DIGITAL AND MEDIA COMPETENCES: KEY COMPETENCES FOR EFL TEACHERS

by **Francisco Javier Palacios Hidalgo**, **M.ª Elena Gómez Parra**
and **Cristina A. Huertas Abril**
University of Córdoba,
Córdoba, Spain
m22pahif @ uco.es, elena.gomez @ uco.es, cristina.huertas @ uco.es

Abstract

The usefulness of ICT in language learning is unquestionable nowadays. There are many digital educational resources available for foreign and second language teachers, materials which are progressively acquiring an important role in the teaching-learning process.

In order to respond to the increasing presence of such technologies in the classroom, teachers need to acquire digital and media competences, two key elements for lifelong training process. However, these are superficially addressed in teacher education. In this light, both in-training and in-service educators demand more skills and specific training to be able to teach students how to use technologies and, ultimately, help them develop their own digital and media competences.

Following an exhaustive bibliographical revision of scientific literature in the field, this theoretical paper seeks to revise the concepts of digital and media competences as well as to reflect on how superficially they are addressed at universities and teacher-training centres. After this, the importance of both competences as key elements for teachers is brought to light, as well as some useful suggestions to help foreign and second language teachers acquire and develop them and, simultaneously, teach them to their students.

Keywords: ICT; digital competence; media competence; ESL/EFL teachers; teachers' professional needs

1. Introduction

Education has evolved driven by the economic, political and social development of nations all around the world. At this juncture, new technological paradigms have emerged (Sanz & Pantoja, 2015). Although these transformations and changes have always been present at schools, their strength has dramatically increased during the last years due to forces re-configuring the economic and social reality of the world (Caldevilla, 2011; Casani & Rodríguez, 2015). In this context, both developed and developing countries are investing large

amounts of money, time and effort in improving their education systems by changing curricula and training programs, improving facilities and supporting educational research, among other actions (Baglieri, Baldi & Tucci, 2018; Munari, Sobrero & Toschi, 2018).

Technology is an important construct for 21st-century citizens. In this light, the research line *Educational Technology* has emerged with the objective to respond to the needs of this new society and the use of Information and Communication Technologies (ICT). This so-called field seeks to integrate ICT in the teaching-learning process as a support tool combined with the new teaching methodologies where the teacher acts more as a guide for students than as a mere presenter of contents (Rodríguez & Gómez, 2017). In this context, education cannot be understood without the help of technology anymore (Tejada & Fernández, 2018).

This theoretical paper seeks to revise the concepts of digital and media competences by following an exhaustive bibliographical revision of scientific literature in the field. It also aims to reflect on how superficially they are addressed at universities and teacher-training centres and, ultimately, to propose some useful suggestions that help foreign and second language teachers acquire and develop them and, simultaneously, teach them to their students.

2. The role of competences in the 21st century

As stated by the European Parliament and the Council (2006) and the Instituto Cervantes (2012), *digital competence* is one of the key competences of lifelong learning and second/foreign language teaching. However, what is understood by the word "competence"?

> A competence is more than just knowledge or skills. It involves the ability to meet complex demands, by drawing on and mobilising psychosocial resources (including skills and attitudes) in a particular context. For example, the ability to communicate effectively is a competence that may draw on an individual's knowledge of language, practical IT skills and attitudes towards those with whom he or she is communicating (OECD, 2005, p. 4).

In the last decades, competences have become essential elements at all stages of education, both formal and non-formal (Gutiérrez & Serrano, 2016). In this sense, current Spanish educational legislation establishes that a curriculum must include "the competences and capacities for the integral application of the contents proper to each teaching and education stage in order to ensure the appropriate performance of activities and the effective resolution of problems" (LOMCE, 2013, translated in Gutiérrez & Serrano, 2016, p. 51).

These competences can be numerous (Peklaj, 2015); nevertheless, some of the essential competences that teachers in the 21st century need are: subject and teaching skills, the ability to

link theory with practice, co-operation and collaboration with other colleagues, self-confidence, leadership, continuous learning and digital knowledge (Hepp, Prats & Holgado, 2015, p. 33).

Knowing what a competence is, and considering the types mentioned above, it is necessary to think about which competences teachers need in order to not only become digitally literate (i.e. having the knowledge of how to use digital technology appropriately), but also to be able to integrate ICT into their teaching (Esteve-Mon, Gisbert-Cerbera & Lázaro-Cantabrana, 2016, p. 39). In this respect, despite the diverse definitions due to different agendas (Fraser, Atkins & Richard, 2013; Gutiérrez, Prendes & Castañeda, 2015; Hepp, Prats & Holgado, 2015; Masanet, Contreras & Ferrés, 2013; Nogueira-Frazão & Martínez-Solana, 2018; Scolari, Masanet, Guerrero-Pico & Establés, 2018), *digital competence* and *media competence* seem to be two of the most relevant (Maldonado, 2018). Evidence suggests, however, that teacher education institutions still have some ground to break before they completely include these into their practice (cf. Benson & Filippaios, 2015; Benson, Morgan, & Filippaios, 2014; Moreno, Navarro, Trench, & Zerfass, 2015; Novakovich, Miah, & Shaw, 2017). For this reason, this paper aims at reflecting on the concepts of *digital competence* and *media competence,* to show how superficially they are usually addressed at universities and teacher-training centres. Ultimately, proposals to facilitate their acquisition and development English as a Second/Foreign Language (ESL/EFL) teachers are also presented.

