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Teachers' perceptions of digital competence at the lifelong learning stage

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ABSTRACT

In recent years, the educational landscape has been in a period of constant change due to the advent of Information and Communication Technologies (ICT). As a result, training in digital competence has become one of the challenges to be met by the teaching staff, in order to incorporate these skills into their professional practice. As a result of this, the present work aimed to analyse the level of digital competence presented by a sample of 140 teachers of the Lifelong Learning stage in the Autonomous Community of Andalusia (Spain). To this end, a transversal methodological design of a quantitative nature was advocated, based on the configuration of an ad hoc questionnaire developed from the European conceptual frameworks on teaching digital competence. The results showed that the level shown by teachers is low, especially in terms of creation, information literacy and problem solving, although they did show optimal skills in communication and collaboration of digital content. The findings also determined the importance of factors such as age, teacher training and school type in further developing this compendium of skills.

1. Introduction

In recent years, the dizzying advance of society has promoted a modification in the demands it makes on citizens. The irruption of information and communication technologies (ICT) has led to many changes at the social, economic and therefore educational level (Starkey, 2020). In this sense, the Digital Agenda for Europe 2020, approved by the European Council of Parliament, enshrines the principle of ensuring the acquisition of digital skills and literacy for all citizens (Durán et al., 2019). In this line, The Future Jobs Report, prepared by the World Economic Forum (2018), as well as the OECD (OECD, 2014), predicts that the large number of professions that exist today and in the coming years will require digital skills to be able to perform their work. Thus, technology is very present in today's and tomorrow's society, and it is pertinent to promote a digital literacy that provides the citizen with the necessary skills required by today's Information Society (From, 2017).

If we look at the educational landscape, ICT has gone from being a simple support tool in the classroom to becoming an inseparable part of today's pedagogical processes (López, Pozo, Morales y López, 2019b). The emergence of these tools has caused a great deal of concern among teachers, whose mission is to adapt to a context that is unusual for them, and of which most have no previous training. Consequently, they have to face a training process that includes new methodological skills and pedagogical strategies that allow them to integrate these digital tools into their regular teaching (Li et al., 2019). Along these lines, the different editions of the Horizon Report outline the need for teachers to develop these types of skills in order to establish real integration in the teaching-learning process, since a large part of the teaching staff is unaware of the potential that resides in these resources, limiting themselves to making superficial use of them (Adams et al., 2017; Gisbert and Esteve, 2016).

In this sense, the future of education turns towards a modification of the ecologies of learning (Díez-Gutiérrez and Díaz-Nafría, 2018) the development of good practices from the application of emerging methodologies that incorporate these tools. According to objective number 4 of the Agenda 2030 of objectives to achieve sustainable development, technology must be standardized when carrying out teaching processes, and for this, it will be pertinent to promote initial and continuous training of teachers and an improvement of their digital competence (Alonso et al., 2019).

2. The digital teaching competence

The concept of digital competence has its origin in a new vision of learning in formal studies that starts from the need to classify those skills and aptitudes that the individual must acquire and consolidate as an

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essential means to advance in his or her academic career and, subsequently, throughout life (Gisbert et al., 2016). This type of learning, called through the term key competence, is justified by the European Higher Education Area (EHEA) which advocates the need to promote in students a compendium of basic skills that make the student a competent figure to meet the demands that society demands today.

The European Commission (2006) understands digital competence as the safe and critical use of ICT in the Information Society for work, leisure and communication. It is based on basic ICT skills: the use of computers to obtain, evaluate, store, produce, present and exchange information, communicate and participate in collaborative networks (p.15). If we look specifically at the concept of digital teaching competence, according to Flores and Roig (2019) it is a type of multidimensional competence, and can be defined as the ability to mobilize those skills and abilities that allow you to search, critically select, obtain and process relevant information using ICT to transform it into knowledge, while being able to communicate such information through the use of different technological and digital media, acting responsibly, respecting the socially established rules and taking advantage of these tools to inform, learn, solve problems and communicate in different scenarios of interaction.

