

ICT integration in FLT: An analysis of TPACK implementation in Spanish Primary Teacher Education

Tania F. Gómez Sánchez^{1,*}, María Bobadilla-Pérez², Begoña Rumbo Arcas³, Lucía Fraga-Vlñas⁴, Noelia M^a Galán-Rodríguez⁵

¹ Universidad Da Coruña, Spain, tania.fatima.gomez.sanchez@udc.es, <https://orcid.org/0000-0002-1940-000X>

² Universidad Da Coruña, Spain, m.bobadilla@udc.es, <https://orcid.org/0000-0002-4972-5980>

³ Universidad Da Coruña, Spain, begona.rumbo@udc.es, <https://orcid.org/0000-0002-4748-8969>

⁴ Universidad Da Coruña, Spain, lucia.fragav@udc.es, <https://orcid.org/0000-0003-4602-3593>

⁵ Universidad Da Coruña, Spain, noelia.galan@udc.es, <https://orcid.org/0000-0001-6662-7269>

ABSTRACT

This study explores primary teachers' initial training programs, focusing on Foreign Language Teaching (FLT) and its integration with technology. The research is grounded in two dimensions of contemporary society: plurilingual competence and digital literacy. The study employs the conceptual framework of "Technological Pedagogical Content Knowledge" (TPACK) (Mishra & Kohler, 2006) and applies content analysis methodology. The scientific interest lies in the scarcity of studies examining this specific area within the Spanish context, because research on TPACK in FLT has primarily focused on Asia and the Middle East. To address this void, a comprehensive national study encompassing 39 public universities was conducted. This study involved an in-depth analysis of 496 course guides within the field of FLT in primary education teacher training programs. The research findings indicate that less than half of the subjects incorporate technology, and when they do, two prominent trends emerge: the integration of TPACK and the presentation of technology as a broad competency, not specifically tailored to FLT. The primary conclusion drawn from this study is that the incorporation of TPACK in this context is moderate, emphasizing the need for a more comprehensive integration of technology within FLT teacher training programs.

KEYWORDS: TPACK, FLT, Initial teacher training, content analysis, course guides

1 INTRODUCTION

In contemporary information society, the role of the educator has evolved, transitioning from a paradigm where teachers assumed the central role in the teaching-learning process to a model centred on the lifelong learner. The Scale for Key Competences for Lifelong Learning (SKCLL) promoted by the Council of Europe (2018) underscores essential competences in this context, including native and foreign language (FL) communication, digital competence, learning to learn, social competence, entrepreneurship, and cultural expression (Sahin et al., 2010). Today's educators must develop critical and creative thinking skills to enable students to adapt to the dynamic and flexible demands of the social system. The European Digital Competence Framework (DigComp) (Ferrari, 2013; Carretero et al., 2017) describes the digital competence of citizens and European member states have used it as a reference framework for developing students' digital competence, placing new demands on teachers all educational levels (Ghomi & Redecker, 2019). Consequently, the use of technology to support these pedagogical needs has become essential for all educators, particularly so in the aftermath of the Covid-19 pandemic which inevitable brought along brought along the transition to more technology-based education (Faura-Martínez et al., 2022; Abu-Talib et al., 2021; Pozo et al., 2021).

Within this framework, Technological Pedagogical Content Knowledge (TPACK) is considered essential for enhancing the quality of teaching in the current era of digitalization (Koehler & Mishra, 2009; Niess, 2008; Mishra & Koehler, 2006). Chai et al.,

(2011), Rosenberg & Koehler (2015) and Voogt et al. (2011) have suggested that the development of TPACK should be situated within specific domains and contexts. Due to globalization, the importance of acquiring foreign languages (FL) has increased.