3. The study

To respond to the objective of the study, specific data collection and analysis methods were adopted.

3.1. Data collection

The revision was focused on ESL/EFL teachers and intended to reflect on the concepts of digital and media competences, and the way universities and teacher-training centres develop them in their syllabuses. In order to ensure the relevance of the review, selection of papers were carried out by considering seven main criteria: (1) works published in the last decade (period 2009-2018) and (2) indexed by Google Scholar, Scopus and Dialnet; (3) both empirical and non-empirical studies such as literature reviews and conceptual papers were analysed; (4) the keywords used were “digital competence”, “digital literacy”, “media competence”, “media literacy”, “teacher competences” and “21st century competences”; (5) studies both in Spanish and English were included for this review; (6) studies related to the fields of language

education, teacher training and educational technology were utilized; and (7) books, book chapters, journal articles, official documents and reports were used.

The papers were analysed by the three researchers in three different phases in order to guarantee that all were triple-checked. In particular, research methods, study foci, and results were analysed. In case of disagreement, the three researchers discussed and negotiated the results of each phase of the analysis until they reached a consensus about the relevance of the paper. The study included a total of 68 relevant papers. Table 1 shows the distribution of texts by type, including number and percentage:

Table 1. Distribution of texts by type (own elaboration)

	No. of Texts	**%**
Books	8	11.76
Book chapters	8	11.76
Journal articles	40	58.83
Official documents, reports and others	12	17.65

3.2. Data analysis

As mentioned before, the papers under analysis were published between 2009 and 2018. 3 out of 70 articles (4.41%) were published in 2009; 4 (5.88%) were published in 2010; 6 (8.82%) were published in 2011; 5 (7.35%) in 2012; 7 (10.29%) in 2013; 2 (2.94%) in 2014; 9 (13.24%) in 2015; 11 (16.18%) in 2016; 9 (13.24%) in 2017; and 12 (17.65%) in 2018. Figure 1 shows the distribution of texts per year.

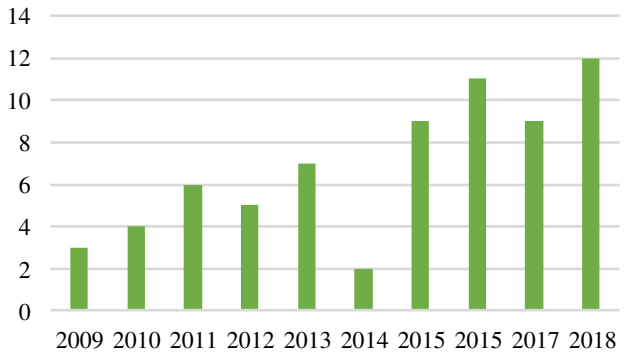

Figure 1. Distribution of texts per year (own elaboration)

Researchers assessed the quality and relevance of the papers using a four-point Likert scale: they graded papers from 1 to 4 (1 = the paper addresses either the concept of digital

competence or media competence from a general perspective; 2 = the paper addresses either the concept of digital competence or media competence in relation to teacher training; 3 = the paper addresses either the concept of digital competence or media competence in relation to EFL/ESL teaching/learning; 4 = the paper addresses either the concept of digital competence or media competence in relation to EFL/ESL teacher training) to determine whether the documents should be used in the study. Papers with a minimum mean score of 3 were selected for the study (except for those which had received a score of 1 by at least one of the researchers, which were directly excluded).

Microsoft Excel software was used for analysing information of the selected studies and content analysis technique (Bardin, 2013) was applied in order to categorise the selected papers and facilitate drawing conclusions: data was reduced by means of coding and thematic organization according to six areas of interest: (i) analysis of digital competence from a general perspective; (ii) analysis of media competence from a general perspective; (iii) analysis of digital competence in relation to EFL/ESL teaching/learning; (iv) analysis of media competence in relation to EFL/ESL teaching/learning; (v) analysis of digital competence in relation to EFL/ESL teacher training; and (vi) analysis of media competence in relation to EFL/ESL teacher training. Then, a descriptive analysis of each paper was carried out.

3.4. Results

To clarify the results obtained, this section is organised in two sub-sections: definition of the competences and presence of the competences within EFL/ESL teachers' training curricula.

3.4.1. Teachers' competences for 21st century

1. Digital Competence

The concept of "digital competence", also known as "digital literacy" (Ala-Mutka, 2011; Pérez & Delgado, 2012; Sefton-Green, Nixon & Erstad, 2009) or "computer literacy" (Tafazoli, Gómez & Huertas, 2017), has been deeply addressed in research on education, with manifold experts, international bodies and institutions supplying definitions and approaches (CRUE-TIC & REBIUN, 2009; Fraser, Atkins & Richard, 2013; Gutiérrez, Prendes & Castañeda, 2015; ISTE, 2017; Janssen, Stoyanov, Ferrari, Punie, Pannekeet & Sloep, 2013; OECD, 2011; Suárez, Almerich, Gargallo & Aliaga, 2013). In this context, Hepp, Prats & Holgado (2015, p. 38) give an understandable clarification of what it is: the sum of knowledge and strategies that helps an individual to solve problems associated with the digital world by using digital support.

The European Parliament and the Council of 18 December 2006 on key competences for lifelong learning defines this competence as follows:

> Digital competence involves the confident and critical use of Information Society Technologies (IST) for work, leisure and communication. It is underpinned by basic skills in ICT: the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet (European Parliament and the Council, 2006, p. 6).