Based on this concept, several international institutions have had the objective of developing a conceptual framework around this term, in order to constitute a common reference for all educational plans and curricula. Among the most prominent is the common European framework of digital competence for citizens, also known as DigComp, which was published in 2013 by the European Commission. It is a tool to improve the digital quality of citizens, to help develop policies that support digital training and to plan education and training initiatives to improve digital competence in citizenship (Ferrari, 2013). This report presents the version 2.0. of the Digital Competence Framework for citizens (Vuorikari, Punie, Carretero and Van den Brande, 2016), which includes an update of the conceptual reference model, a revision of the vocabulary and an establishment of more rational descriptors. There are also other organizations that have been in charge of measuring the development of digital competence, such as the National Educational Technology Standards for Students in the United States (NETS-S) project promoted by the International Society for Technology in Education of Canada (ITSE), which values the importance of creativity, as well as professional growth and leadership; the ICT Competency Standards for Teachers promoted by UNESCO or; the Common Framework for Digital Teacher Competency, promoted by the National Institute of Educational Technologies and Teacher Training (INTEF) of Spain, which is an adaptation of the DigComp in the Spanish context (Cabero, Romero y Palacios, 2020). All of them, as shown in Table 1, understand the concept of digital competence around a compendium of competence dimensions of a similar nature. Likewise, they aim to classify individuals around a compendium of levels, which assign a different nomenclature based on the degree of digital skill acquired (Quiroz et al., 2016).

Taking into account the Spanish educational context, INTEF is in charge of ensuring the development of a practice that promotes the inclusion of ICT in the classrooms of the different educational spaces, as well as initial and permanent training in five specific competence areas: 1- Information and information literacy; 2- Communication and collaboration; 3- Creation of digital contents; 4- Security; 5- Problem solving (INTEF, 2017) (Table 2):

3. The lifelong learning stage

The aim of Lifelong Learning for adults is to offer all people over the age of eighteen the opportunity to acquire, complete or expand their knowledge and skills in order to promote their personal or professional development (Fernández Batanero and Torres González, 2015). Currently, the autonomous community of Andalusia has more than 600 public centers dedicated to adult education (Hinojo et al., 2019).

The specific public centers for the Permanent Education of adults are the Centers and Sections of Permanent Education (CEPER-SEPER), the institutes and provincial sections of Permanent Education (IPEP-SIPEP), the institutes of Secondary Education (IES), the official schools of languages (EOI) and the institutes of distance education of Andalusia (IEDA).

In this region, Continuing Education for adults is structured in several actions, which cover the different needs of the students according to the objectives and needs to be fulfilled. Thus, the following modalities can be distinguished:

- Educational plan for basic training: it is aimed at people with reading and writing difficulties or difficulties in understanding and expression who wish to acquire the necessary training for access to Compulsory Secondary Education (ESO). This option is organized in two levels of one school year each. Depending on the number of students, it can constitute a single generic educational plan or several specific ones, with the following objectives: a) Preparation of the test to obtain the ESO graduate degree for those over 18 years old; b) Preparation of the test to obtain the high school degree for those over 20 years old and; c) Study support tutoring for the follow-up of the semi-attendance modality in Secondary Education for adults.

Table 1. Conceptual frameworks of digital teaching competence.

Conceptual framework	Institution	Dimensions	Levels
ICT Competency Standards for Teachers	UNESCO	- Policy and visión - Curriculum and evaluation Pedagogy - ICT - Organization and administration - Professional training of teachers	Acquisition of basic notions Deepening of knowledge Knowledge generation
DigComp	European Commission	- Information - Communication - Content Creation - Security - Problem solving	A1 (newcomer) A2 (browser) B1 (integrator) B2 (expert) C1 (leader) C2 (pioneer)
NETS-S	ITSE	- Student learning and creativity - Learning experiences and evaluations of the digital age - Work and learning characteristic of the digital age - Digital citizenship and responsibility - Professional growth and leadership	Beginner Medium Expert Transformer
Common framework for digital teaching competence	INTEF (Spanish Ministry of Education)	- Information and Information Literacy - Communication and collaboration - Digital content creation - Security - Problem solving	Basic Medium Advanced

- Non-Formal Education Educational Plans: in the case of this typology, it is an education that does not involve obtaining any academic degree.
- Language training: It includes the teaching provided by the official language schools, which offer up to six years of training to obtain the language diplomas (from A1 to advanced level C1). It also distinguishes the That's English modality, which consists of a virtual option to study from the initial level (A1) to basic level (B1) in English.

