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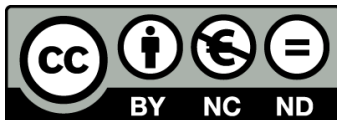
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Tesis doctoral

CLIL in Pre-Primary Education:

Vocabulary Acquisition through a Soft-CLIL

Approach and Analysis of Teachers' Perceptions

Marta Segura Mollà

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CLIL in Pre-Primary Education:
Vocabulary Acquisition through a Soft-CLIL Approach and Analysis of Teachers' Perceptions

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Doctoral candidate
Marta Segura Mollà

Supervisors
Dr Helena Roquet Pugès
Dr Júlia Barón Parés

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Abstract

Studies investigating the effects of Content and Language Integrated Learning (CLIL) have gained ground within the Foreign Language (FL) learning and teaching research domain in the latest decades. The CLIL approach provides a naturalistic, contextualized, and meaningful learning environment in which the curricular content and the FL (usually English) are taught in an integrated way. Many studies have focused on analysing a variety of CLIL programmes at different educational levels (from primary to higher education) to examine which linguistic skills, personal competences and social abilities are enhanced through such an approach. With the rapidly increasing implementation of CLIL, researching the perceptions of the main stakeholders involved (teachers, families, and students) becomes essential. Nonetheless, most of the CLIL research that has been carried out so far has focused on primary and secondary education levels, while research in pre-primary is still very scarce. This is precisely the research gap to which we aim to contribute with the three studies that configure the present doctoral dissertation.

Studies one and two examine receptive and productive vocabulary acquisition, respectively, by pre-primary education students following a soft-CLIL programme, as compared to their peers following conventional English as a FL (EFL) instruction. Word frequency and age effects are also examined. The two studies followed the same methodology, namely a 6-month longitudinal design with 4- and 5-year-old Catalan and Spanish bilingual learners of English as a FL. Participants (N=155) worked on two curricular units traditionally taught in the main schooling language (Catalan) within the FL sessions, either following conventional EFL instruction, or the soft-CLIL approach. Before the intervention, all students were administered a general English vocabulary test and students' parents filled in a sociolinguistic background questionnaire. After the intervention, a receptive target words test and a productive one were administered, including a percentage of the words from the two units worked on. Results were analysed with SPSS (v.26) and R (v.3.5.2, and v.4.1.2). Results did not show significant differences between groups, although some positive trends were reported in favour of the CLIL group, which may eventually show significance with a longer CLIL treatment. Significantly higher scores were reported in receptive vocabulary tests, than in productive tests. Regarding age effects, no differences were found between 4- and 5-year-olds, possibly due to the short period of time that they were enrolled in the CLIL programme. However, a significant word frequency effect was found, since there was a higher recollection rate of high-frequency words, than low-frequency ones.

Study three complements the two studies above described by analysing pre-primary teachers' perceptions regarding the potential benefits and challenges of CLIL implementation

with such young learners. Data were collected from a total of 129 pre-primary teachers (*N*=76 in-service and *N*=53 pre-service) through an online survey tapping onto the participants' knowledge of the CLIL approach and their perceptions on the potential benefits and challenges that CLIL implementation in pre-primary might entail for their students, and themselves as teachers. Participants' answers were coded with Atlas.ti (v.22) and visualizations to represent the differences between the two groups of teachers were created with R (v.4.2.0). Overall, in-service teachers had some knowledge of what CLIL teaching entails, while pre-service teachers were rather unfamiliar with the approach. Moreover, teachers were positive regarding the potential implementation of CLIL in pre-primary, reporting many linguistic, personal, and social benefits for all stakeholders involved. However, most also agreed on their main teaching (e.g., lack of materials, time to prepare lessons, additional workload) and training (FL and methodology) needs.

The three studies in this thesis provide important pedagogical implications regarding CLIL implementation in pre-primary education. On the one hand, the importance of teaching high-frequency words at the beginning stages of FL learning within a meaningful and contextualized setting like CLIL is argued. On the other hand, the perceptions of pre-primary teachers are discussed to identify the main teaching and training needs, which can help design teacher training programmes better.

Keywords: Content and Language Integrated Learning, English as a Foreign Language, in-service teachers, pre-primary education, pre-service teachers, productive vocabulary, receptive vocabulary, teacher perceptions, vocabulary acquisition.