Much of the existing literature on TPACK has focused on teachers' knowledge of technological tools and their use. However, using technology in the classroom does not necessarily mean that teachers have the technological, pedagogical, and content knowledge required for effective TPACK. This study explores TPACK within the context of initial teacher education, specifically in foreign language didactics programs. Further research is needed to deepen our understanding of language teachers' TPACK, which will enrich curriculum integration and foster contextual design dialogues. This effort will advance the intricate interplay between technology, pedagogy, and content, ultimately enhancing educational practices (Tseng et al., 2020).

Most studies on TPACK concerning initial teacher education focus on analysing the perceptions of general or specific didactics by teachers or prospective PE teachers. In the general didactics' domain, notable studies include those by Jiménez (2020), Escudero et al. (2019), Tárraga-Mínguez et al. (2017), Gómez (2016), and Cabero & Barroso (2016). In the field of Social Sciences Didactics, studies by Colomer et al. (2018) and Cózar et al. (2015) stand out. In Physical Education, we highlight the study by Ladrón-de-Guevara et al. (2021), and in mathematics, that by Arévalo et al. (2019). Finally, in the area of this study, Foreign Language Teaching (FLT), the study by Baser et al. (2016) and

Solis & Solano (2013) are notable. The authors have not found any study that focuses on the analysis of competencies outlined in the course guides, which are crucial documents for understanding the planning of future teacher training.

The absence of research into the study of teacher education programs is the reason we sought to understand the type of technological component present in the training programs of future primary school teachers. Specifically, we examine whether TPACK is included in the training programs of future primary school teachers or whether Technological Knowledge (TK), Pedagogical Content Knowledge (PCK) and Technological Content Knowledge (TCK) still dominate the training of FL teachers. Consequently, the following specific objectives are established:

S.O. 1: To analyse trends in the structuring of subjects in the field of FLT concerning the TPACK component.

S.O. 2: Observe the orientation of competence acquisition related to Technological component in initial teacher training.

S.O. 3: To identify if there is a characterization among those subjects that integrate TPACK in FLT.

2 LITERATURE REVIEW

2.1 The TPACK Model

The TPACK model is based on Shulman's Pedagogical Content Knowledge (PCK) (1986, 2005) and Mishra and Koehler's work (2006) (Figure 1). Mishra and Koehler (2006) described TPACK as "knowledge that goes beyond" the three primary knowledge bases (TK, PK, CK) (p. 1028). The terms TPCK and TPACK are used interchangeably in TPACK literature (Thompson & Mishra, 2007).

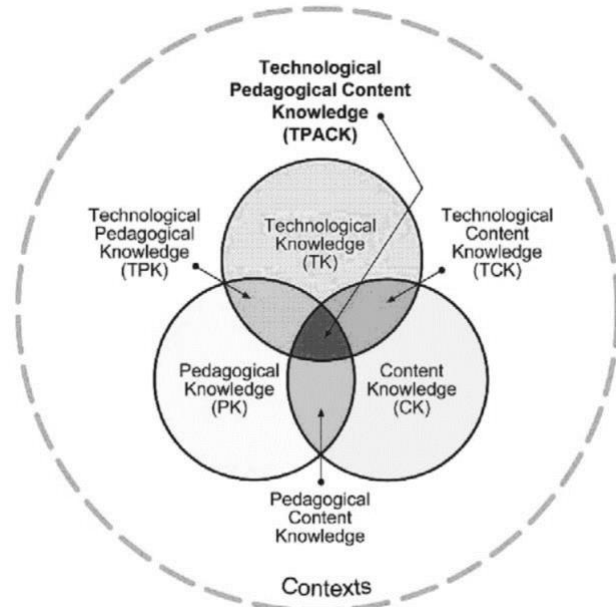


Figure 1: TPACK components.

