyberbullying
AREAS OF DIGITAL SKILLS	Content creation	(11) 30% create and edit text and images (12) 30% make presentations with images (13) 30% record videos (14) 30% take photos and edit them (15) 35% instruct their device to perform pre-set tasks	(11) 53% create and edit text and images (12) 55% make presentations with images (13) 78% record videos (14) 80% take pictures and edit them (15) 51% instruct their device to perform pre-set tasks
	Security	(16) 30% protect their device (17) 35% share and protect data (18) 39% download secure data (19) 25% launch a computer program (20) 30% downloading new applications	(16) 43% protecting their device (17) 44% share and protect data (18) 48% download secure data (19) 40% launching a computer program (20) 48% download new applications
	Troubleshooting	(21) 25% identify technical problems (22) 35% solve technical problems (23) 30% select and use computer programs to customise environment (24) 35% update applications (25) 25% teach other technologies	(21) 42% identify technical problems (22) 50% solve technical problems (23) 52% select and use computer programs to customise environment (24) 42% update applications (25) 55% teach other technologies

Source: The authors.

3.1. Demographic Data

The first block consisted of demographic data and other characteristics to distinguish the respondents. We can highlight that the average age of the surveyed students was between 18 and 25 years (82% falling in this range) and the average age of the surveyed teachers was between 45 and 65 years (80% falling in this range); all respondents live in

the province of Zaragoza and study or teach in the degree of social work at the University of Zaragoza.

3.2. Self-Assessment of Digital Competence

The second block of the questionnaire was directed in both surveys to obtain results in the five areas that make up the digital competencies. The 25 total items were divided according to those five areas—Information, Communication, Content Creation, Security and Problem Solving. The answers given by the students/teachers were sampled through the Likert scale, ranging from 0 (not able to perform the action) to 4 (very able to perform the action).

3.2.1. Information

The first set of items in this block focused on information competencies. The answers to these first three items were multiple choice. Regarding the ability to navigate in the digital environment, the two control groups were both able to do so, with 60% of students and 80% of teachers claiming competence. There was a clear differentiation for the second item, selecting information, with 67% of the students knowing how to select information, compared to 80% of the teachers. The two groups were again comparable for the third item on the ability to store and retrieve data, with 43% of the students claiming to be very capable compared to 40% of the teachers. It thus appears that, in among information competencies, students and teachers are on roughly equal footing when it comes to selecting, storing and retrieving data, with a lower percentage in both groups.

3.2.2. Communication

The second set of items focused on the area of communication, with a total of seven items. In the first item, the two groups were asked about their ability to work with and use digital tools. Both groups answered that they felt quite capable of using digital tools, with 57% of the students and 35% of the teachers. In response to the second item (ability to send emails, use chat and navigate social networks), both groups answered that they knew a lot in this regard, students with 57% and teachers with 55%. For the third item on the use of public digital services, 53% of students recognised that they are very capable of using them, while teachers stood out with 90%, because most of the administrative procedures in the university are done through electronic records. In the fourth item, respondents were asked about their ability to handle digital data. Both control groups answered that they were quite proficient in handling digital data. The students stated they knew how to handle 60% of the digital data, while for the teachers, the data obtained were distributed between the values 2 and 4, with a difference of 35% for each value. This may mark a difference among the teachers who are making an effort to engage in strong immersion in digitisation, worrying about learning and being able to keep up with the demands of the digital society.

The results obtained for the fifth item (ability to differentiate false information from true) were very significant: 50% of teachers recognised that they are very able to differentiate the types of information found on the network, but 56% of students recognise that they would only be able to somewhat differentiate true and false information. The indicates the effect of life experience from more theoretical training or more experience engaging contrasting information, which allowed them to engage in critical thinking and not just stay with the first piece of information: the teachers knew to make searches and check data.