Resum

Estudis que investiguen els efectes de l'Aprenentatge Integrat de Contingut i Llengües (AICLE, o CLIL per les sigles en anglès) han guanyat terreny dins l'àmbit de recerca de l'aprenentatge i ensenyament de llengües estrangeres (FL, per les sigles en anglès) durant les darreres dècades. L'enfocament CLIL proporciona un ambient d'aprenentatge naturalístic, contextualitzat i significatiu, en el qual el contingut curricular i la llengua estrangera (normalment anglès) s'ensenyen de manera integrada. Diversos estudis s'han centrat en analitzar una varietat de programes CLIL en diferents nivells educatius (des de primària fins a educació superior) per examinar quines destreses lingüístiques, competències personals i habilitats socials milloren a través d'aquesta metodologia. A causa del ràpid increment en la implementació de CLIL, la investigació de les percepcions dels principals agents implicats (professors, famílies i estudiants) esdevé essencial. No obstant això, la majoria de la recerca en CLIL que s'ha dut a terme fins ara s'ha centrar en educació primària i secundària, mentre que la investigació a educació infantil encara és molt escassa. Aquest és precisament el buit de recerca al qual els tres estudis que formen aquesta tesi doctoral pretenen contribuir.

Els dos primers estudis examinen l'adquisició de vocabulari receptiu i productiu, respectivament, en alumnes d'educació infantil que segueixen un programa de CLIL d'intensitat baixa, en comparació amb els seus companys que segueixen només instrucció convencional d'anglès com a llengua estrangera (FL, per les sigles en anglès). També s'examinen els efectes de la freqüència de les paraules i l'edat dels estudiants. Els dos estudis segueixen la mateixa metodologia, concretament un disseny longitudinal de 6 mesos, amb estudiants d'anglès com a FL, tots ells bilingües en català i castellà de 4 i 5 anys. Els participants (N=155) van treballar dues unitats curriculars que tradicionalment s'ensenyen en la llengua principal d'escolarització (català) dins les sessions de FL, seguint instrucció convencional d'anglès, o bé el programa CLIL d'intensitat baixa. Abans de la intervenció, es va administrar a tots els alumnes un test general de vocabulari en anglès i els seus pares van emplenar un qüestionari sociolingüístic. Després de la intervenció, es van administrar tests de vocabulari receptiu i productiu incloent un percentatge de les paraules treballades en les dues unitats. Els resultats es van analitzar amb SPSS (v.26) i R (v.3.5.2 i v.4.1.2). No es van trobar diferències significatives entre els grups, tot i que sí que es van reportar algunes tendències positives a favor del grup de CLIL, que podrien resultar en diferències significatives amb un tractament CLIL més llarg. Es van trobar resultats significativament més alts en els tests de vocabulari receptiu que en els tests de vocabulari productiu. En relació amb els efectes de l'edat, no es van trobar diferències entre els estudiants

de 4 i 5 anys, possiblement a causa del curt període de temps durant el qual havien participat al programa CLIL. No obstant, sí que es van trobar efectes significatius de la freqüència de les paraules, ja que hi va haver resultats més alts en les paraules de freqüència alta.

L'estudi tres complementa els dos estudis descrits, analitzant les percepcions dels mestres d'educació infantil sobre els potencials beneficis i reptes de la implementació de CLIL amb alumnes tant petits. Es van recollir dades d'un total de 129 mestres d'educació infantil (N=76 mestres en actiu i N=53 futurs mestres en formació inicial) a través d'un qüestionari en línia que es centrava en el nivell de coneixement de CLIL dels participants i les seves percepcions sobre els beneficis i reptes que la implementació de CLIL a educació infantil pot comportar pels seus alumnes i per a ells mateixos com a mestres. Les respostes dels participants es van codificar amb Atlas.ti (v.22) i les visualitzacions per representar les diferències entre els dos grups de mestres es van fer amb R (v.4.2.0). En general, els mestres en actiu tenien alguns coneixements sobre el que implica ensenyar a través de CLIL, mentre que els mestres en formació inicial no hi estaven gaire familiaritzats. Addicionalment, els mestres es van mostrar positius en relació amb la implementació de CLIL a educació infantil, i van reportar molts potencials beneficis lingüístics, personals i socials per a tots els agents involucrats. No obstant, la majoria van estar d'acord en les principals necessitats docents (ex., falta de materials, temps de preparació, carrega de treball addicional) i formatives (FL i metodologia).

Els tres estudis d'aquesta tesi doctoral tenen implicacions pedagògiques importants en relació amb la implementació de CLIL a l'educació infantil. Per una banda, s'argumenta la importància de l'ensenyament de paraules d'alta freqüència en els primes estadis de l'aprenentatge de la llengua estrangera dins d'un entorn significatiu i contextualitzat com el que proporciona CLIL. Per altra banda, es discuteixen les percepcions dels mestres d'educació infantil per identificar les principals necessitats docents i formatives, de manera que es puguin dissenyar programes de formació més adequats.