Source: Schmidt et al. (2009, p.124)

In this regard, the need to restructure the teacher's role in the educational process aligns with the significance of TPACK, which demands a deep understanding of pedagogical techniques enabling the constructive use of technological elements to teach subject matter content. Moreover, it involves elucidating how technology can aid in overcoming the learning challenges faced by

students, alongside the knowledge derived from using technology to develop innovative teaching methods and modes of knowledge acquisition. Following Cabero et al. (2017), this approach emphasizes that technological knowledge must be integrated with pedagogy and specific subject content to achieve effective teaching. The primary contribution and rationale for choosing this model over previous ones lie in its precise delineation of instrumental, disciplinary, and methodological knowledge within the context of ICT integration. Moreover, this knowledge is considered not in isolation but as an interconnected set that integrally influences the teacher's practice.

2.2 The TPACK Model in FLT

While the use of technology to enhance the learning and teaching of FL has rapidly expanded in recent years, empirical research evaluating TPACK among FL teachers has not progressed beyond the exploratory level (Debbagh & Jones, 2015; Öz, 2015; Wu & Wang, 2015). Many studies have highlighted the benefits of technology in language teaching and learning, especially its ability to engage students in the learning process and increase student interaction, motivation, feedback, and metalinguistic knowledge (Chapelle, 2003; Stepp-Greany, 2002; Tavani & Losh, 2003). Computer-Assisted Language Learning (CALL) is a broader concept that encompasses language learning in any context where computer technologies are used (Egbert, 2005). However, the impact of technology use largely depends on its application, the level of interaction, and the students' mastery of technological tools (Wach, 2012).

Hence, incorporating technology into the FLT curriculum represents a practical approach to facilitate students' English language proficiency and enhance teaching methodologies. Zhou and Wei (2018) emphasize the significance of "change in the curricula for language teacher education" (p. 498). Nevertheless, the efficacy of this approach relies heavily on language teachers' TPACK competence (Hsu, 2016). Consequently, investigating whether educators are integrating TPACK skills becomes essential as it can prompt them to reassess their current level of technological integration within classroom settings (Nazary & Xodabande, 2022).

This research gap is precisely what led Tseng et al. (2020) to conduct a review study on this subject among language teachers from 2011 to 2019. The meta-analysis identified 51 studies, with a peak in publication in 2015, mainly conducted in Asia and the Middle East. Following this review, Tseng et al. (2020) concluded that "research on exploring TPACK suggests that while teachers had varying levels of confidence in their TPACK competence, their TPACK indicated the dominant use of technology in traditional teacher-centered teaching" (p.965). Furthermore, most articles focused on teachers' self-perceptions of their TPACK competence, aligning with previous research on TPACK and general and specific didactics. In FLT, "most of the papers aimed to identify the TPACK knowledge base of language teachers from their perceptions" (Tseng et al., 2020, p. 966). This article specifically focuses on evaluating teacher education.

In the recent literature review on TPACK in initial teacher education in the field of FLT, Baser et al. (2016) describe the development of a survey comprising a total of 39 items to explore prospective FLT teachers' perceptions of TPACK based on its seven dimensions. According to the authors, "this revision was based on the idea that, when an EFL teacher can use specific technologies for his/her own learning, he/she can then determine strategies for using those

technologies to support the learning of others (Lin, 2010)" (Lin, 2010, cited in Baser et al., 2016, p. 759). Rahman and Harun (2018), in a review study of trainee teachers in English as a Second Language (ESL) and English as a FL, noted the scarcity of research focused on TPACK, and Wetzal et al. (2009) had previously addressed this issue, emphasizing the need to develop reliable assessment approaches.

On the other hand, Bueno-Alastuey et al. (2018) explore prospective teachers' perceptions of initial teacher education in three dimensions: TPACK, the approach for Content and Language Integrated Learning (CLIL), and telecollaboration. Joldanova et al. (2022) investigate initial teacher education in two dimensions: TPACK and the acmeological approach, which focuses on seeking and using ways to activate and develop students' potential, as well as their desire for personal improvement through language learning. Compared to the control group, the study concluded that the experimental group, which had used the acmeological approach for language teaching, had significantly improved their TPACK competencies. Finally, Belda-Medina & Calvo-Ferrer (2022) explores initial teacher education in two dimensions: TPACK and the use of Augmented Reality (AR), which, according to the author, is a particularly prolific resource in video games and education. The conclusions of this study are consistent with those of all the previously cited studies, highlighting the need for better preparation of prospective teachers to integrate technology into their future teaching practice.

