Bridging the gap between foreign language and early childhood teacher education: A quantitative and qualitative analysis of teacher knowledge base

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ABSTRACT¹: In monolingual countries, the early introduction of foreign languages in the pre-primary curriculum is an emerging priority. This study analyses the teacher knowledge base (TKB) currently offered by higher education institutions to pre-service, foreign language, early childhood education and care (ECEC) teachers in various contexts such as Spain. A documentary research method combining both quantitative and qualitative analysis of 99 Spanish ECEC degree programs and 24 course guides was applied, allowing us to conclude that the presence of "very early foreign language" courses within Spanish ECEC programs is moderate, frequently reduced to a six ECTS course, and portrays a new TKB model related to the early introduction of foreign language in the education system.

Key words: Teacher knowledge base, early childhood teacher education, foreign language teacher education, document analysis.

Acortando distancias entre la formación de profesores de lenguas extranjeras y de educación infantil: Un análisis cuantitativo y cualitativo de la base de conocimientos del profesorado

RESUMEN: En los países monolingües, la introducción temprana de las lenguas extranjeras en el plan de estudios de preescolar es una prioridad emergente. Este estudio analiza la base de conocimientos del profesorado (TKB) que actualmente ofrecen las instituciones de educación superior a los profesores de educación y atención a la primera infancia (ECEC) que se encuentran en fase de formación, en diferentes contextos como el español. Se aplicó un método de investigación documental que combina el análisis cuantitativo y cualitativo de 99 programas de grado de ECEC españoles y 24 guías de cursos, lo que nos permite concluir que la presencia de cursos sobre la introducción temprana de lenguas extranjeras dentro de los Grados de Educación Infantil españoles es moderada, frecuentemente reducida a un curso de seis ECTS, y retrata un nuevo modelo de TKB relacionado con la introducción temprana de la lengua extranjera en el sistema educativo.

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Palabras clave: Base de conocimientos del profesorado, formación del profesorado de educación infantil, formación del profesorado de lenguas extranjeras, análisis de documentos

1. Introduction

Recently, early childhood education and care (ECEC) has increased its relevance in the education system, mainly because of its demonstrated contribution to later academic achievement, as well as its key role in a child's holistic development, particularly during challenging times such as the pandemic (see for example Council of Europe, 2019; European Commission, 2011; Peeters et al., 2016; UNESCO, 2016; Van Laere, 2021). In 2018 94% of European children older than four years were enrolled in pre-primary education and the European Union intends to upgrade to 96% in the next decade. Simultaneously, multilingualism has gained a predominant position in most societies because of globalization. Being able to manage multilingual classrooms and encourage the introduction of additional languages in preschool contexts is a key challenge for early childhood educators (Mourao, 2015a). There has been a cascading effect from compulsory stages in contexts where the foreign language has traditionally been part of the primary education curriculum. However, domain-specific training has not been a part of the main syllabus of pre-service ECEC teachers because of the holistic nature of the ECEC curriculum (Enever, 2011, 2014; European Commission 2012a, 2012b, 2013). As such, there is a lack of adequately trained teachers in Europe to meet this new demand (Alstad, 2020).

2. THE SPANISH SYSTEM FOR TEACHER EDUCATION

As a consequence of not being a compulsory stage, ECEC structures and modalities vary widely from country to country (European Commission, 2009, 2019), or even in different regions within the same country, including occasional care during some hours a day to daily structured curricular-based education. In terms of enrollment of 0–4 year olds, Spain ranks fourth in Europe, after Denmark, Belgium, France, and the United Kingdom, with 97.5% of four-year-olds attending an ECEC program in 2019 (Eurostat, 2020).

The Spanish ECEC system, regulated by the Royal Decree 95/2022, is a Ministry of Education-regulated, non-compulsory stage that occupies a middle position, between the split and the integrative models (European Commission, 2019)². Although in practical terms, there are two differentiated phases:

• From 0 to 3 years old, children attend specific early childhood nurseries that are mainly focused on caring, and practitioners are required to have an advanced specific vocational degree issued by the Spanish Ministry of Education.

² Typically, ECEC has been designed in a two blocks models in which childcare covered the first years (usually 0-3) followed by a second education-oriented phase (3-6/7). The current trend is to move towards an integrative model in which child-care and education is integrated all through ECEC.

• The 3-6 year old stage is frequently offered within primary schools, which is why it is frequently known as pre-primary education. Teachers are required to have an early childhood education university degree. Although the holistic approach is encouraged, three main areas of content are detailed in the ECEC curriculum, and English as a foreign language (EFL) is encouraged, at least in the last year of this pre-primary stage.

This mid-way model is similar to many other European countries such as Romania, Austria, Malta, and Ireland, among others (European Commission, 2019), where education is an important element for the first years of ECEC, although they keep two separated, and frequently regulated by different institutions, phases. However, the current tendency is toward the integrative model, and some countries are planning reforms in their ECEC provisions.