In other words, this competence allows individuals to properly use digital and technological resources available online and, in general, to face the challenges ICTs pose to the 21st-century society.

In the case of teachers, Claro, Salinas, Cabello-Hutt, San Martín, Preiss, Valenzuela & Jara (2018, p. 164) go beyond this definition by saying that teachers' digital competence includes "the information and communication skills and knowledge that teachers should have to perform their professional work (e.g., plan and prepare lessons) in a digital environment".

Ferrari (2013, p. 11) in the DigComp 1.0, Vuorikari, Punie, Carretero & Van den Brande (2016, pp. 8-9) in the DigComp 2.0, and Carretero, Vuorikari & Punie (2017, p. 21) in the DigComp 2.1 claim that digital competence can be categorized into five areas: i) information and data literacy; ii) communication and collaboration; iii) digital content creation; iv) personal safety; and v) problem-solving.

According to the Common Digital Competence Framework for Teachers (INTEF, 2017), the first area alludes to the ability to select, organize and analyse digital information as well as to assess its relevance according to the purpose why it has been selected. This scope combines three main capabilities: i) browsing, searching and filtering digital content (i.e. using different information sources and searching strategies to find relevant data); ii) evaluating it (i.e. assessing data critically); and iii) managing it (i.e. organizing data for future use). Communication and collaboration relates to sharing resources through online platforms and participating in online communities and networks. It includes: i) interacting, sharing and collaborating using digital technologies (i.e. devices, applications and platforms) appropriately; ii) engaging in citizenship using them (i.e. searching for new opportunities to empower oneself and for citizen participation); and iii) internet conventions of politeness (i.e. awareness of diversities of all types and consciousness of the rules for virtual and online participation). Digital content creation refers to the design of new content and the re-elaboration of previous knowledge to make new artistic and multimedia productions (i.e. creation of online digital teaching resources such as interactive activities, websites and/or virtual classrooms). Teachers

also need to develop personal safety, which is concerned with protecting personal information and data when using digital and online resources. It includes: i) protection of devices and content (i.e. being able to understand and identify exposure to online dangers and solutions for possible problems); ii) protection of privacy and health; and iii) protection of the environment (i.e. considering the possible side effects of technology in the physical world). Finally, problem-solving implies identifying needs in the creative use of technology and making decisions when technical problems arise.

2. Media Competence

Bearing in mind that not only technology but also social media are becoming more and more important in every sphere of our globalized world, digital competence seems to be insufficient for teachers (in general) and English teachers (in particular) to cope with the challenges of the present. Besides this, technology has profoundly changed in relation to the way we produce, transmit and receive information; such renovations require changes in education in order not to be isolated from reality (Aguaded-Gómez, 2012; Masanet, Contreras & Ferrés, 2013; Ramírez-García & González-Fernández, 2016; Sandoval-Vizuete, Calvopiña-Osorio & Cevallos-Viscaíno, 2018).

> These changes require new technical and interpretation skills for creating and accessing knowledge, as well as expertise in new symbol systems. The integration of texts, sounds and images in multimedia documents, along with interactivity, make this a special language that forces us to consider now a «multimedia», «digital» or «media» alphabet, which might be a prerequisite nowadays, but will become unavoidable in the near future (Gutiérrez, 2010, p. 172).

As Gutiérrez (2010) pinpoints, digital competence is not enough considering the number of requests the current reality demands of 21st-century teachers. Media competence, also known as "media literacy" (Ala-Mutka, 2011; Ferrés & Piscitelli, 2012; Masanet, Contreras & Ferrés, 2013; Nogueira-Frazão & Martínez-Solana, 2018; Pérez & Delgado, 2012; Scolari, Masanet, Guerrero-Pico & Establés, 2018; Verbitskaya & Ivanova, 2011) goes far beyond digital competence; and it can be defined as an interrelated and complex set of knowledge, skills and attitudes that allows efficiently to face the media environment of today by adapting to constant changes and different contexts (Velasco, 2016), which is considerably becoming more and more relevant (Marta-Lazo, 2018; Pérez & Delgado, 2018; Ramírez, Renés & González, 2018).

Ferrés & Piscitelli (2012) consider media competence as a combination of six dimensions organized into two big fields: analysis and expression. These six dimensions are: language, technologies, processes of interaction, production and diffusion, beliefs and values,

and aesthetics; all of them must be accounted for in the ongoing world. On their part, Verbitskaya & Ivanova state that "at present time media competence is becoming one of the most important qualities of modern teacher's personality and its formation is one of the urgent problems of general pedagogics" (2011, p. 1652).

Some differences have been historically established between media and digital competences. According to Pérez & Delgado (2012, p. 27), the former focuses "on the knowledge, skills and attitudes related to the mass media and audiovisual language", while the latter connects with "searching abilities, processing, communication and information dissemination with technologies". However, a distinction between these two cannot be made as both are intrinsically linked to teachers' information literacy (i.e. capability of knowing when information is required, and having the ability to identify, assess, and work with it in order to solve a problem (Álvarez & Gisbert, 2015).