In the sixth item, respondents were asked about their ability to manage and create multiple digital identities. Nearly half of the group of students (46%) said that they would be quite capable of doing so, while 30% of teachers responded that they would be quite capable of managing and creating multiple identities. Students appear to be more accustomed to dealing with different applications where different profiles have to be created.

In the last item, respondents were asked about their ability to protect themselves and avoid cyberbullying. A significant difference was observed in the results. While 53% of the

students responded that they were quite capable of avoiding cyberbullying and protecting themselves, only 40% of the teachers recognised that they would be somewhat capable of protecting themselves from it.

There is clear differentiation in the results in the area of communication. Both groups recognise that they are capable of working with digital tools such as e-mail, chat and social networks. The most notable differences lie in the fact that students recognised that they were not able to manage and protect their identity on the network or to differentiate between false and true information. This also highlights the importance of avoiding cyberbullying, which teachers were less able to do, as opposed to the security with which teachers affirm it.

3.2.3. Content Creation

The third section, on content creation, contained five items. The first item asked about the respondents' ability to create and edit texts and images. The responses obtained for both groups are significant: 53% of the students said they were very capable of doing so, while only 30% of the teachers said they were very capable of creating and editing text and images. In the second question, respondents were asked about knowing how to make presentations including images. The students stood out in this item, with 55% claiming great knowledge, while only 30% of the teachers claimed they were very capable of making such presentations. The third and fourth items were on two related issues, recording videos and taking and editing photos; for these items, 60% of students claimed they knew a lot about the questions asked, but only 30% of the teachers' group did, marking a difference between the two groups. For the last item, they were asked about their ability to give instructions to their device to perform a series of predefined tasks; 51% of the students were able to do so, compared to only 35% of teachers. In the area of content creation, students were more confident of their skills related to audiovisual tools, while teachers were less confident about everything related to this competency.

3.2.4. Security

The section on security contained five items. Due to the similarity of the data, we split the five items into two groups. The first group includes the first four items, where both control groups were asked about whether they knew how to protect their device, how to protect data and share it securely, how to download data securely and, finally, how to run computer programs. The answers obtained fell within the same limits. Both students and teachers recognised that, for these four skills, about 30% felt they were somewhat capable of performing the actions. In the second group, with only one item, respondents were asked about their ability to download applications; 48% of students claimed they were very capable of performing this type of action compared to 35% of teachers. Students thus appeared to be less afraid of using computer resources and felt more capable of protecting their electronic devices, as well as of installing new applications on their devices.

3.2.5. Problem Solving

The last section focused on problem solving and contained five items. In this last section, the results are very revealing. The first two items asked about the ability to identify and solve technical problems, the data obtained were as follows: students recognised, with a range between 42% and 50%, that they know enough to identify and solve problems, but in the group of teachers the results ranged from 25% to 35%, who knew nothing or very little about identifying and solving problems. In the third item, we wanted to analyse the ability to select and use computer programs to customise the environment, and the answers from students indicated that 52% of them knew something about customising their environment compared to 30% of teachers. Next, respondents were asked about their ability to update applications. Both groups responded that they were able to do so, but with some differences: 42% of students were very able to do so, compared to 35% of the teachers who were only somewhat able. The last question was whether they would be able to teach others to use technology. On this question, 55% of the students considered themselves

much more capable than the teachers, with 25% who did not consider themselves capable of doing so.

In the area of problem solving, students tended to see themselves as more capable of identifying and solving technical problems, as well as using computer programs and applications to solve problems. This gives them greater confidence about their ability to teach others, compared to teachers, who did not see themselves capable of doing so. As we are speaking about self-reported data, this could be a result of how teachers have a better sense of the difficulties inherent in teaching.

3.3. Importance of Digital Competencies

In the third block of the survey, both groups were asked three questions. For the first and second questions, both groups emphasised the great importance of applying digital competencies in social work, with 90% and 60% of the teachers, while 51% of both groups were aware that there were already subjects where digitization was being worked on within the teaching plan. The third question of this block was posed differently to two groups. Students were asked if they thought that digital competencies were being introduced in the subjects; 60% answered that not all areas were being developed, but some of them stood out, as was the case of the area of information and communication, but not in all items. Teachers were asked whether digital competencies were being introduced in the subjects they taught, and 30% stated that they were beginning to introduce digital competencies as a teaching factor.