The present study analyzes domain-specific teacher knowledge in pre-service teacher education programs. In particular, it examines 99 early childhood education degrees and 24 course guides to evaluate the education that ECEC practitioners received at the pre-service stage for introducing FL in pre-primary education. Here, the specific domain is "very early foreign language" (VEFL), which refers to the instructed learning of an additional language, different from the one(s) used both socially and academically at a very early stage, usually under the age of 6-7 years, covering early childhood education. This same context is shared by other countries such as Greece, Belgium, Slovakia, Italy, and Croatia in Europe, as well as China in Asia and Argentina in Latin American countries.

3. TEACHER KNOWLEDGE

It is necessary to train teachers who will specifically introduce an FL within pre-primary education because of the new social demands to become multilingual from a very early age. However, as Alstad (2020) highlighted in her recent report about ECEC teacher education, "ECEC language teacher education is still an under-researched field" (p. 21). One of the first hindrances in this area of study is that ECEC teacher education has traditionally been regarded as a technical discipline, because of the variation in ECEC provision models, its voluntary character in many countries, and the diversification of qualification requirements for teachers (European Commission, 2019). Therefore, little attention has been paid to teachers who are responsible for the introduction of FL to very young learners.

Since Shulman (1986, 1987) developed his framework for the knowledge that teachers need to perform their profession successfully, teacher knowledge base (TKB) has been widely accepted as a valid conceptual model for teacher education. It is defined as the conceptual framework that a teacher should develop to become a teacher, not only in the initial training, but also during the in-service stage. Shulman's model (1986, 1987) has been recurrently revisited and adapted, as summarized in Table 1. However, scholars agree that the most important aspects are the roles of students as active agents, of context in shaping the different teacher knowledge, and of assessment as a transformative tool (Borko, 2004; Carlsen, 1999; Grossman, 1990; Magnusson et al., 1999; Morine-Dershimer & Kent, 1999; Rollnick et al., 2008).

3.1. L2/FL Teacher Base Knowledge

Based on this general model, domain-specific research has adapted general models to more domain-specific profiles. In the case of second language (L2)/foreign language (FL) teacher knowledge, understanding the base knowledge for an L2/FL teacher is even more important, because the language is not only the subject matter but also the main teaching resource (Faez, 2011; Freeman & Johnson, 1998). Based on Shulman (1986, 1987) and Grossman (1990), different models have been developed to adapt to the peculiarities of L2/ FL teaching (Day, 1993; Freeman & Johnson, 1998; Lafayette, 1993; Richards, 1998; Tarone & Allwright, 2005). In the 21st century, there has been a shift of paradigm linked to the postmodern perspective that stimulated a more socio-critical approach to teacher education. As Velez-Rendon (2002, p. 458) indicated, "this new perspective has resulted in a paradigm shift toward more qualitative-oriented research approaches, that is, inquiry conducted in naturally occurring settings that allows for deeper understanding of phenomena and participants' lived experiences." Within this socio-critical paradigm, García (2008) expanded the theory of language teacher education into multilingual teacher education and identified four main types of knowledge that teachers should master to cope with multilingual classrooms: (a) knowledge of the language, (b) knowledge about the language, (c) pedagogical knowledge, and (d) socio-cultural understanding. More recently, Kubanyiova (2020) highlighted the necessity of teacher education that addresses the new L2 teacher roles demanded by diverse and multilingual societies.

3.2. Early Childhood TKB

Being a relatively recent stream of educational research and lacking professionalization in many countries, ECEC TKB has not been widely explored, and most studies are only related to the access profile of ECEC staff. Organizations such as UNESCO have intensively and extensively worked on professionalizing the ECEC workforce. As a solution, UNESCO is designing a teacher competency framework for quality ECEC (UNESCO, 2018), which includes among its competences "content knowledge, pedagogic practice, and assessment," dealing with understanding the child's holistic development and learning, and facilitating children's development and learning. To this end, the following core knowledge has been identified: (1) holistic child development and learning; (2) key laws, policies, curriculum, and standards on ECEC; (3) developmentally appropriate practices; (4) play-based pedagogies and strategies; (5) cultural/indigenous knowledge; and (6) knowledge about other languages, particularly the child's mother tongue.

In addition, owing to its holistic approach, ECEC teacher education has not focused on disciplinary knowledge. However, recent studies are moving into a more content-specific knowledge approach to ECEC teacher education (Anders & Rossbach, 2015; Bruns et al., 2021; Gasteiger et al., 2019). Hedges and Cullen (2005), in their work on perceived teacher knowledge and beliefs among the New Zealand early childhood education community, concluded that "subject content knowledge is a vital component of early childhood teachers' knowledge if children's conceptual learning is to be extended in response to their thirst for knowledge and understanding" (p.76).