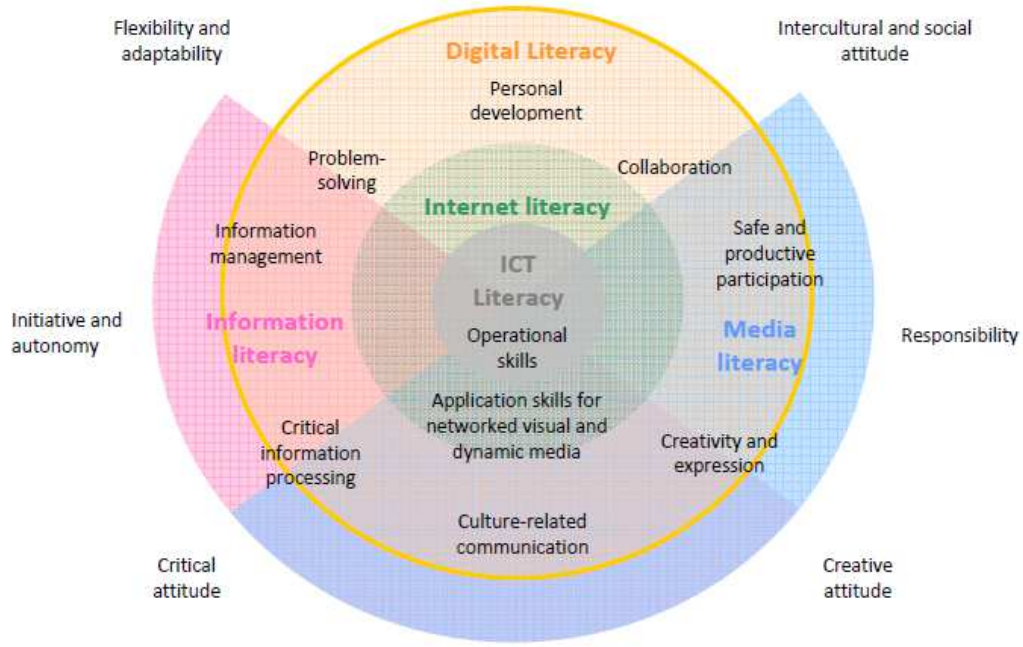

Figure 2. Digital competence, media competence and information literacy (Ala-Mutka, 2011, p. 44)

3.4.2 Digital and Media Competences within ESL/EFL teachers' training curricula

The use of technology brings quality to the classroom and, in this sense, the literature on the relevance of digital and media competences in teacher training and practice is profuse (Fernández-Cruz & Fernández-Díaz, 2016; Pérez-Escoda, Castro-Zubizarreta & Fandos-Igado, 2016; Pérez-Mateo, Romero & Romeu-Fontanillas, 2014; Romero-Martín, Castejón-Oliva,

López-Pastor & Fraile-Aranda, 2017). Similarly, ICTs also have a positive effect on the English classroom. According to Fritz (2016), integrating technology into the teaching of a foreign language implies adopting a constructionist paradigm where the student is the centre of the learning process. In this sense, in the 21st-century English classroom, ESL/EFL teachers must put their digital and media competences into practice, so that it can happen.

For the last fifty years, technology has been present in language classrooms with the use of listening exercises, films, recordings, labs, etc. However, along the years, a technological revolution has started in the language teaching field, which is proved by the huge amount of publications on the area: Carrió, 2016; Gargiulo, Gargiulo & Fernández, 2016; Hampel & Stickler, 2015; Martín-Monje, Elorza & García, 2016; Tafazoli, Gómez & Huertas, 2018. Unfortunately, ICTs are internationally used in teacher education in a superficial way (Røkenes & Krumsvik, 2016) despite the importance given by international bodies. In fact, many in-training teachers inform they feel unprepared for teaching with ICTs and report that innovative ICT approaches are not promoted in teacher training as they really should (Sang, Valcke, Braak & Tondeur, 2010).

For many years, teacher training faculties have made efforts preparing pre-service teachers to integrate ICTs into their future teaching practices. To do so, courses to enhance teacher's digital and media competences courses have been added to university curricula, and computer availability and support for classroom use have also increased in this setting (Ferrari, 2012; Voogt, Erstad, Dede & Mishra, 2013).

ICTs are integrated into teachers' initial training curricula only in specific areas which are not cross-disciplinary; besides, teachers' digital and media competences are present as specific objectives in few syllabuses and they are reduced into cursory activities such as learning how to use a computer. As a consequence, pre-service teachers are generally not prepared to integrate the fostering of digital/media competence in their teaching even when they graduate. Definitely, the problem for in-training teachers does not consist in learning how to use ICTs but in how to integrate them into their future teaching careers (Brun & Hinostroza, 2011).

Looking at the constant changes of technologies and how they can be applied in the classroom, teacher education needs to reflect on what is understood by digital and media competences, how they are addressed in syllabuses and, ultimately, reformulate the way they are treated.

4. Discussion and conclusion

The changing tendency of the current social, economic and educational context due to technological advances is undoubtable. In this setting, new knowledge is being created and, as a consequence, modern training methods are required of teachers to help students develop necessary competences for 21st century.

The usefulness of technologies in the classroom is unquestionable nowadays. There are many resources available for teachers (videos, MOOCs, gaming tools, wikis, edublogs, WebQuests, podcasts, online games, social media) and their advantages for learning languages are well-known due to the communicative nature of the subject. However, students will not get the most out of these if teachers are not able to integrate them in a proper way.