In this regard, the TPACK model, as posited by Koehler et al. (2015), affords us the opportunity to comprehend how the unique characteristics of specific technologies impact teaching practices, while also prompting reflection on teachers' initial and ongoing training. It introduces a more holistic perspective by examining the interactions among technology, discipline, and pedagogy within the educational environment. Therefore, understanding which technologies are suitable for the subject area under study and how they relate to the content is essential for the effective design, planning, and evaluation of the teaching and learning process.

3 METHODOLOGY

The purpose of this study has been to analyse the initial training of Primary Education teachers in the Bachelor's degree programs of PE in public universities in Spain concerning FLT. Methodologically, this study adopts a content analysis approach as a method of data collection to obtain an exploratory and analytical perspective on the state of affairs regarding our research topic.

To accomplish this objective, an analysis of university education curricular designs was undertaken, utilizing the course guides published during the academic year 2021-22 as the primary source of documentation. The rationale behind selecting this specific academic year was the increasing impact of technologies amid the COVID-19 pandemic (Faura-Martínez et al., 2022). With the gradual decline of the pandemic situation, it became feasible to conduct in-person classroom sessions.

A qualitative content analysis was performed to examine the planning of initial teacher training, employing the TPACK model as a framework (Cáceres, 2003). Upon gathering the relevant documentary sources, the coding phase was initiated using a predefined Codebook. Following the methodology outlined by Saldaña (2016), a thematic coding system was applied, enabling a comprehensive exploration of the presence of Mishra and Koehler's

(2006) model domains in the context of initial training. Consequently, a deductive technique was employed, as suggested by Flóres-Kanter and Medrano (2019).

3.1 The TPACK Model in FLT

The sample consists of all public universities (39) that offer degrees in PE. All of these universities provide it in an on-site format. Subjects oriented towards initial training in FLT were selected, totalling 496 documents analysed (Table 1). The reason for selecting public universities is that the majority of available spots for undergraduate studies in Education are offered by public universities. However, it should be noted that private universities are currently also authorized to offer a significant number of spots for this degree (Ministry of Universities, 2023).

The characterization of the sample reveals English as the predominant FL, present in 70% of the analyzed subjects, followed by French with a presence of 26%, and lastly, with a very small percentage, other languages such as German or Arabic.

Regarding the type of subject, in over half of the subjects, FLT is primarily situated within specialization or curricular intensification courses, followed by mandatory training subjects for generalist primary teachers. Consistent with this typology, more than half of the sample subjects are located in the later years of the degree, in the third (10%) and fourth year (47%), each with a workload of six credits in the curriculum.

| Educational administration and Universities | Number of Universities | Percentage representation of the number of subjects analysed (%) |
|---|------------------------|--|
| ANDALUCÍA | 8 | 14,00 |
| ARAGÓN | 1 | 2,64 |
| ASTURIAS (Principado de) | 1 | 2,64 |
| BALEARES (Islas) | 1 | 0,81 |
| CANARIAS | 2 | 4,26 |
| CANTABRIA | 1 | 2,43 |
| CASTILLA Y LEÓN | 4 | 17,24 |
| CASTILLA-LA MANCHA | 1 | 7,30 |
| CATALUÑA | 5 | 6,29 |
| CEUTA Y MELILLA | 1 | 4,06 |
| COMUNIDAD VALENCIANA | 3 | 2,64 |
| EXTREMADURA | 1 | 3,85 |
| GALICIA | 3 | 5,48 |
| MADRID (Comunidad de) | 4 | 18,05 |
| MURCIA (Región de) | 1 | 1,01 |
| NAVARRA (Comunidad Foral de) | 1 | 2,23 |
| PAÍS VASCO | 1 | 2,84 |
| RIOJA (La) | 1 | 2,23 |