4. State of the art

The analysis about the development of the digital teaching competence has been studied by distinguished experts belonging to the educational area. Thus, there are studies that evaluated the level of digital competence perceived by students who were in educational degrees (Valera and Valenzuela, 2020; Rodríguez-García, Aznar, Cáceres and Gómez-García, 2019a; Rodríguez-García, Sánchez and Palmero, 2019b; Cabero and Gimeno, 2019; López, Pozo, Fuentes and Trujillo, 2019a; Llorente and Iglesias, 2018; Gutiérrez-Porlán and Serrano-Sánchez, 2016) which determined that future teachers possess a basic level of digital knowledge, but insufficient to create content or solve problems of this nature.

To a lesser extent, research was carried out on active teachers, whose results determined that they do not have sufficient digital skills to meet the current demands of the information society (Chandrasena, 2019; Loureiro and Rodríguez, 2019), especially in areas such as information literacy (Trujillo Torres et al., 2020; Nowak, 2019) or content creation (Amhag et al., 2019; del-Moral-Pérez et al., 2019). On the other hand, there were works that especially indicated that teachers have a good level, especially in the skills related to communication and collaboration (López et al., 2020; Vázquez et al., 2017).

Also noteworthy is the analysis of possible predictors or variables that influence the development of this competence such as age (Navarro, 2020; Garzón et al., 2020), training and type of center (López, Fuentes, Pozo y Domínguez, 2020) or teaching experience (Hinojo et al., 2019). Likewise, concerning the gender variable, there are also relevant works (Pozo et al., 2020; Moreno et al., 2019; Cabezas and Casillas, 2018) that determined that men were more familiar with ICTs, or that women showed higher levels of creativity when it came to producing digital materials. However, there is also research that affirms the non-existence of significant differences in the development of digital competence around the gender variable (Sánchez et al., 2020; Gámez and Peña, 2020; Cano et al., 2017; Moreno and Delgado, 2013).

Hence, as evidenced in the literature review, the development of digital teaching competence is a concern to be addressed by educational researchers. Therefore, the objective of this work was to identify the level of development of digital competence in the teaching staff of Continuing Education. From this, the following research questions can be differentiated:

- What is the level of digital competence of Lifelong Learning teachers?
- Are there significant gender differences in the level of self-perceived development by participants?
- What is the relationship of statistical dependence established between the different competence areas of digital competence, as well as with the socio-demographic factors of the subjects analyzed?
- What is the statistical relationship between the dimensions of digital teaching competence and the socio-demographic variables of the subjects?

Table 2. Areas that make up the digital teaching competence. Source: INTEF (2017).

Information and Information Literacy	Identify, locate, obtain, store, organize and analyze digital information, data and digital content, assessing their purpose and relevance to teaching tasks
Communication and collaboration	Communicating in digital environments, sharing resources through online tools, connecting and collaborating with others through digital tools, interacting and participating in communities and networks; intercultural awareness
Digital content creation	Creating and editing new digital content, integrating and reworking previous knowledge and content, making artistic productions, multimedia content and computer programming, knowing how to apply intellectual property rights and licenses for use.
Security	Protection of information and personal data, protection of digital identity, protection of digital content, security measures and responsible and safe use of technology.
Problem solving	Identify needs to use digital resources, make informed decisions about the most appropriate digital tools according to the purpose or need, solve conceptual problems through digital media, use technologies creatively, solve technical problems, and update their own competence and that of others.

5. Method

To this end, the work was framed within a quantitative methodological design with a transversal scope. The use of different descriptive and inferential statistics was used to analyze the reality perceived by the participating subjects and to extract useful inferences for the research community (Asencio et al., 2017; Hernández et al., 2016).