Much has been written on the power and possibilities of ICTs and e-learning for teacher training and learning in general. In fact, it has been proven that both have become a reality in every field of education (even in ESL/EFL learning and teaching). However, universities and teacher-training centres should provide in-training teachers with plenty of information about these in order to become fully digitally competent so that they are able to train 21st-century students in how to use technology in a safe way. To do so, a series of considerations should be taken into account:

1. Inclusion of media competence in syllabuses is essential as 21st-century society requires a more comprehensive perspective to face the challenges of the media environment.
2. A simplification of the concepts of teachers' digital and media competences is needed as it seems difficult to arrive at a simple and contextualized clarification of what teachers should acquire with such ambiguous definitions.
3. An efficient model for teachers' digital and media competences development is required. In this sense, Põldoja, Väljataga, Tammets & Laanpere (2011) offer a model which consists of five areas: i) prepare and inspire students in a digital environment; ii) design and develop learning experiences and a learning environment; iii) model and design work environments; iv) promote and model digital democracy and accountability; and v) participate in professional development. These five dimensions are closely related to digital competence areas as shown in Table 2.

Table 2. Model for teachers' digital/media competences development and digital competence areas (own elaboration)

Areas of digital competence	**Põldoja, Väljataga, Tammets & Laanpere's model**
Area 1: information and data literacy	Promote and model digital democracy and accountability
Area 2: communication and collaboration	Model and design work environments
Area 3: digital content creation	Design and develop learning experiences and a learning environment
Area 4: personal safety	Prepare and inspire students in a digital environment
Area 5: problem-solving	Participate in professional development

4. A periodical evaluation of teacher-training centres is essential in order to diagnose the ICT culture prevailing at them, as well as the infrastructure and services provided.
5. A development of awareness during initial teacher training is also necessary.

These ideas need to be translated into practical actions. ESL/EFL instructors must develop their ability to use digital resources effectively if they want to promote students' learning and their own professional development as teachers. Consequently, they need to reflect about the different technological resources they can use and how to get the most out of them, as well as to integrate them in their teaching practice so that language use and proficiency are promoted in the classroom (Botella & Galindo, 2017; Instituto Cervantes, 2012).

Proficiency in the target language is not the only requirement for ESL/EFL teachers, since acquiring teaching skills to help their students develop their own competences is also necessary (Murray & Christison, 2010; Christison & Murray, 2010; Christison & Murray, 2014). For this reason, universities should take into account how using ICTs in general and the Internet in particular may help pre-service and in-service teachers in their work. Among all the possibilities, social networks are possibly the most beneficial tool due to their social power and their potential for the creation of relationships as teachers' collaboration is key to a good teaching practice (Nelson, 2009; Van Houten, 2015). In this sense, universities should consider including social networks in their curricula and syllabuses so that pre-service ESL/EFL teachers (and teachers in general) could have a clear idea of their potential for building and sharing knowledge and so they could share knowledge and experiences (Hershkovitz & Forkosh-Baruch, 2017; Tuzel & Hobbs, 2017).

Definitely, training centres must provide ESL/EFL teachers with ample instruction to develop their digital and media competences, so that they can promote active use of languages

among students, motivate them towards learning, and help them become fully-prepared citizens of the 21st century.

Acknowledgment

This work has been supported by the Centro de Estudios Andaluces (Consejería de la Presidencia, Junta de Andalucía, Spain) with their financial support of the Project PRY208/17 entitled "LinguApp: Asegurando el acceso al aprendizaje universal e inclusivo de segundas lenguas", granted by the competitive call 2017, and the Spanish Ministry of Education (Resolución de 5 de diciembre de 2017, de la Secretaría de Estado de Educación, Formación Profesional y Universidades, por la que se convocan ayudas para la formación de profesorado universitario, de los Subprogramas de Formación y de Movilidad incluidos en el Programa Estatal de Promoción del Talento y su Empleabilidad, en el marco del Plan Estatal de Investigación Científica y Técnica y de Innovación 2013-2016).

References

Aguaded-Gómez, J. I. (2012). La competencia mediática, una acción educativa inaplazable. *Comunicar, 20*(39), 7-8. https://doi.org/10.3916/C39-2012-01-01.

Ala-Mutka, K. (2011). *Mapping Digital Competence: Towards a Conceptual Understanding*. Luxembourg: Publications Office of the European Union. Retrieved from https://bit.ly/1p477BJ.

Baglieri, D., Baldi, F., & Tucci, C. L. (2018). University Technology Transfer Office Business Models: One Size Does Not Fit All. *Technovation*. http://dx.doi.org/10.1016/j.technovation.2018.05.003.

Álvarez, J. F., & Gisbert, M. (2015). Grado de alfabetización informacional del profesorado de Secundaria en España: Creencias y autopercepciones. *Comunicar, 23*(45), 187-194. http://doi.org/10.3916/C45-2015-20.

Bardin, L. (2013). *L'analyse de contenu*. Paris: Presses Universitaires de France.

Benson, V., & Filippaios, F. (2015). Collaborative competencies in professional social networking: Are students short changed by curriculum in business education? *Computers in Human Behavior, 51*(B), 1331-1339. https://doi.org/10.1016/j.chb.2014.11.031.

Benson, V., Morgan, S., & Filippaios, F. (2014). Social career management: Social media and employability skills gap. *Computers in Human Behavior, 30*, 519-525. https://doi.org/10.1016/j.chb.2013.06.015.

Botella, C. M., & Galindo, M. M. (2017). Teaching apps for the learning of languages through sports: Technology and sports in the English and Spanish as a L2/FL classroom. *Language Value, 9*(1), 89-131. http://doi.org/10.6035/LanguageV.2017.9.5.