3.4. Opinions on Digital Competencies

The fourth block contained a qualitative question so that both groups could freely express their opinion on the topic; a total of 120 respondents provided an opinion for this item, compared to the 288 who responded to the survey. The responses were quite varied, but in general they followed the same lines presented in reference to the different sections of the survey discussed above. Of the responses to this question, 3.8% categorically rejected the idea that social work could not be digital in nature and that it must follow traditional methods. The remaining 96% were of the opinion that digital competencies and traditional social work have to go hand in hand. The information provided in the opinions was very interesting, as it showed that there were different perceptions regarding the transition from traditional social work to social work that engages with digital competencies.

Five areas of concern to the respondents stood out, although the view was still maintained that certain points in the daily work of social workers could not be replaced by technological means. First, respondents pointed to concepts such as humanity, ethical values, decision making and empathy. These cannot be replaced by the coldness and objectivity of machines, and this is something that worries the people surveyed. They also recognised, however, that it would be a beneficial tool to carry out processes with greater speed, but without forgetting that the user is the centre of attention.

Second, there were strong opinions around the new context in which future social workers will have to move—that is, an increasingly computerised society in which ICTs are already being used in almost all areas of daily life. As a result of the COVID-19 pandemic, this use has been seen even in fields where it had not yet made a strong entrance. The pandemic created unforeseen acceleration in these areas. Most respondents were of the opinion that if society is changing, social work must adapt to these changes. One must not be indifferent to achieve effective work within the profession.

Third, the use of techniques and resources offered to users is becoming obsolete in the face of new changes, such as the massive use of digital media to obtain and manage assistance by the users themselves. Respondents also referred to the creation of digital content to work with users. They considered that it would be important to know how to handle these new tools, which will be a challenge to use, to approach users of a more technological nature and to know how to create digital content and implement projects related to the digital world.

Fourth, opinions were expressed about the subjects that the degree programme offers in relation to digital competencies. The general opinion was that it is necessary, but that, in some respects, the digital competencies taught reach only a basic level and are, for many students/teachers, insufficient in some areas. The responses along this line also tended to express that it should be mandatory to work on improving digital competencies within the social work career: more training is required. Training should be constantly updated based on the needs requested in the labour market. Respondents believed that there is a need for specialised training in digital social work, and the teaching guide of all subjects directly related to social work should be converted or parts related to digital social work should be added. Digital social work should not be left to a specific elective subject on application management. Many of the responses not only considered it important, but also necessary to develop this new social work, such as assessing a user through a video call or to know how to apply a methodology via ICT. Many students considered that it would be beneficial for their future and their preparation for the labour market.

Fifth, the pandemic has meant the starting point of a change in how work is done, with a shift towards the massive use of ICT. Most responses reflected that the pandemic has made a difference in what social work programme participants might think their future work would be, as long as the essence of it, people, is not lost. In short, they feel ICT use and digital competencies are crucial to their professional development.

4. Discussion

There is no longer any doubt that, in the future, the traditional social work taught in higher education to date will be mixed with digital social work in which the development of digital competencies will be needed. Given this situation, the discipline is not currently prepared to reduce the traditional component that, since the nineteenth century, was the basis for the field's activities. Technological progress is very fast, so the adaptation to ICT requires a rapid learning process not only by students but also by teachers. This progress is sometimes so fast that not everyone will be able to assimilate all of the changes. The younger generations are more intuitive in the use of devices, but this is not the case with the teaching staff, who do not consider the use and development of ICT in the classroom, primarily due to a lack of confidence with ICTs because they do not know how to use them.