6. Participants

The population was composed of the teaching staff of the Adult Continuing Education stage of the autonomous community of Andalusia. The final sample of the study was made up of 140 teachers chosen through a convenience sampling (n = 140). The questionnaire was disseminated online several times to all Andalusian lifelong learning centres, and participants responded to it on a voluntary basis.The participating teachers came from different provinces of Andalusia (Huelva, Cadiz, Seville, Cordoba, Granada and Almeria). Some more characteristics of the participants are detailed in Table 3 below.

7. Instrument

The instrument used was an ad hoc questionnaire based on the existing dimensions of digital teaching competence determined by INTEF. In addition, similar instruments were taken into account in the configuration (Tourón et al., 2018; Ágreda, Hinojo y Sola, 2016). It consists of 91 items, distinguished as follows: 16 of information and information literacy; 31 of communication and collaboration; 16 of digital content creation; 13 of digital security; and 15 of problem solving. The scale is a Likert type with 10 answer options (1 = never, 10 = always). The following is the codification that will follow the different dimensions and the competencies that encompass them:

B.1. Information and Information Literacy (INF).
B.1.1. Navigation, search and filtering of information

B.1.2. Evaluation of information, data and digital content
B.1.3. Storage and retrieval of information, data and digital content
B.2. Communication and collaboration (COM).
B.2.1. Interaction through digital technologies
B.2.2. Sharing information and digital content
B.2.3. Online Citizen Participation
B.2.4. Collaboration through digital channels
B.2.5. Netiquette
B.2.6. Digital Identity Management
B.3. Digital content creation (CRE).
B.3.1. Digital content development
B.3.2. Integration and reworking of digital content
B.3.3. Copyrights and licenses
B.3.4. Programming
B.4. Security (SEC).
B.4.1. Device protection
B.4.2. Personal data protection and digital identity
B.4.3. Health Protection
B.4.4. Protection of the environment
B.5. Problem solving (SOL).
B.5.1. Technical problem solving
B.5.2. Identification of technological needs and responses
B.5.3. Innovation and creative use of digital technology
B.5.4. Identification of gaps in digital competence

As for the validation process, the scale was subjected to a content analysis by several experts from the University of Seville, Malaga and Granada. Consequently, its internal consistency was confirmed through Bartlett's sphericity test, which indicates suitable conditions for factor analysis (KMO = 0.79; $p < 0.001$). Subsequently, following the principal components method, an exploratory factor analysis with Varimax rotation was carried out, obtaining the dimensions mentioned above.

Regarding the reliability of the instrument, it was analyzed through Cronbach's alpha coefficient ($\alpha = 0.87$) and the two Guttman halves (0.74), recording both optimal values, thus ensuring the proper conduct of research.

8. Data analysis

For the data analysis, SPSS statistical software version 25 and Rstudio version 1.1383 were used. First, the descriptive statistics were calculated in order to know the subjects' perceptions about the level of digital competence. Later, and after knowing that the distribution did not follow a normal character through the Kolmogorov-Smirnov and Shapiro-Wilk and Levene tests ($p > .05$), the Mann-Whitney inferential U test was applied, in order to know if significant differences could exist between the subjects depending on the independent variable "Gender". Finally, Pearson's test was applied to determine the correlation between the different quantitative constructs of the research. On the other hand, factorial analysis of mixed data (FAMD) is a main component method that allows the analysis of similarity between individuals taking into account mixed types of variables. In this case, it will be applied to explore the association between quantitative and categorical research variables.

9. Results

In the first place, the results of the application of the descriptive statistics allowed elucidating a difference in the degree perceived by the teachers around the dimensions of the digital teaching competence (Table 4). Thus, a very positive result was observed in the area of communication and collaboration, although with a very high variability, as indicated by its standard deviation. In contrast, the other dimensions obtained values barely above the minimum acceptable (scale 1–10). After this, the dimension of digital content creation obtained a very low score.

After determining the character of the data distribution as non-parametric, the U-Mann Withney test was used to find the possible existence of significant differences around the gender variable. The results determined that there were no significant differences in the answers given by the teachers according to the "gender" variable (see Table 5).