Dalli (2008), in a survey of 255 New Zealand ECEC teachers, highlighted that ECEC educators' professional domains may include: (a) pedagogical style (closeness to children, willingness to interact with children, etc.), (b) specialist knowledge and practice (knowledge about children's development and learning and the ECEC curriculum, and (c) cooperative relationships to facilitate a smooth collaboration with families and other teachers, including good communication skills.

As described by Kim (2013), based on Grossman (1990), ECEC subject matter knowledge should include knowledge about all content areas, not deeply, but with sufficient depth to understand the importance of each content area within the child's overall development. Next are general pedagogical knowledge groups' lesson planning, instructional strategies, students' motivation, classroom environment, and children's development theory. Pedagogical content knowledge in ECEC implies knowing how content can be offered to students in the most efficient way given the age group. Finally, knowledge of context addresses the issue of understanding the child's context and community settings.

3.3. Bridging the Gap: Very Early Foreign Language TKB

So far, these models have considered TKB separately, i.e., ECEC TKB and FL TKB. However, due to the specific profile of the "foreign language early childhood teacher," we need to close the gap between early childhood educators and foreign language TKB. Recently, Alstad (2020) and Alstad and Mourão (2021) have reinforced the specialty of early childhood language educators, claiming that ECEC language teachers are an emergent research field that requires further attention. In her work Alstad (2020), based on Shulman (1986), described the relationship between theoretical epistemological knowledge, practical knowledge, and strategic knowledge. The last is considered crucial, as it compiles "the kind of knowledge that involves doing the right thing in the right moment" (Alstad, 2020, p. 7).

To our knowledge, Kim (2013, 2015) is the only empirically based attempt to merge both teachers' profiles to address the complexities of describing the domains of teacher knowledge for early childhood L2 educators. Her model, summarized in Table 1, is based on Grossman's (1990) framework and is updated with her literature review and empirical research. This model is a preliminary step that still needs to undergo serious reflection and revision, as it is based on the L2 teacher counterpart.

Table 1. Summary of Kim's (2013, 2015) Model of Teacher Knowledge Base for Early Childhood Language Teachers

SUBJECT MATTER	L1 acquisition L2 acquisition Linguistic knowledge Target language proficiency
GENERAL PEDAGOGICAL KNOWLEDGE	Classroom management Lesson planning Group organization Child development
PEDAGOGICAL CONTENT KNOWLEDGE	Language play Teacher language awareness
TKB OF CONTEXT	Children's home environment Teaching environment National curriculum

4. Objectives

As previously mentioned, ECEC language teacher education is still an under-researched field, and so is the ECEC FL teacher profile. It is necessary to analyze the training that higher education institutions (HEIs) are offering for pre-service teachers to match the current and increasing VEFL learning demand (e.g., in Spain). To this end, the following research question is posed: "Are universities preparing future ECEC teachers to introduce FL at pre-primary level?"

To answer this question, the main objective is set as:

• To analyze the teacher knowledge currently offered by Spanish universities for future teachers who will be responsible for introducing FL in ECEC.

From this general objective, the following specific objectives are derived:

- To describe the training related to the early introduction of FL offered within ECEC degrees.
- To explore the FL ECEC TKB scheme in the offered programs.

5. Method

As the phenomenon studied here is complex and multidimensional, we undertook a mixed method approach to achieve the defined objectives, combining both quantitative and qualitative data by analyzing the official degree program documents for ECEC degrees

(Bowen, 2009). To achieve the established objectives, two research phases were identified (Table 2). The document analysis methodology is a systematic and planned activity that consists of examining written documents (Bowen, 2009; Massot et al., 2009). This research methodology has several advantages: efficiency (i.e., less time-consuming); availability of documents (many can be accessed publicly); and cost-effectiveness, stability, exactness, or wide-coverage of the documents (Bowen, 2009).

The scientific quality of this research is guaranteed by the variety of methods and sources of information (Bartolomé, 1986; Bisquerra, 2004; Guba, 1989), the design of a systematic information collection instrument, and the use of three independent researchers. The information obtained was cross-checked with the degree coordinator in each institution, either by email or telephone.n This ensures the credibility, transferability, dependability, and confirmability of the information obtained (Oluwatayo, 2012).

Phase 1	Phase 2
Document analysis	Document analysis
ECEC official degree programs	Course guides
Quantitative analysis	Qualitative analysis
SPSS software	NVivo Software
Spain HEIs	The case study of Andalusian HEIs
Objective 1	Objective 2
Variables 1, 2, 3	Variable 4

Table 2. Summary of the Research Approach

The following variables were identified:

- Modality of the degree offered in terms of the language of instruction (bilingual/monolingual),
- Type of credit load based on free-selection criteria (compulsory/optional ECTS),
- · Credit load (ECTS3), and
- Dimension of FL-ECEC TKB.