Technological devices are becoming increasingly intelligent, and interaction is becoming more intuitive. Artificial intelligence is becoming increasingly integrated into our daily tasks. AI can be used to anticipate and solve problems or difficulties, so when social workers have to intervene, program or solve a computer problem, they are more capable of performing these actions to improve productivity. These changes can, however, make it impossible or more difficult to solve technical problems that may arise in different areas of digital skills.

The demands of the labour market must also be considered. Students and teachers must be prepared for this transformation. Future generations are likely to experience a loss of job niches, which will mean competition between individuals with the same training. The traditional model of education is being called into question, especially that of higher education, which is a preliminary step to the incorporation of future social workers into the labour market. A change must be proposed at the educational level, seeking an adaptation that takes into account the new digital environment. If the educational model changes in response to the digital environment, this will favour the entry into the labour market of future social work professionals. It is necessary to change training strategies and adapt to the needs of the technological citizens that will be served in the future.

Some research has focused on analysing the relationship between training and the development of digital skills in university teachers and students.

In this regard, some scholars have attempted to investigate the digital internet skills of students and faculty in Irish medical schools [49]. Although some differences were detected, the effect size was small, suggesting that there is no significant skills gap between

faculty and students. This study revealed that lecturers and students appear to have similar competences with respect to digital skills.

Other researchers [50], following a systematic review of the literature on digital skills and professional development, conclude that most studies reveal insufficient teacher training in ICT. In another analysis, researchers found that university teachers have a mostly intermediate level of e-skills, which is independent of gender, but dependent on generational cohort [51].

The different research findings suggest that, regardless of the variables studied, there is a need to include digital skills training and development in teaching curricula as a priority area for teachers and students. This is something that our research also points out.

It will also not be an easy task to make teachers aware that if professional retraining was necessary before, it will now be even more necessary and essential to remain connected to changes in digital environments and to be able to provide quality training in line with students' needs. Not all people have the same mixture of personal and professional skills that together create skills focused on the digital environment.

One of the first changes should undoubtedly be directed towards learning the five areas of digital competencies that would strengthen ICT skills in both students and teachers. We must ask if the current competencies and training given to students and teachers are the necessary ones. The learning methodology defines an academic profile through the development that occurs throughout the training, with generic and specific competencies, which give us an overall view of the field of intervention and the areas for future activity. It is necessary to insist on and elaborate more specific training related to the digital competencies proper for the development of the profession of social work in digital environments, with the search for formulas and methodologies that can be adapted to both students and teachers.

It is necessary to keep in mind the four most important elements for the process of learning by competencies: the methodologies of teaching and learning, the modalities for doing so (face-to-face, semi-face-to-face, online), the follow-up and the evaluation. The particularity of competency-based training is that the methods or theories taught must be adapted to the competency needs that need to be developed. It would be of great importance to define the professional profile at present, to prioritise training in common digital knowledge, and to include a specific digital part that must be continuously modified for the requirements of professional practice. Once the programme or training plan for social work at the University of Zaragoza is analysed, one can see that there is specialised training in interventions for social work and there is also a small area of basic training in digital skills. Is this training adequate or should it be adapted? That is the question that should be raised from the higher areas that regulate the training of future professionals.

More specifically considering the digital competencies, starting with information, it can be observed that navigation within digital environments is increasingly common among younger people and there is a growing awareness that not everything on the Internet is "valid", but that it is necessary to know how to select, store and retrieve data in a safe way. In terms of communication, the data obtained indicate that the level is increasingly higher in the management of digital spaces, as a communication link, as well as the use of digital services, discarding other spaces that until recently were common for this purpose. As previously mentioned, younger students have integrated ICT more fully into their daily lives and see the use of these applications as a normal mode for carrying out these procedures and communication. In general, the respondents feel able to reliably manage several identities, protect themselves against harassment and distinguish information that may be false from that which is true, unlike the younger ones, who are aware of protecting themselves against cyberbullying, but not necessarily adequately. This is curious, when it is assumed that young people have more closely integrated technologies into their daily lives and should be more aware of both the benefits and harms created in their personal spheres within the treatment of digital data.