Table 1. Spanish public universities with degrees in Primary Education and percentage representation of the number of subjects analyzed

3.2 Research tool

The instrument employed in this study was a Codebook, which allowed for the registration of information specifically created for this research. Within this Codebook, categories were established based on the reference model within each subject that shaped the sample (Table 2). Information was collected regarding: Autonomous Community or educational administration, University, subject, faculty affiliation, CEFR level, nature of the subject, number of ECTS credits, FL, and academic year.

Categorization was done based on the components of the TPACK as depicted in Figure 2. It is worth clarifying that, for disciplinary knowledge, the conceptualization of Byram (1997; 2021) regarding intercultural communicative competence as disciplinary knowledge was used as a reference, as it is a key concept in the Common European Framework of Reference for Languages (CEFR) (Council of Europe, 2001). Byram's model of ICC, conceived within the context of FLT, builds upon the foundations of communicative language teaching. Byram's ICC framework merges

Communicative Competence (CC) and Intercultural Competence (IC). In this study, only the components of the TPACK model involving technology will be exclusively analysed (Table 2).

The collection of information on the English subjects in the Primary Education Degree at the mentioned universities was based on previously established criteria, supported by previous research that analyzed the TPACK model and FL subjects in the Primary Education Degree from Cabero et al. (2017) & Garcés-Manzanera (2021)

| Category | Indicators |
|--|--|
| University | Where is the subject taught? |
| Title | Subject name |
| Typology of subject | Basic training subject, compulsory subject, optional subject, specialization subject |
| Faculty members' affiliated knowledge area | Social Sciences, Education, Humanities, Other |
| CEFR Level | A1, A2, B1, B2, C1, C2 |
| ECTS number | 4,5, 5, 5,5, 6, 7 |
| Foreign Language | German, French, English, Portuguese, Other. |
| Year | 1st, 2nd, 3rd and 4th |
| TPACK | TK: knowledge of various technologies, from traditional to digital technologies like the internet, interactive whiteboards, or software programs). TCK: knowledge of how technology can change how students practice and understand concepts in a specific content area) TPK: knowledge of how various technologies can be used in teaching and how they can change how teachers teach) TPACK: the knowledge required by teachers to integrate technology into their teaching across content areas. |

Table 2. Codebook: Categories and Indicators for the analysis of the teaching guides.
Source: adapted from Cabero et al. (2017) & Garcés-Manzanera (2021).
[1] Learning outcomes were not present in all the analyzed teaching guides.

3.3 Data Analysis

The exploration of the obtained data was conducted through content analysis found in the course guides, adhering to the categories and indicators outlined in Table 2. The course guides have been selected because their analysis can provide valuable information to enhance the quality of teaching and learning in an educational institution (Stanny et al., 2015). Data processing involved an exploratory analysis, employing coding and categorization techniques using MAXQDA Pro-22 software. This analysis was aimed at identifying trends in the knowledge required for the initial training of primary school teachers to integrate technology into FL instruction. Curricular elements related to competencies and learning outcomes, where applicable, were examined, as were the contents of the subjects.

4 RESULTS

The results have been structured in alignment with the three specific objectives delineated in this research. Concerning first Specific Objective (S.O. 1), it must be mentioned that 41% of the subjects within the analysed degrees in Primary education integrate the technological component, as depicted in Figure 3. Consequently, there are 204 subjects that encompass the technological component, while 292 subjects do not incorporate it into their curriculum planning.

The study further analysed the 41% of subjects that incorporated technology into their curriculum design, focusing on the integration of various components outlined in the TPACK reference model (Mishra and Koehler, 2006), which was the aim of the second specific objective (S.O. 2). The results indicated a diverse application of the technological component based on the reference classification, as demonstrated in Figure 3. Notably, within this group, 49% of the segments analysed integrated technology alongside the introduction of content and pedagogical knowledge in FLT.