An ad hoc analysis matrix was created to collect and organize the information according to the four variables, thereby enabling the synthesis of a large amount of information in data units. The validation of the instrument was achieved through expert judgment to guarantee the content validity of the instrument used (Cabero-Almenara et al., 2020; Colson & Cooke, 2017). Some minor suggestions were made by the panel and incorporated into the final version of the instrument.

In the present study, degree websites, degree programs, and course guides were used, all of which were public documents, according to Del Rincón's classification (1995) and

³ The European Credit Transfer System is a standard credit load measure in European HEIs.

thus, validated by official institutions. The study considered the Spanish context and used the southern region of Andalusia as a case study; Table 3 summarizes the sources and materials used. In Phase 1, no sampling was carried out to portray the real situation of the researched phenomenon; thus, a total of 99 degree programs were studied. In Phase 2, a case study of the southern region of Spain, Andalusia, was undertaken, including 24 course guides revolving around the early introduction of the FL from 17 ECEC degrees, offered by the 20 Andalusian HEIs.

Sample	Spain	Spanish region of Andalusia	
Number of universities	76	11	
Number of HEIs ⁴	125	20	
Number of Early Childhood Education degrees	99	17	

Table 3. Sampling and sources

The quantitative information obtained from Phase 1 was analyzed using SPSS. Descriptive statistics were necessary to meet Objective 1. Then, course guides were introduced in Nvivo-12 to analyze thematically the type of knowledge, according to TKB literature review, they include.

Content analysis was performed using a pre-established set of categories and codes that emerged from a deductive-inductive approach. The reviewed literature, specifically the language ECEC teacher knowledge model by Kim (2013, 2015), was the main source that facilitated our preliminary coding model to conduct deductive thematic analysis. Meanwhile, other codes and subcategories emerged from the documents, thus allowing the creation of a new teacher knowledge model (Table 4).

⁴ Spanish universities are classified as public and private. Each university usually has different campuses, and some public universities have private centers attached to them (affiliated centers), as discussed below in the case of Andalusia. From here onward, we refer to all types of university campuses/affiliated centers as HEIs.

 Table 4. Qualitative Analysis Summary

Categories	Subcategories (Kim's classification)	Subcategories (emerged from our inductive analysis)	
CATEGORY 1. SUBJECT MATTER	1.1 L1 acquisition (1-L1) 1.2 L2 acquisition (1-L2) 1.3 Linguistic knowledge (1-LING) 1.4 Target language proficiency (1-PROFI)	1.5 Children's literature (1-LIT) 1.6 Target culture (1-CULT)	
CATEGORY 2. GENERAL PEDAGOGICAL KNOWLEDGE	2.1 Classroom management (2-MANAG) 2.2 Lesson planning (2-PLAN) 2.3 Group organization (2-GROUP) 2.4 Child development (2-CHIDEV)		
CATEGORY 3. PEDAGOGICAL CONTENT KNOWLEDGE	3.1 Language play (3-PLAY) 3.2 Teacher language awareness (3-AWARE)	3.3 Strategies (3-STR) 3.4 Resources (3-RES) 3.5 Methodology (3-METH) 3.6 Key principles of very early language learning (3-KEYPR) 3.7 Evaluation (3-EVAL) 3.8 Digital resources (3-DIGRES) 3.9 Literacy	
CATEGORY 4. TEACHER KNOWLEDGE OF CONTEXT	4.1 Children's home environment (4-HOME) 4.2 Teaching environment (4-SCHOOL) 4.3 National curriculum (4-CURRI)		

This categorization and subsequent coding were carried out through the consensus of three field experts. This was undertaken in line with the criteria of coherence, relevance, clarity, and significance, thereby guaranteeing the credibility of the analysis process (Holloway & Todres, 2003; Zumbo & Chan, 2014).

6. RESULTS ANALYSIS AND DISCUSSION

This section describes the VEFL training offered in ECEC degrees and provides an overview of the FL-ECEC TKB model currently implemented in Andalusian teacher education programs.

6.1. Description of VEFL Education Offered in ECEC Degrees

As an overview, 79% (n = 99) of the 125 Spanish HEIs offer an ECEC degree. Of them, 11% facilitate a bilingual modality, mainly using English as the language of instruction (English as a medium of instruction [EMI] model), and the degree is mostly offered in private universities. Out of all the ECEC programs analyzed, 64% include some compulsory training on VEFL, frequently with a 6-ECTS credit load. In addition, 60% of them offer elective courses in the optional curricular component of the degree related to VEFL. Nearly half of them include an optional specialization itinerary about VEFL teaching.

In the particular region of Andalusia covered in this study, 19 ECEC degrees are offered in 11 universities. Of these, only 10% offer a bilingual modality of this degree. Compulsory courses about VEFL are found in 35% of Andalusian degrees, which is substantially lower than the percentage of all Spanish HEIs. Around half of these degrees offer optional courses on VEFL (55%). However, just one of the Andalusian degrees includes a specialization itinerary in this field.