Brun, M., & Hinostroza, J. E. (2011). Research on ICT integration for enhancing quality in teacher education: Nationwide policy or global challenge? In: E. Eisenschmidt & E. Löfström (eds.), *Developing Quality Cultures in Teacher Education: Expanding Horizons in Relation to Quality Assurance* (pp. 99-118). Tallinn: OÜ Vali Press.

Caldevilla, D. (2011). Los retos de la era de las TICs: Nativos digitales contra inmigrantes. *Comunicación y medios, 23*, 23-36. https://doi.org/10.5354/0719-1529.2013.26336.

Carretero, S., Vuorikari, R., & Punie, Y. (2017). *DigComp 2.1: The Digital Competence Framework for Citizens with Eight Proficiency Levels and Examples of Use*. Luxembourg: Publication Office of the European Union. Retrieved from https://bit.ly/2pGtGIl.

Carrió, M. L. (2016). *Technology Implementation in Second Language Teaching and Translation Studies*. Singapore: Springer.

Casani, F., & Rodríguez, J. (2015). Cambios y tendencias en la Educación Superior: Los retos para la universidad. *Encuentros multidisciplinares*, *17*(49), 30-39. Retrieved from https://bit.ly/2NBsAtm.

Christison, M., & Murray, D. E. (2010). *What English Language Teachers Need to Know. Vol. II: Facilitating Learning*. London: Routledge.

Christison, M., & Murray, D. E. (2014). *What English Language Teachers Need to Know. Vol. III: Designing Curriculum*. London: Routledge

Claro, M., Salinas, A., Cabello-Hutt, T., San Martín, E., Preiss, D. D., Valenzuela, S., & Jara, I. (2018). Teaching in a Digital Environment (TIDE): Defining and measuring teachers' capacity to develop students' digital Information and Communication skills. *Computers & Education, 121*, 162-174. https://doi.org/10.1016/j.compedu.2018.03.001.

CRUE-TIC, & REBIUN. (2009). *Competencias informáticas e informacionales en los estudios de grado*. Retrieved from https://bit.ly/2EL2JuW.

Esteve-Mon, F., Gisbert-Cerbera, M., & Lázaro-Cantabrana, J. L. (2016). La competencia digital de los futuros docentes: ¿Cómo se ven los actuales estudiantes de educación? *Perspectiva Educacional*, *55*(2), 38-54. Retrieved from https://bit.ly/2yy9ElJ.

European Parliament and the Council (2006). Recommendation 2006/962/CE of the European Parliament and the Council of 18 December 2006 on Key Competences for Lifelong Learning. *Official Journal of the European Union, 30.12.2006, L 394/10,* 10-18. Retrieved from https://bit.ly/2MWgJkR.

Fernández-Cruz, F. J., & Fernández-Díaz, M. J. (2016). Los docentes de la Generación Z y sus competencias digitales. *Comunicar, 24*(46), 97-105. https://doi.org/10.3916/C46-2016-10.

Ferrari, A. (2012). *Digital Competence in Practice: An Analysis of Frameworks. JRC Technical Reports*. Luxembourg: Publications Office of the European Union. Retrieved from https://bit.ly/2IJsDjm.

Ferrari, A. (2013). *DIGCOMP: A Framework for Developing and Understanding Digital Competence in Europe*. Luxembourg: Publication Office of the European Union. Retrieved from https://bit.ly/2jUQ2Ot.

Ferrés, J., & Piscitelli, A. (2012). Media competence. Articulated proposal of dimensions and indicators. *Comunicar, 19*(38), 75-81. http://doi.org/10.3916/C38-2011-02-08.

Fraser, J., Atkins, L., & Richard, H. (2013). *DigiLitleicester. Supporting Teachers, Promoting Digital Literacy, Transforming Learning*. Leicester: Leicester City Council.

Fritz, E. (2016). A Case for an ESP constructivist approach to teaching English writing courses at science and technology universities. *Kwansei Gakuin University Humanities Review, 21,* 123-132. Retrieved from https://bit.ly/2Pq3JZA.

Gargiulo, H., Gargiulo, E., & Fernández, C. (Coords). (2015). *Tecnología y metodología en la clase de ELE*. Buenos Aires: Tinta Fresca.

Gutiérrez, A., (2010). Creación multimedia y alfabetización en la era digital. In: R. Aparici (ed.), *Educación: más allá del 2.0* (pp. 171-185). Barcelona: Gedisa.

Gutiérrez, I., Prendes, M. P., & Castañeda, L. (2015). Aprendices y competencia digital. In: J. Cabero & J. Barroso (eds.), *Nuevos retos en Tecnología Educativa* (pp. 160-172). Madrid: Síntesis.

Gutiérrez, J., & Serrano, J. L. (2016). Evaluation and development of digital competence in future primary school teachers at the University of Murcia. *Journal of New Approaches in Educational Research, 5*(1), 51-56. https://dx.doi.org/10.7821/naer.2016.1.152.

Hampel, R., & Stickler, U. (eds.). (2015). *Developing Online Language Teaching. Research-Based Pedagogies and Reflective Practices*. Barcelona: Palgrave Macmillan.

Hepp, P., Prats, M. A., & Holgado, J. (2015). Teacher training: Technology helping to develop an innovative and reflective professional profile. *Universities and Knowledge Society Journal, 12*(2), 30-43. http://dx.doi.org/10.7238/rusc.v12i2.2458.

Hershkovitz, A., & Forkosh-Baruch, A. (2017). La relación profesor-alumno y la comunicación en Facebook: percepciones de los alumnos. *Comunicar, 25* (53), 91-101. https://doi.org/10.3916/C53-2017-09.