Paraules clau: *Aprenentatge Integrat de Continguts i Llengües, adquisició de vocabulari, anglès com a llengua estrangera, educació infantil, futurs mestres en formació inicial, mestres en actiu, percepcions dels professors, vocabulari receptiu, vocabulari productiu.*

Preface

The present doctoral thesis, done through the compendium of publications format, contributes to the field of research of Foreign Language (FL) acquisition, more specifically through the Content and Language Integrated Learning (CLIL) approach. Some research has already been carried out within such domain, but most studies have focused on primary, secondary, and higher education levels. The current dissertation aims to contribute with data regarding CLIL in pre-primary education with a twofold goal: (1) to examine the effects of a soft-CLIL programme on pre-primary English as a FL (EFL) learners' vocabulary acquisition, and (2) to analyse the perceptions of pre-primary teachers regarding the potential implementation of CLIL with such young students.

This dissertation is part of the project 'Content and Language Integrated Learning in Pre-primary Education', funded by Fundació Escoles Diocesanes i Parroquials del Bisbat de Terrassa (2018-2021; PI: Dr Helena Roquet, and Dr Júlia Barón). Such a project took place in Catalonia, where Decree 181/2008 (Generalitat de Catalunya, 2008) regulates pre-primary education. The Decree allows schools to design their own syllabuses within its general framework, according to which, pre-primary education students in Catalonia are to receive a holistic and transversal education, organized around three main areas: (1) discovery of oneself and others, (2) discovery of one's surroundings, and (3) communication and languages. These three areas establish which general competencies and skills children are to develop through pre-primary. However, there is not a specific established syllabus for each area, for instance, regarding the area of communication and languages, there is not a list of vocabulary or structures that the children are expected to learn in their mother tongue (L1), nor in the FL, usually English. As such, schools have certain freedom to decide on the contents they teach their pre-primary education students within each area.

When it comes to the specific schools that were part of the research project here described, the schoolteachers had mentioned that the EFL content that their 3- to 6-year-old pre-primary students were being taught was rather basic, and repetitive across the three pre-primary grades, which was limiting the children's learning process. As such, the project was born from the teachers in the two participating schools expressing a need to change how English as a FL (EFL) was taught in the second cycle of pre-primary education, namely to children aged between 3 and 6 years old. In order to do so, the schoolteachers and researchers involved in the project worked collaboratively to design a soft-CLIL programme to increase the amount and variation of vocabulary that pre-primary students were presented with. Ultimately, the goal was to examine receptive and productive vocabulary uptake through the soft-CLIL intervention. Two original

research articles stemming from this project are part of the present dissertation. Thus, in such publications, vocabulary acquisition through soft-CLIL was examined, as well as the potential age and word frequency effects.

As mentioned before, research on CLIL in pre-primary education is very scarce. To our knowledge, the project above described is one of the first to analyse the effects of such an approach on vocabulary acquisition by very young learners of EFL. Therefore, the conclusions reported in the two publications resulting from it contribute significant data to this research field, while further studies are still needed, in the shape of longer longitudinal projects.

Additionally, due to the novelty of CLIL in pre-primary education, it was considered essential to study the perceptions of the pre-primary teachers since, in the end, they are the main agents involved, together with their students. In order to do so, a third study to complement the previous two was designed. In this case, perceptions regarding CLIL implementation of in-service teachers from 29 different schools in Catalonia (including the same two that took part in the project abovementioned) and pre-service teachers from 5 different Catalan universities were collected. The goal of the study was to examine teachers' level of knowledge of CLIL, as well as their perceptions regarding the potential benefits and challenges of the approach for both pre-primary students and teachers. Ultimately, the teachers' training and teaching needs were identified, which provided relevant implications for the design of CLIL teacher training programmes, as well as for schools that are looking to start implementing CLIL to be able to provide adequate support.

In sum, the present thesis is made up of three research studies on the topic of CLIL in pre-primary education. With these studies we aimed to provide some data about CLIL in pre-primary, which is quite a relevant topic considering that research with such young students is still very scarce, even though age of onset of acquisition is being brought down, and CLIL programmes are being implemented at earlier educational stages. Nonetheless, further studies are still needed to analyse more in depth the potential effects of CLIL, or lack thereof, on various linguistic skills, personal competencies, and social abilities of such young learners. Further research is also needed enquiring on the perspectives of the main stakeholders involved, namely the teachers, since they are the ones who execute CLIL programmes in schools. We hope that the research presented in this thesis starts to spark some interest to carry out further empirical studies on CLIL in pre-primary education levels.