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Courses and degrees	RESULTS IN SPAIN (%)	RESULTS IN ANDA- LUSIA REGION (%)
No. ECEC degrees (% of teacher education in HEIs)	99 (79%)	17 (85%)
Percentage of bilingual degrees (EMI)	13 (11%)	2 (10%)
Compulsory courses on VEFL in ECEC degrees (% of degrees)	77 (64%)	7 (35%)
Optional courses on VEFL in ECEC degrees (% of degrees)	76 (60%)	10 (55%)
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Table 5. Summary of Data Analysis of the ECEC Degree Programs in Spain and in Andalusia

Note on terminology: ECEC = Early Childhood Education and Care; EMI = English Medium Instruction; HEIs = Higher education Institutions; FL = foreign language; VEFL = Very Early Foreign Language

48 (40%)

1 (5%)

6.1.1. Content Analysis of FL ECEC TKB: A Case Study of the Andalusian Region

FL specialization within the ECEC degree (% of degrees)

In the case of Andalusia, the number of courses related to VEFL in the ECEC undergraduate university degrees is 24, which are similarly divided into compulsory and optional courses. Figure 1, a hierarchical map of the resulting codification, shows that the most representative categories and therefore, the ones with a major presence in the course guides are Categories 3, "pedagogical content knowledge," and 1, "subject matter."

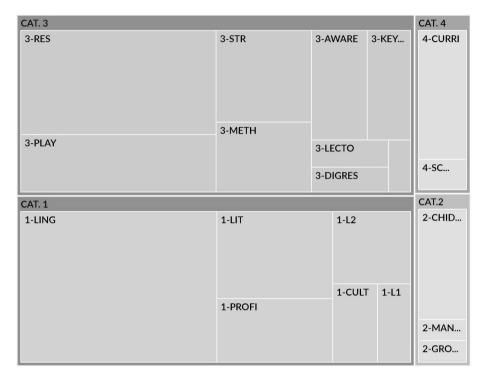


Figure 1. Hierarchical Map Including All the Subcategories of the Coding Tree

Within Category 1, the most relevant subcategories are "linguistic knowledge," "children literature," and "target language proficiency." In Category 3, the most represented subcategories are "resources," "strategies," "methodologies," and "key principles." Meanwhile, the categories with the least representation within all the guides are Categories 2, "general pedagogical knowledge," and 4, "teacher knowledge of context." In particular, lesson planning and children's home environment are non-existent within the contents of the course guides analyzed.

In the following, we describe the qualitative analysis carried out in this research in Phase 2. The results are organized according to the four main categories described by Kim (2013, 2015): subject matter, general pedagogical knowledge, pedagogical content knowledge, and teacher knowledge of context.

6.2. Category 1. Subject Matter

The first category, entitled "subject matter knowledge," refers to the "what" to teach, that is, knowledge of the substantive and syntactic content of a discipline (Grossman, 1990, cited in Kim, 2013). This category has resulted in six subcategories in the final codification scheme: L1 acquisition, L2 acquisition, linguistic knowledge, target language proficiency, children's literature, and target culture. It is important to highlight that the latter two sub-

categories emerged inductively from the analysis of the course guides and are not included in Kim's (2013, 2015) model. The six subcategories comprise 250 coded references in total, with the second category having the highest number of coded references.

Specifically, the subcategory with the highest number of references found is "linguistic knowledge" with a total of 126 references, including references to phonology, syntax, morphology, discourse, pragmatics, and sociolinguistics. The high number of references brings these aspects into focus, as most course guides include this type of content to a greater extent than other types of content, such as pedagogical knowledge. The second subcategory in terms of number of references is "children's literature", with a total of 43 coded references. This subcategory comprises knowledge about all written and oral materials produced to entertain young learners. Examples of this content in the course guides are picture books, popular literature, fairy tales, fantasy genre, drama, and others. The high number of coded references indicates the importance of this type of content at the ECEC stage. However, in the reviewed models of FL/L2 teacher education, children's literature plays an insignificant role, nearly non-existent, and neither was it included in Kim's model for the FL-ECEC teacher. In practice, this subcategory plays a remarkable role because it is a unique way for students to develop cultural understanding; use imagination and creativity; and develop willingness to communicate thoughts and feelings, and social skills, among others (Tsortanidou, Daradoumis, & Barberá-Gregori, 2020). Moreover, stories can link not only the world of the classroom and home, but also the classroom and beyond.