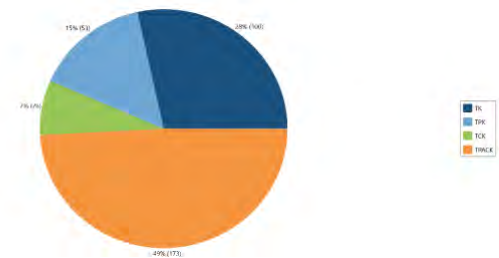


Figure 3: Segment distribution of TPACK components among those subjects depicting technological components
Source: Own Development

Moreover, 28% of these segments introduced skills related to isolated technological knowledge, employing it for general professional development within the higher education context. To illustrate, the following competencies can be cited: "Searching, selecting, using, and presenting information using advanced technological means" or "Using and applying Information and Communication Technologies (ICT) for learning, communicating, and sharing knowledge in different contexts." This kind of approach to technological knowledge in the initial training of primary school teachers in foreign languages is evident in words that appear with higher frequency: information, communication, technology, and the verb 'to use.'

Furthermore, the presence of TK as a content in the course syllabus has been identified as a thematic area to be addressed, alongside other socially relevant or everyday topics such as the workplace, finances, health and medicine, clothing, shopping, food, leisure and free time, tourism, transportation, and media and technology.

Regarding TPK, it appears less frequently in the subjects. It has been coded 53 times, particularly in subjects related to the didactics of FL. Some of the competencies reflecting TPK include: "Ability to understand, select, and apply information and communication technologies in classrooms" and "Being able to manage information and knowledge within the disciplinary field of Primary Education, including knowing how to use basic ICT tools as a user."

Concerning TCK, it is the least frequently mentioned, appearing in 26 segments of the analysed guidelines. In most cases, it is mentioned only once. The predominant focus is on language mastery, for instance: "Promoting both oral and written language

development, paying special attention to the use of new technologies as long-distance communication tools," "Promoting the correct development of oral language in students using resources derived from the application of new technologies," and "Ability to handle ICT as a didactic resource for mastering the rules underlying language usage, including phonological, morphological, syntactic, semantic, and lexical components."

The technological component, TPACK, is introduced in 49% of the instances. The terms that appear with higher frequency include: information, learning, technology, communication, and classroom. Below are some competencies and contents incorporating the TPACK component: "Utilizing resources provided by technological and digital media (ICT), audiovisual materials, and authentic materials to promote the development of verbal and non-verbal communication in the foreign language of primary school students."; "Understanding and applying information and communication technologies in classrooms. Selectively discerning audiovisual information that contributes to learning, civic education, and cultural enrichment."; "Audiovisual resources and ICT: from information to learning in the foreign language English classroom."; "ICT as a means of linguistic learning. Producing an informal learning activity in digital format. Constructing multimedia texts. Creating a multimedia text (derived from a more complex one) as a primary school learning material." and "Selectively discerning audiovisual information that contributes to learning, civic education, and cultural enrichment."

Finally, regarding the characterization of the subjects incorporating the TPACK component, concerning the third specific objective (S.O.3) of this study, the predominant characteristics establish the initial linguistic proficiency at level B1 (62%), followed by level B2 (24%). Most of the training programs incorporating the technological component are elective or elective within the specialization, with a workload of 6 ECTS credits. Therefore, it appears consistent that the majority of these programs are offered in the third year (24%), and particularly in the fourth year (60%). The distribution of TPACK according to FL is clearly linked to two languages: English (65%) and French (31%), with a small percentage of cases integrating multiple languages in the subject (3%). Regarding the affiliation of the teaching staff to specific areas, the distribution is fairly balanced between "Humanities" (46%) and "Social Sciences or Education" (39%), as information regarding this aspect is unavailable for some subjects (15%).