Table 3. Socio-demographic characteristics of the sample.

	N	*Mean* (SD) or %
Region		
Almería	28	20
Cádiz	16	11.43
Córdoba	17	12.15
Granada	49	35
Huelva	15	10.71
Sevilla	15	10.71
Center		
CEPER and SEPER	97	69.28
IES	43	30.72
Age	140	35.4 (8.56)
Gender		
Male	66	47.14
Female	74	52.86
Previous ICT training		
Yes	100	71.42
No	40	28.58
Training		
Degree	83	59.28
Diploma or degree	41	29.29
Postgraduate	16	11.43
Teaching experience	140	4.98 (3.06)
Professional category		
Permanent employee	88	62.85
Interim	52	37.15

Table 4. Descriptive statistics.

Dimension	Mean	S.D.	Skewness	Kurtosis
INF	5.183	8.340	1.221	1.637
CONT	9.181	11.724	0.628	9.049
CRE	2.949	6.764	2.046	5.885
SEC	5.141	6.013	-0.199	-2.587
SOL	5.543	4.457	0.592	0.134

Table 5. U Mann-Whitney based on the "gender" variable.

Dimension		Mean	S.D.	U Mann-Whitney	p
INF	Male	5.192	8.164	1254.126	.247
	Woman	5.174	8.543		
COM	Male	9.790	11.912	1242.510	.034
	Woman	9.862	10.407		
CRE	Male	2.916	7.372	1715.147	.134
	Woman	2.978	6.191		
SEC	Male	5.157	4.986	1924.038	.177
	Woman	5.127	6.831		
SOL	Male	5.542	4.924	1914.713	.212
	Woman	5.543	4.010		

Thus, to find out the degree of statistical dependence between the quantitative cut variables, the Pearson test was used, which allowed finding the correlations between the constructs of the research (Figure 1). In this way, the results showed considerable proportional relations as was the case of Age-Experience, B.3-B.5., B1–B.5. or weaker Age-B.4. or Age-B.3.

With reference to factorial analysis of mixed data, the interpretation of the biplots described in the following sections should be carried out as follows:

1. Rows (columns) with a similar profile are grouped together. The distance between any row or column category is a measure of its similarity (or dissimilarity). Row categories with a similar profile are close together in the graph. The same is true for the column categories.
2. The negatively correlated rows (columns) are placed on opposite sides of the chart origin. In opposite quadrants.
3. The distance between each row category (column) and the origin (point 0.0) measures the quality of the category on the factor map. Row points that are far from the origin are well represented on the factor map.

Figure 1. Correlation between quantitative research variables.

Thus, the elaboration of the GFMD model by main components differentiated two dimensions that explained 15.28% and 13.72% of the total variance (Figure 2). As for the relationships between variables, the following should be highlighted:

- B.1 and B.4 are weakly correlated with all independent variables
- The center variable is positively correlated with B3.
- There does not seem to be a high correlation between the different predictors.
- The strongest (positive) correlation is "Training" and B2.

10. Discussion

The current educational scenario requires teachers with digital attitudes and skills that allow them to perform a dynamic and appropriate work for students who require a current and innovative teaching (Cabero and Gimeno, 2019). Based on this idea, the present work set as an objective to measure the degree of development of digital competence presented by the teaching staff of the Lifelong Learning stage of the Autonomous Community of Andalusia, focusing mainly on describing the observed reality and knowing which socio-demographic variables could significantly influence its development. This is one of the few existing studies in the scientific literature on this stage of education, so it is considered a study which, despite its small sample size, can be a first step towards establishing a solid theoretical framework for promoting digital development in this group of teachers.