Third, the subcategory "target language proficiency" presents a total of 31 references. It is important to stress the difference between the knowledge of the language and the ability to use it, including productive and receptive skills, as well as mediation (Council of Europe, 2020). In the analysis of the course guides, it was observed that more attention is paid to productive skills, which is understandable because of the characteristics of the target audience and the educational level. The fact that "linguistic knowledge" is more relevant in the studies offered than language proficiency is worrying. Although a good command of the linguistic structures is of paramount importance to become the correct linguistic model (Çelik et al., 2013), the FL-ECEC teacher needs a high language proficiency to cope with the oral dimension of the FL-ECEC classroom (Enever, 2011; European Commission, 2011; Mourao, 2015) that is understood as "a good competence in English that gives them the confidence to speak fluently and spontaneously to children in the L2" (p. 429).

Aspects related to the category "L2 acquisition (SLA)" appear on 24 occasions in the course guides, thus doubling the number of "L1 acquisition", with a total of 12 coded references. These two subcategories refer to theories of how first and second languages are learned (Kim, 2013). Pre-service teachers need to know how a language is learned regarding individual differences, cognitive development, and appropriate feedback. They become more prepared to select and adapt materials according to the characteristics of their students. In addition, they are better able to support their students' language development.

Finally, the subcategory "target culture" gathers a total of 15 references included in the main category "subject matter." This subcategory refers to the knowledge and relationship between language and culture. These two aspects cannot be separated, as their existing interrelations are well known (Rangriz & Harati, 2017). In fact, language and culture mutually affect each other. Thus, teachers should be cognizant of the culture of the languages they teach and promote language culture diversity (Corral-Robles et al., 2017). The insignificant

role of culture within our TKB model is in accordance with ECEC frameworks, in which culture is nearly non-existent, in contrast to F2/FL ones, where they have been present since the first adaptations of Shullman's work (Lafayett, 1993; Richards, 1998) and has developed into a more philosophical conception of García's (2008) intercultural understanding.

In summary, the predominance of language knowledge and proficiency in the dimension of subject matter is in line with most studies on FL teacher education that highlight the core position of language instruction within these programs (Alstad, 2020; Freeman & Johnson, 1998). The slight presence of concrete subject knowledge from ECEC teacher knowledge models is also in line with current studies that highlight the difficulties in defining the subject matter in those programs (Ball et al., 2008). Finally, we consider the emergence of children's literature as an important dimension in our analysis as evidence of the particular idiosyncratic character of this FL-ECEC teacher; similarly, although to a lesser degree, the target culture subcategory.

6.2.1. Category 2. General Pedagogical Knowledge

The "general pedagogical knowledge category" entails all aspects related to the general didactics and educational and developmental psychology of the child (Kim, 2013). Thus, it is made up of four subcategories, namely: classroom management, lesson planning, group organization, and child development (Fig. 1). These subcategories comprise 36 coded references in total, based on the categories with the lowest number of coded references.

The subcategory with the highest number of references found in this dimension is "child development" with a total of 26 coded references (66.7% of the references included in this subcategory). This aspect is focused on children's development in early childhood, as teachers need to use age-appropriate methodologies and resources to promote key competencies in children and adapt learning to the child's maturation. If teachers recognize individual children's developmental differences, they are able to address psychological, emotional, cognitive, and social differences in lessons (Kim, 2013). This is in line with current pedagogical trends for ECEC, known as developmentally appropriate practices, which understand that early childhood education should be addressed regarding child development and supporting children to "achieve their full potential across all domains of development and across all content areas" (NAYEC, 2020, p.5). This educational framework reflects how different European countries organize their education systems (European Commission, 2019).

The subcategories "classroom management" and "group organization" share the number of coded references (five references per subcategory). Classroom management includes the classroom environment, motivation, and classroom routines. In contrast to what is frequently supported in terms of the importance of classroom management for facilitating very young learners' engagement in the class and for controlling learners' behavior (Carter & Doyle, 2006a; Mourão & Ellis, 2020; Woolfolk Hoy & Weinstein, 2006), these two subcategories have a nearly irrelevant load in the overall coding scheme.

Moreover, it is important to highlight that the subcategory "lesson planning" does not exist in the contents of the analyzed course guides, despite the importance of issues such as routines and learning areas for the development of adequate language experiences in the early years (Fleta, 2014; Mourao, 2014).

Overall, Category 2 had a low impact on our model for the FL-ECEC TKB. This is probably due to the fact that general pedagogical knowledge may be acquired along the whole degree, and not just in the selected courses for this study. However, some insights from this general pedagogical knowledge are desirable, particularly in terms of lesson planning, group organizations, and classroom management.

6.2.2. Category 3. Pedagogical Content Knowledge

Pedagogical content knowledge is the largest category in the analysis in terms of the number of coded references (267 in total) and is related to the domain-specific VEFL teaching and learning. This category merges both the knowledge about implementing subject matter and that of the characteristics of the children's environment, applying them to FL teaching in the early years (Kim, 2013). It is reflected in the decisions the teacher adopts regarding how and when to use the possible resources and strategies, such as play, storytelling, games, or songs.