As a result, concerning the characterization of TPACK, it is noteworthy to distinguish subjects in foreign languages that already established in their denomination a direct relationship between the training and ICT. This is evident in subjects that most frequently fall under the TPACK category, such as "Information and Communication Technologies for Teaching Foreign Language English (SPECIALIZATION in Information and Communication Technologies for Teaching, Position 3)," which can be taken as part of a specialization or as an elective subject. Additionally, subjects like "Foreign Language through New Technologies: French" and "Foreign Language through New Technologies: English" exemplify this connection.

The most frequently occurring words in the coded segments include 'communication', 'information', 'English', 'management', and 'ICTs'. Among the topics covered in the subjects with the TPACK component, the use of technologies as tools for communicative mediation and as didactic or methodological resources is noteworthy.

5 DISCUSSION AND CONCLUSIONS

The primary objective of this study was to examine trends in structuring FLT subjects, specifically focusing on the integration of the TPACK framework. The findings revealed that fewer than half of the subjects incorporated the technological component, accounting for only 41% of the total. This result underscores the pressing need for a comprehensive integration of digital skills within FLT subjects in the Degrees in Primary Education in Spain, reflecting the evolving demands of contemporary education (Solís & Solano, 2013). By aligning educational practices with the digital age and incorporating the TPACK framework, educators can better prepare the next generation for the challenges and opportunities of the 21st century (Baser et al., 2016).

This observation holds significant implications, especially in the context of the post-COVID-19 educational landscape, which saw profound transformations in teaching practices across all levels (Faura-Martínez et al., 2022). The imperative to cultivate digital skills among educators is thus even more critical. This aligns with directives from prominent educational bodies, such as the European Commission, which emphasizes promoting 21st-century skills and digital competencies (Council of Europe, 2018; Ferrari, 2013; Carretero et al., 2017).

The study's second objective was to assess the acquisition of competence related to technology in PE curricula. Among subjects that include technology, two major trends emerged: the generic use of technology and the integration of TPACK. Effective utilization of technology in FLT requires more than mere presence or generic incorporation; it demands interaction, application, and mastery by students (Wach, 2012). Notably, only 7% of segments incorporate TCK, indicating that the primary objective in teacher education is not to teach languages per se but to equip future educators with didactic strategies for professional practice.

Regarding the third objective, the research identified the characterization of subjects incorporating TPACK. Among subjects integrating the technological component, half involve TPACK, highlighting its quantitative significance (Mishra & Koehler, 2006). This importance is consistent with prior studies in FLT (Tseng et al., 2020; Bueno-Alastuey et al., 2018). Some initial teacher training centres prioritize technology in teaching FL to such an extent that it is included in the subject nomenclature itself. This approach resonates with Zhou and Wei's (2018) proposition that effective educators in the digital era must possess extensive knowledge and mastery of technologies.

A significant limitation of this study is the generality of the competency descriptions across many subjects. This can be seen in the common phrasing found in subjects that frequently include this component: "Knowing how to use new technologies for the teaching and learning of a foreign language", "Understanding and applying information and communication technologies in classrooms", and "Selectively discerning audiovisual information that contributes to learning, civic education, and cultural enrichment." These broad descriptions may lack the specificity necessary to fully capture the nuances and particularities of competency development in different educational contexts.

In line with Khoeler et al. (2015), one constraint is the inadequate contextual information provided within the course guides. Certain social and institutional contexts fail to adequately support teachers' endeavors to integrate technology into their professional practice.

Many educators lack the requisite training to effectively employ technology in the classroom and often fail to appreciate its value. Investigating the training and institutional support provided to faculty who have not incorporated technology into their course guides could yield valuable insights.