Instituto Cervantes (2012). *Las competencias clave del profesorado de lenguas segundas y extranjeras*. Madrid: Instituto Cervantes.

INTEF (2017). *Marco Común de Competencia Digital Docente*. Madrid: Ministerio de Educación, Cultura y Deporte & Instituto Nacional de Tecnologías Educativas y de Formación del Profesorado. Retrieved from https://bit.ly/2jqkssz.

ISTE (2017). *The ISTE Standards for Educators.* Retrieved from https://bit.ly/2GbdUJa.

Janssen, J., Stoyanov, S., Ferrari, A., Punie, Y., Pannekeet, K., & Sloep, P. (2013). Experts' views on digital competence: Commonalities and differences. *Computers & Education*, *68*, 473-481. http://doi.org/10.1016/j.compedu.2013.06.008.

Krueger, K., Hansen, L., & Smaldino, S. (2000). Preservice teacher technology competences: A model for preparing teachers of tomorrow to use technology. *TechTrends, 44*(3), 47-50.

Ley Orgánica 8/2013, de 9 de diciembre, para la Mejora de la Calidad Educativa. (BOE no. 295, 10 December 2013).

Maldonado, M. E. (2018) El aula, espacio propicio para el fortalecimiento de competencias ciudadanas y tecnológicas. *Sophia. Revista de investigaciones en educación, 14*(1), 39-50. http://doi.org/10.18634/sophiaj.14v.1i.822.

Marta-Lazo, C. (2018). El marco teórico de la alfabetización mediática: orígenes, fundamentos y evolución conceptual. In: C. Fuente, M. C. García, & C. R. Camilli (eds.), *La educación mediática en España* (pp. 47-54). Madrid: Universitas.

Martín-Monje, E., Elorza, I., & García, B. (eds.). (2016). *Technology-Enhanced Language Learning for Specialized Domains. Practical Applications and Mobility*. London & New York: Routledge.

Masanet, M. J., Contreras, P., & Ferrés, J. (2013). Highly qualified students? Research into the media competence level of Spanish youth. *Communication & Society, 26*(4), 217-234. Retrieved from https://bit.ly/2RgcfY7.

Moreno, A., Navarro, C., Trench, R., & Zerfassc, A. (2015). Does social media usage matter? An analysis of online practices and digital media perceptions of communication practitioners in Europe. *Public Relations Review, 41*(2), 242-253. https://doi.org/10.1016/j.pubrev.2014.12.006.

Munari, F., Sobrero, M., & Toschi, L. (2018). The university as a venture capitalist? Gap funding instruments for technology transfer. *Technological Forecasting and Social Change, 127*, 70-84. https://doi.org/10.1016/j.techfore.2017.07.024.

Murray, D. E., & Christison, M. (2010). *What English Language Teachers Need to Know. Vol. I: Understanding Learning*. London: Routledge.

Nelson, T. H. (2009). Teachers' collaborative inquiry and professional growth: Should we be optimistic? *Science Education, 93*(3), 548-580. http://doi.org/10.1002/sce.20302.

Nogueira-Frazão, A. G. C., & Martínez-Solana, Y. (2018). Digital infographics: The key to information paradigm. In: J. M. Túñez, V. A. Martínez, X. López, J. Rúas, & F. Campos (eds.), *Communication. Innovation & Quality* (pp. 293-312). Cham: Springer.

Novakovich, J., Miah, S., & Shaw, S. (2017). Designing curriculum to shape professional social media skills and identity in virtual communities of practice. *Computers and Education, 104*, 65-90. https://doi.org/10.1016/j.compedu.2016.11.002.

OECD. (2005). *The Definition and Selection of Key Competences. Executive Summary*. Retrieved from https://bit.ly/1goiOUO.

OECD. (2011). *Informe habilidades y competencias del siglo XXI para los aprendices del nuevo milenio en los países de la OCDE*. Retrieved from https://bit.ly/1bykEdT.

Okoli, C. (2015). A guide to conducting a standalone systematic literature review. *Communications of the Association for Information Systems, 37*(43), 879-910. Retrieved from https://bit.ly/2QXmvFn.

Pérez, M. A., & Delgado, A. (2012). From digital and audiovisual competence to media competence: Dimensions and indicators. *Comunicar, 39*(20), 25-33. http://doi.org/10.3916/C39-2012-02-02.

Pérez, M. A., & Delgado, A. (2018). De la competencia digital y audiovisual a la competencia mediática: dimensiones e indicadores. In: C. Fuente, M. C. García, & C. R. Camilli (eds.), *La educación mediática en España* (pp. 143-156). Madrid: Universitas.

Pérez-Escoda, A., Castro-Zubizarreta, A., & Fandos-Igado, M. (2016). La competencia digital de la Generación Z: Claves para su introducción curricular en la Educación Primaria. *Comunicar, 24*(49), 71-79. https://doi.org/10.3916/C49-2016-07.

Pérez-Mateo, M., Romero, M., & Romeu-Fontanillas, T. (2014). La construcción colaborativa de proyectos como metodología para adquirir competencias digitales. *Comunicar, 21*(42), 15-24. https://doi.org/10.3916/C42-2014-01.

Peklaj, C. (2015). Teacher competences through the prism of educational research. *Center for Educational Policy Studies Journal*, *5*(3), 183-204. Retrieved from https://bit.ly/2EJQ8rH.