Initially, two subcategories were included in the analysis according to Kim's TKB model: "language play" (play as a necessary tool for language development) and "teacher language awareness" (the awareness of the children's linguistic development of the L1/L2). During the coding analysis, seven subcategories were added, as there was a vast amount of content that could not be classified within the initial categories: resources, strategies, methodologies, key aspects of VEFL, literacy, digital resources, and evaluation.

The most recurrent subcategory is "resources," with a total of 86 references. Resources are a key element in the FL teaching process, as they help in offering a motivating and age-appropriate learning environment. Examples of the cited resources in the analyzed guides are "songs, rhymes, flashcards, storytelling, drama, games, puppets, poems, or the cinema." These are examples of appropriate resources for introducing the FL at pre-primary (Andúgar et al., 2020; Andúgar, 2017; Brumen, 2011; Cortina-Pérez & Andúgar, 2020; Fleta, 2014; Mourão, 2014, 2015b;), as they provide the audio-visual support necessary at this very early age, foster their oral proficiency, meet their interests, and help in recreating a natural learning environment. They respect play-based learning principles; thus, they agree with the idea that "play is a basic component of children's development as a source of stimuli, experimentation, enjoyment, and fun" (Pino & Rodríguez 2010, p. 35). In this subcategory, games to promote real communication are included, supporting the idea that learners are focused on the outcome of the playful activity, which leads to increased fluency and confidence in the target language (Brumen, 2011, p. 730).

The second most relevant subcategory and closely related to the previous one is "language play," essential for language development and used by teachers in "[...] activities and games such as repetition, word play, exaggerations, fictions, and fantasies" (Kim, 2013, p.27). In this sense, 48 references are included within this category, such as "songs, rhymes, poems, games, picture books, storytelling, tongue twisters, riddles, or drama/theatre."

The third most relevant subcategory is "strategies," with a total of 37 coded references. Some of the main strategies that were included within the course guides contents are "strategies to facilitate the teaching-learning process, to motivate children, to teach the FL

culture/interculturally, as well as techniques to exploit literary resources or pre-while-post listening strategies." The last example, listening strategies, is of paramount importance at this stage, as it is usually recommended to delay literacy to a later stage (primary) (Fleta, 2015).

The "methodology" subcategory, with 28 coded references, includes knowledge and critical analysis of the main ELT (English language teaching) methods at a very early age or how to adapt them, such as the "methodology, strategies and tools for learning English in early childhood education, task-based learning, total physical response, or the communicative approach." Discussion on the appropriateness of these ELT methods for such young learners is beyond the scope of this paper (Andúgar, 2017). However, they are frequently included in the course guides.

Following this subcategory, "teacher language awareness" compiles 26 references related to what Kim (2013) considers:

[...] L2/FL teachers of young learners need to be able to distinguish the L2/FL level of their students and recognize the stages in their L1 development, so that teachers can implement a curriculum and activities that meet children's overall linguistic development" (p. 28).

Examples of teacher language awareness contents found in our course guides are: "classroom discourse, conversational development, morpheme acquisition order, linguistic environment: motherese or the language of the classroom: expressions in the foreign language for the management of the pre-primary classroom."

The subcategory of "Key principles for VEFL," with a total of 20 references, includes the contents that refer to key pedagogical aspects related to the early introduction of an FL into ECEC such as "general characteristics of foreign language learning at the pre-primary stage, introduction to early foreign language teaching: key concepts or action research in the area of foreign language in early childhood education and continuing professional development."

The last two categories that are under-represented are "literacy" and "evaluation" with nine and five coded references, respectively. "Literacy" concerns the introduction of "literacy in EFL, pre-reading skills, or the importance of the written skills as a vehicle for intercultural communication." The scarce presence of this subcategory in the content guides is in line with those authors not recommending L2 literacy until L1 is consolidated, or until learners have been exposed extensively to its oral component (Fleta et al., 2020). However, there is an interesting debate on this issue, and some researches have started to shed light on a different perspective arguing in favor of early phonological awareness and multiliteracies (Rendón-Romero, 2019; Rendón-Romero et al., 2021). Meanwhile, some of the instances about "evaluation" that we found in the course guides are "the evaluation of the FL class, types of evaluation, evaluation of the communicative competence or the evaluation of the learning process in the ECEC VEFL."

6.3. Category 4. Teacher Knowledge of the Context

This dimension of the TKB model is defined by Kim (2013, 2015) as the teacher's awareness of children's family environment (including parents' competence in the English language and their expectations of the English teaching-learning process) as a way of es-

tablishing a home-school-based connection, and the acquaintance of the national curriculum and textbooks for ECEC language teacher knowledge. Hence, this last category is divided into three subcodes: children's home environment (0 references), teaching environment (7 references), and national curriculum (30 references).