Consequently, the development of new study plans should emphasize equipping future PE teachers with the necessary skills to effectively and constructively employ technology, both in a general educational context and specifically in the realm of FL learning. The future research should explore how instructors can integrate emerging technologies such as artificial intelligence into curricula, how software developers can create effective mobile applications for language learning, and how educational institutions can recommend suitable distance learning platforms, especially in situations like the COVID-19 pandemic. Additionally, it is crucial to understand TPACK in practice through observation of teachers' classroom performance, as teaching guides reflect their planning, but there may be differences in actual teaching practice (Tseng et al., 2020). It becomes clear that advancing our understanding of TPACK in teacher training programs requires both a strategic focus on curriculum development and a deeper qualitative exploration of classroom practices.

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INTEGRACIÓ DE LES TIC EN L'ENSENYAMENT DE ELE: ANÀLISI DE LA IMPLEMENTACIÓ DE TPACK EN LA FORMACIÓ DE PROFESSORS D'EDUCACIÓ PRIMÀRIA A ESPANYA.

Aquest estudi examina els programes de formació inicial de mestres d'Educació Primària a Espanya, centrant-se en l'Ensenyament de Llengües Estrangeres (ELE) i la integració de tecnologia. L'estudi parteix del marc conceptual de Coneixement Pedagògic del Contingut Tecnològic (TPACK) (Mishra & Kohler, 2006) i aplica una metodologia d'anàlisi de contingut. L'interès científic rau en l'escassetat d'estudis que examinen ELE dins del context espanyol. Es va fer un estudi nacional exhaustiu que va incloure les 39 universitats públiques que ofereixen el Grau en Educació Primària, analitzant en profunditat 496 guies de cursos d'ELE. Les troballes revelen que menys de la meitat de les assignatures incorporen tecnologia. Quan s'hi inclou, sorgeixen dues tendències: la integració de TPACK i la presentació de tecnologia com una competència general, no específicament adaptada a ELE. La conclusió principal és que la incorporació de TPACK en aquest context és moderada, cosa que evidencia la necessitat d'una integració més complexa i específica de la tecnologia en els programes de formació de mestres d'ELE. Això subratlla la importància de millorar la competència digital i pedagògica dels futurs educadors en un entorn educatiu cada cop més tecnològic.

PARAULES CLAU: TPACK, Ensenyament de llengües estrangeres, Formació inicial de mestres, Anàlisi de contingut, Guies docents

INTEGRACIÓN DE LAS TIC EN LA ENSEÑANZA DE ELE: ANÁLISIS DE LA IMPLEMENTACIÓN DE TPACK EN LA FORMACIÓN DE PROFESORES DE EDUCACIÓN PRIMARIA EN ESPAÑA

Este estudio examina los programas de formación inicial de maestros de Educación Primaria en España, centrándose en la Enseñanza de Lenguas Extranjeras (ELE) y la integración de tecnología. El estudio parte del marco conceptual de "Conocimiento Pedagógico del Contenido Tecnológico" (TPACK) (Mishra & Kohler, 2006) y aplica una metodología de análisis de contenido. El interés científico radica en la escasez de estudios que examinen ELE dentro del contexto español. Se realizó un estudio nacional exhaustivo que incluyó a las 39 universidades públicas que ofrecen el Grado en Educación Primaria, analizando en profundidad 496 guías de cursos de ELE. Los hallazgos revelan que menos de la mitad de las asignaturas incorporan tecnología. Cuando se incluye, emergen dos tendencias: la integración de TPACK y la presentación de tecnología como una competencia general, no específicamente adaptada a ELE. La principal conclusión es que la incorporación de TPACK en este contexto es moderada, lo que evidencia la necesidad de una integración más compleja y específica de la tecnología en los programas de formación de maestros de ELE. Esto subraya la importancia de mejorar la competencia digital y pedagógica de los futuros educadores en un entorno educativo cada vez más tecnológico.

PALABRAS CLAVE: TPACK, Enseñanza de Lenguas Extranjeras, Formación Inicial de Maestros, Análisis de Contenido, Guías docentes

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