Thus, the results found in the study indicated, with the exception of the "communication and collaboration" dimension, a low level of knowledge on the part of the sample of teachers. The low level presented in the dimension "creation of digital content" is especially worrying. This dimension denotes the idea that teachers have a minimum set of skills to make a superficial use of ICT, but do not have the necessary skills to promote methodological tasks or strategies that require a greater knowledge of the infrastructure or its didactic potential. In this line, the results show a coincidence with other studies whose results denote the

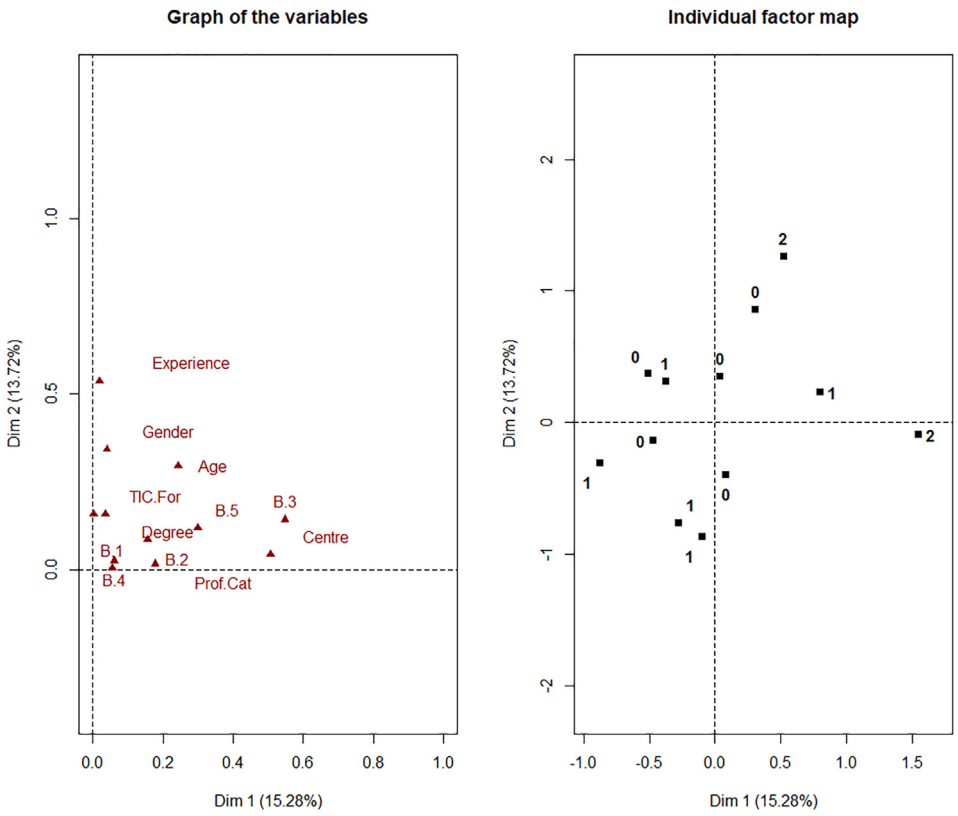

Figure 2. GFMD among quantitative and categorical study variables.

existing deficit in the area referring to the elaboration and creation of contents (Amhag et al., 2019; del-Moral-Pérez et al., 2019). We find teachers who do not assume that they do not have the necessary knowledge to create their own digital content, which should be a challenge to be met in teacher training (Cabero et al., 2020).

As for the possible variance of responses around the gender of the teacher, the results determined that there were no significant differences in the responses collected from the teachers. This result differs from some previous studies (Pozo et al., 2020), and is in line with others (Sánchez et al., 2020). Therefore, this is an area still to be researched in order to be able to provide solid arguments to the scientific community.

With reference to the existing relations between the constructs of the research, the results showed relations of interest that invite reflection. Thus, the existing links between age and the digital security dimension contribute especially to the need to cover through training in this matter at early ages. Similarly, the information and information literacy dimension needs to be addressed, since through its promotion, it could constitute the improvement of digital content creation skills, as shown by the correlative links. If we make a comparison with studies from the international literature, we can see that the level of digital competence presented by teachers is similar to that obtained. We find ourselves in a situation in which teachers have difficulties in generating their own content, as well as in solving problems in the digital domain (Pettersson, 2018; Blau and Shamir-Inbal, 2017).