First, the "national curriculum" is the most representative subcategory within this dimension, including contents related to "knowledge of the curriculum, syllabus design (including objectives, contents, activities, methodology, and assessment), the role of the literature in the ECEC FL curriculum, or the adaptation of the FL curriculum to the characteristics of the pupils." The "teaching environment" subcategory is the second largest code in terms of frequency in the category; it focuses on reflecting on current educational issues or knowledge of the classroom context, classroom climate, and promotion of a positive attitude toward learning. Only seven references to these issues were encountered in the analyzed course guides, portraying its little impact in the TKB model of our pre-service FL-ECEC teachers.

According to the results analysis, the most significant data are that of the "home environment" code; such data are not present in the contents of the different subject guides, as shown in the hierarchical map above. Consequently, the absence of this code suggests that knowledge about the family environment, their expectations, and language background—an issue that is of great relevance at this educational stage (Enever, 2011; Rokita-Jaśkow, 2013; Sokol & Lasevich, 2015; Tekin & Al-Salmi, 2019)—is not included as a topic for understanding in the Andalusian FL-ECCE curricula.

The analysis of this last category indicates that future FL-ECEC teachers are rarely trained in the contextual factors that shape their overall teaching proposal, despite the fact that the current tendency encourages this dimension as a modelling component of the other three TKB categories (Van Canh, 2020), and that the importance of knowing the context has been pinpointed since the very early models of FL/L2 TKB. In their seminal paper, Freeman and Johnson (1998) called attention to the contextual factors that shape TKB in each context. Presumably, the significant legislative gap in Spain in terms of the teaching of FL in pre-primary education, as the current education policy barely mentions the teaching of the FL within the pre-primary and its implementation is relegated to regional authorities (Andúgar, Cortina-Pérez & Tornel, 2019), is behind this shortcoming.

7. Conclusions

From the data analyzed, we can conclude that the presence of VEFL courses within the Spanish ECEC programs is moderate, although frequently reduced to six ECTS courses in most Spanish ECEC undergraduate programs. The implementation of bilingual ECEC degrees, which presumably impacts pre-service teachers' target language proficiency, is very restricted. Compared with Spanish HEIs, Andalusian ECEC degrees include a reduced offer about VEFL, except for the bilingual modality, which is as rare as in the rest of Spain. We can conclude that the training offered in ECEC degrees is not sufficient to fulfill the emerging and increasing demand for educating very early learners in foreign languages, such as English.

Pedagogical content knowledge has proved to be the most relevant dimension of the analyzed course guides, mainly oriented toward acquiring strategies and techniques that will promote appropriate language experiences for very young learners. Nevertheless, there

is space to develop language teacher awareness within this category so as to reflect on the necessary adaptations. Teachers need to make their activities understandable and linguistically reachable from the learner's side. From our perspective, there is potential here as well to work on pedagogical translanguaging. Subject matter knowledge was another important dimension in the FL-ECEC teacher knowledge model analyzed, consisting, on the one hand, of applied linguistics knowledge such as theories of L1 and L2 acquisition, and on the other hand, of the language itself, both knowledge "of" and "about" the language. However, two subcategories of this subject knowledge, not considered by Kim (2013, 2015), have emerged: target culture and children's literature, the latter being relevant in the analyzed model as language knowledge. It is noteworthy that the cultural component is of little importance, and we claim its position within FL-ECEC teacher knowledge, as intercultural awareness is one of the main targets to achieve with these VEFL learners.

Finally, two categories are minimally approached in Spanish, and more concretely Andalusian, FL-ECEC courses: general pedagogical knowledge and contextual understanding. We urge stakeholders to actively include contents related to family agency in VEFL teaching, as well as understand the idiosyncrasies of space and time organization for the effective planning of FL lessons within the pre-primary classroom. Nevertheless, the fact that more general categories, such as general pedagogical knowledge or contextual knowledge, have a minimal presence can be considered as a limitation of the current studies, which have focused on more content-specific courses, and have not considered the overall degree. However, we consider that there was space in the course guides for implications on how these general pedagogical and contextual issues are implemented within the specific area of VEFL teaching. It is also relevant to mention that it was sometimes difficult to determine the focus of some very general content headings in the course guides. Thus, a deeper analysis of what is taught in each course using interviews with the professors responsible for those courses will be fruitful.

As a final word, the model that emerged from our study is much more based on L2/FL TKB frameworks than that of Kim's (2013, 2015), although with some unique knowledge such as children's literature or cultural understanding that was not present in her model. Some aspects of ECEC TKB should be more deeply considered not as isolated elements, but as how they merge with the target language to offer these very young learners challenging learning experiences. Finally, we note that the model emerging from this study is the result of the analysis of the Spanish ECEC programs, which may not coincide with the current teacher demands; therefore, further research on current teachers' education needs should be considered in the short term.

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