Põldoja, H., Väljataga, T., Tammets, K., & Laanpere, M. (2011). Web-based self- and peer-assessment of teachers' educational technology competences. In: H. Leung, E. Popescu, Y, Cao, R.H. Lau, & W. Nejdl (eds.), *ICWL'11 Proceedings of the 10th International Conference on Advances in Web-Based Learning* (pp. 122-131). Heidelberg: Springer-Verlag Berlin.

Ramírez, A., Renés, P., & González, N. (2018). La competencia mediática a través de los contenidos curriculares en la etapa de educación primaria en España. In: C. Fuente, M. C. García, & C. R. Camilli (eds.), *La educación mediática en España* (pp. 399-416). Madrid: Universitas.

Ramírez-García, A., & González-Fernández, N. (2016). Competencia mediática del profesorado y del alumnado de educación obligatoria en España. *Comunicar, 24*(49), 49-58. http://dx.doi.org/10.3916/C49-2016-05.

Rodríguez, R., & Gómez, M. G. (2017). Competencias digitales en la enseñanza-aprendizaje del inglés en bachillerato. *Campus Virtuales, 6*(2), 51-59. Retrieved from https://bit.ly/2EK0Ezf.

Romero-Martín, M. del R., Castejón-Oliva, F. J., López-Pastor, V. M., & Fraile-Aranda, A. (2017). Evaluación formativa, competencias comunicativas y TIC en la formación del profesorado. *Comunicar, 25* (52), 73-82. https://doi.org/10.3916/C52-2017-07.

Røkenes, F. M., & Krumsvik, R. J. (2016). Prepared to teach ESL with ICT. A study of digital competence in Norwegian teacher education. *Computers & Education, 97*, 1-20. http://doi.org/10.1016/j.compedu.2016.02.014.

Sandoval-Vizuete, P. N., Calvopiña-Osorio, J. P., & Cevallos-Viscaíno, P. S. (2018). Tecnología y desarrollo. Electrónica digital. *Dominio de las Ciencias, 4*(1), 341-351. Retrieved from https://bit.ly/2EKQvm7.

Sang, G., Valcke, M., Braak, J. V., & Tondeur, J. (2010). Student teachers' thinking processes and ICT integration: Predictors of prospective teaching behaviours with educational technology. *Computers & Education, 54*(1), 103-112. http://doi.org/10.1016/j.compedu.2009.07.010.

Sanz, M., & Pantoja, A. (2015). Formación permanente del profesorado en las comunidades de práctica. *Aula de encuentro: Revista de investigación y comunicación de experiencias educativas, 1*(17), 105-130. http://dx.doi.org/10.13140/RG.2.1.3946.9925.

Scolari, C. A., Masanet, M. J., Guerrero-Pico, M., & Establés, M. J. (2018). Transmedia literacy in the New Media ecology: Teens' transmedia skills and informal learning strategies. *El profesional de la información, 27*(4), 801-812. https://dx.doi.org/10.3145/epi.2018.jul.09.

Sefton-Green, J., Nixon, H., & Erstad, O. (2009). Reviewing approaches and perspectives on "digital literacy". *Pedagogies: An International Journal, 4*(2), 107-125. http://doi.org/10.1080/15544800902741556.

Suárez, J. M., Almerich, G., Gargallo, B., & Aliaga, F. M. (2013). Las competencias del profesorado en TIC: estructura básica. *Educación XXI, 16*(1), 39-62. http://dx.doi.org/10.5944/educxx1.16.1.716.

Tafazoli, D., Gómez, M. E., & Huertas, C. A. (2017). Computer literacy: Sine qua non for digital age of language learning & teaching. *Theory and Practice in Language Studies, 7*(9), 716-722. http://dx.doi.org/10.17507/tpls.0709.02.

Tafazoli, D., Gómez, M. E., & Huertas, C. A. (2018). A cross-cultural study on the attitudes of English language students towards Computer-Assisted Language Learning. *Teaching English with Technology, 18*(2), 34-68. Retrieved from https://bit.ly/2q9YNtB.

Tejada, J., & Fernández, K. V. (2018). Nuevos escenarios y competencias digitales docentes. Hacia la profesionalización docente con TIC. *Profesorado, revista de currículum y formación del profesorado, 22*(1), 25-51. https://bit.ly/2RfwRQi.

Tuzel, S., & Hobbs, R. (2017). El uso de las redes sociales y la cultura popular para una mejor comprensión intercultural. *Comunicar, 25*(51), 63-72. https://doi.org/10.3916/C51-2017-06.

Van Houten, J. (2015). Transforming teacher preparation through collaboration. *Foreign Language Annals, 48*(3), 323-325. http://doi.org/10.1111/flan.12154.

Velasco, M. (2016, 18 October). *Competencia mediática* hoy [Blog post]. Retrieved from https://bit.ly/2D2hV52.

Verbitskaya, O., & Ivanova, L. (2011). Media competence as an integral quality of a new teacher for a new school. *European Researcher, 12*(15), 1652-1655. Retrieved from https://bit.ly/2EMRS3L.

Voogt, J., Erstad, O., Dede, C., & Mishra, P. (2013). Challenges to learning and schooling in the digital networked world of the 21st century. *Journal of Computer Assisted Learning, 29*(5), 403-413.

Vuorikari, R., Punie, Y., Carretero, S., & Van den Brande, L., (2016). *DigComp 2.0: The Digital Competence Framework for Citizens*. Luxembourg: Publication Office of the European Union. Retrieved from https://bit.ly/21320Fl