Finally, the model obtained from the FAMD analysis extracted some determining factors in the development of the digital constructs, as it was the case of the teachers' formation, which was decisive when the teachers presented a greater degree in the communication and collaboration through digital resources, result that goes in the same line that previous studies (López et al., 2020). Similarly, the relationship between the center and the creation of digital content could refer to the idiosyncrasies of each educational center regarding teaching innovation and the use of ICT, as well as the development of coordinated collective practices that, hence, encourage the creation and development of digital materials. In this sense, these are incident factors that have also been observed in other populations such as: gender (Sánchez et al., 2020), age (Navarro, 2020; Garzón et al., 2020), the type of educational centre (Moreno et al., 2019; Cabezas and Casillas, 2018), home conditions or cultural aspects (Hatlevik and Christophersen, 2013). Therefore, our study elucidates that in the Lifelong Learning stage these factors are also incident, and therefore, they should be studied, with the aim of, through them, promoting the development of teachers' digital competence in this educational stage.

11. Conclusions

The development of digital teacher competence continues to be a challenge to be addressed by the educational community. In the current context in which we find ourselves, the educational system requires teachers who are competent in digital matters, who integrate the emerging technological resources into their teaching work and promote quality teaching in accordance with today's students, who make assiduous use of technology. Therefore, it is advocated the need to promote a permanent training of teachers, which allows them to be updated in the current educational trends and challenges and in the didactic opportunities offered by ICT. It is also necessary to promote training in ICT at the Higher Education stage, especially in the area of digital content creation, so that future professionals have references and notions about how to innovate and develop content in their professional future.

Thus, the path lies in encouraging teachers to increase their digital knowledge, but, above all, to integrate emerging technological resources, and not for digital practice in the classroom to fall into a superficial use of these resources.

In this way, this research has shown a descriptive approach to the self-perception of the level of teaching digital competence presented by dual vocational training teachers in Andalusia (Spain). In addition, we present some factors involved in the development of these constructs that may be of interest for further analysis in subsequent research. We are aware that

this study presents a small sample and, therefore, the results cannot be generalisable.

With respect to the limitations of the study, they refer to the technique of selection of research participants, which, since it is sampling for convenience, does not allow for a clear explanation of the inference, limiting itself to describing the perceptions of the observed reality. Likewise, the application of an instrument with a wide range of response also implies, on the one hand, that the participant can respond in a more specific way. However, it also increases the variability of responses, encourages the appearance of outliers, and proportionally shifts the meaning of the coefficients expressed by the mean. On the other hand, with regard to the typology of the scale, it is a scale of self-perception, not one that examines the level of digital competence. Although it is a subjective conception, it has been of interest to the author of this manuscript, based on the DIGCOMP conceptual framework on self-perception of teachers' digital competence, to find out teachers' own assessment of their own digital competence, in which areas they are more confident and in which they are not.

On the other hand, as to future lines of research, it turns to the need to continue analyzing the degree of digital teaching competence shown by the different active teaching bodies, especially in those stages that are not yet so well known, as was the case of Lifelong Learning. It advocates the need to promote empirical studies in this line and to verify the effectiveness of digital resources when putting them into practice in the classroom.

Therefore, digital training is one of the most important educational challenges to be met by the educational community. There is a need for teaching professionals who can carry out their work in an innovative manner and in accordance with the technological advances that society is experiencing. Por lo tanto, la capacitación digital es uno de los desafíos educativos más importantes que debe enfrentar la comunidad educativa. Se necesitan profesionales de la enseñanza que puedan llevar a cabo su trabajo de manera innovadora y de acuerdo con los avances tecnológicos que experimenta la sociedad.

Declarations

Author contribution statement

Esther Garzón Artach: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Tomás Sola Martínez: Conceived and designed the experiments; Contributed reagents, materials, analysis tools or data.

José María Romero Rodríguez: Performed the experiments; Analyzed and interpreted the data.

Gerardo Gómez García: Analyzed and interpreted the data; Wrote the paper.

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Data availability statement

Data included in article/supplementary material/referenced in article.

Declaration of interests statement

The authors declare no conflict of interest.

Additional information

No additional information is available for this paper.

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