In the area of content creation, both groups are advanced in its management, but there are small differences that modify their behaviour. Both groups stand out in their creating, editing and recording of both photos and videos, for example, although it is true that the younger students claim that they have greater ease in this area. However, it is curious that when asked to give instructions to their device—where it is not enough to interact with an application or a part of the device, but they have to give a series of precise instructions for the device to act in some way—the students claimed that they did not know how to do such tasks, while the teachers felt more comfortable performing such activities. This may be due to the fact that the use of mobile phones is becoming increasingly widespread, so there are numerous applications that perform specific functions that were previously performed with computers, causing the younger students to lack skills with computers, a tool that can be more complex to use than a mobile phone.

In the areas of security and problem solving, we begin to see greater generational differences, which should give us a clue to improve training. In the area of security, younger students perceive themselves as having a greater capacity or at least are beginning to have greater skills in the areas of protecting, sharing or downloading data with some security. It is curious that they all agree that they are able to download new applications. It is again detected that the mobile phone is once again the prioritised device (over the computer) due to its simple and more intuitive use. In relation to the area of problem solving, the data reflect that, little by little, the youngest students are able to manage and update their devices and even see themselves as capable of teaching other people. The conclusion reached after analysing this competence block is that the information and training reaching digital citizens about the essential areas that make up digital competencies for better digital management should be strengthened.

5. Conclusions

We are currently living in a unique ecosystem. Today, scientific evidence speaks of a global transformation, even at the level of human consciousness. The Internet and technological tools are shaping our present. It is therefore necessary to look for a transformation in the realm of education. If we want new generations to receive an education in which technologies are integrated, we will have to open our minds to new teaching and learning environments through technological resources. In our study we have been able to verify that digitally competent teachers can better help their students to acquire these skills and to use technology more critically. Hence, it is key for teachers to be trained and to achieve these skills.

The need to continue training both students and teachers in digital literacy, which will be acquired over time during training, must be reiterated. It necessary to develop digital skills in this new environment and help develop a new approach to learning. Although it is true that there is growing concern at the university level to provide training in digital skills, there are still gaps in two very important areas: security and problem solving. If we go deeper into this training, specifically in the digital competencies that need to be incorporated into our academic training and the curricular requirements in digital matters, we observe a gap. There is nothing within the academic training related to the avant-garde application of theoretical knowledge conditioned to a digital intervention that is adapted to the twenty-first century.

Being aware that any research presents limitations, in this study such limitations are related to four points in particular: the study time is the first point, since it is always limited. Secondly, the space or territory where the study is carried out, in our case the Degree of Social Work at the University of Zaragoza. Thirdly, the limits of the methodology used for the research. Finally, the fourth point, there is not much research on university professors and digital skills.

We believe that this study can generate potential ideas for future research such as the use of technological tools and methodologies in university teaching, such as the "flipped classroom" model, or gamification.

A final reflection from the research can be glimpsed. If it has been demonstrated that digital social work has to coexist and mix with traditional social work. Future research should focus on the digital skills of working professionals as well as those of students, as these skills seem underdeveloped due to previous university and post-university training and the absence of a majority group of "digital native" professionals. Although most students at the University of Zaragoza are digital natives, they will still need to know how to use digital skills as future social work professionals. Universities and organizations should think about the curricula and training they are providing to both students and professionals, because, as we said before, ICTs are becoming an important part of our life as workers and as people. It is not just the future: the present is technological, and social work cannot look the other way. We need the skills to work online, even more than to work offline, and the social worker must to know how these technologies work and be present when and where they are designed. The main purpose of social work is to put people at the centre, and this is something that technologies may not do at present—but they should. For this, it is essential that future professionals master these skills and are encouraged to have a say in the orientation and design of ICTs.

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