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List of Abbreviations

AOA	Age of Onset of Acquisition
BICS	Basic Interpersonal Communication Skills
BNC	British National Corpus
CALP	Cognitive Academic Language Proficiency
CBI	Content-Based Instruction
CBLT	Content-Based Language Teaching
CEFR	Common European Framework of Reference for Languages
CLIL	Content and Language Integrated Learning
CLIL4YEC	CLIL for Young European Citizens
COCA	Corpus of Contemporary American English
CPH	Critical Period Hypothesis
EFL	English as a Foreign Language
ELoLt	English is the only Language of Learning and Teaching
EMI	English Medium Instruction
EU	European Union
EVT-3	Expressive Vocabulary Test, 3rd Edition (Williams, 2018)
FL(s)	Foreign Language(s)
FI	Formal Instruction
H	Hypothesis
ICT	Information and Communications Technology
IST(s)	In-service teacher(s)
L1(s)	First language(s)/Mother tongue(s)
L2	Second Language(s)
NGSL	New General Service List
P3	In Spain, first year of pre-primary education's second stage: 3-year-olds
P4	In Spain, second year of pre-primary education's second stage: 4-year-olds
P5	In Spain, third year of pre-primary education's second stage: 5-year-olds
PPVT-4	Peabody Picture Vocabulary Test, 4th Edition (Dunn & Dunn, 2007)
PST(s)	Pre-service teacher(s)
QCA	Qualitative Content Analysis
RQ	Research question
SLA	Second Language Acquisition
T1	Testing time 1
T2	Testing time 2
TBLT	Task-Based Language Teaching
TL(s)	Target Language(s)

List of Appendices

List of Original Publications

The present dissertation was done by compendium of publications. Following the guidelines of the Doctoral programme in Communication, Education, and Humanities at the Universitat Internacional de Catalunya (UIC Barcelona), three studies make up this thesis. The full text of the articles published or accepted for publication can be found in the chapters indicated below. The acceptance letters of the journal editors for each publication can be found in Appendix 1.

Chapter 5   Segura, M., Roquet, H., & Barón, J. (2021). Receptive vocabulary acquisition in pre-primary education through soft-content and language integrated learning. *English Language Teaching. Canadian Center of Science and Education, 14*(10), 1-22. https://doi.org/10.5539/elt.v14n10p1

Chapter 6   Segura, M., Barón, J., & Roquet, H. (2022). Productive vocabulary development in pre-primary through soft CLIL. *Open Linguistics, 8*(1), 297-327. https://doi.org/10.1515/opli-2022-0194

Chapter 7   Segura, M. (Accepted). CLIL in pre-primary education: The views of in-Service and pre-service teachers. *Bellaterra Journal Of Teaching & Learning Language & Literature*.

Chapter 1. Introduction

The first chapter of the present dissertation starts by providing a general introduction to the main topics of study, as well as a general overview of the previous research related. Next, the main research gap is identified, and the general objectives of the dissertation are presented. Finally, the structure of the thesis is laid out.

1.1 General Introduction

Over the last few decades, there has been a generalized increasing interest in the learning of Foreign Languages (FL), due to globalization and internationalization (Dalton-Puffer, et al., 2022). In Europe, more specifically, ever since the onset of what currently is the Europe Union (EU), the Council of Europe has taken action to promote multilingualism among its citizens (Pérez-Vidal, et al., 2013), as well as to maintain the heritage and cultural diversity in its countries. Within this context, there has been a shift in the linguistic needs of European citizens, who are now encouraged to master not only their mother tongue (L1), but also two other European languages (Dafouz & Guerrini, 2009; Lorenzo, et al., 2010; Van de Craen & Pérez-Vidal, 2001). This has been referred to as the 1+2 or mother tongue+2 principle, which was first introduced in the *White Paper on Education and Training* in 1995. Several initiatives and documentation have unfolded since then, such as the popularization of Erasmus programmes to promote international mobility, and the publication of several guidelines like the *Common European Framework of Reference for Languages* (CEFR) in 2001, and the *Guide for the development of language education policies in Europe* in 2007, among others.

Parallel to the promotion of multilingualism and mobility, there has also been a shift regarding when and how educational institutions teach foreign languages. Age of Onset (AOA) has been brought down, and many schools are starting to teach a FL (usually English) earlier, namely starting at early grades in primary education, or even pre-primary education. This is due to the traditional belief that the earlier a FL is learnt, the better are the chances that the learner will reach nativelike competence in that FL. Yet, more recent research has outlined that an earlier AOA needs to be complemented with massive amounts of input in that FL (Muñoz, 2008), such as in the case of high-exposure immersion contexts.

However, in many contexts, the FL is not learnt through immersion, but in a setting where there is very limited exposure to the language outside of school, and opportunities to use the Target Language (TL) in context are very scarce. In such cases, there has been a shift in the FL teaching approaches used in schools, partly motivated by the success of immersion programmes

in Canada (Cenoz, 2015). As such, teacher-centred methodologies based on repetition drills and translation activities have decayed, while student-centred methodologies that promote real-life interaction and contextualized learning have gained ground. That is the case, for example of Task-Based Language Teaching (TBLT), and Content and Language Integrated Learning (CLIL) in primary and secondary education levels, and English Medium Instruction (EMI), in higher education.

CLIL, which is the main topic of interest of the present thesis, is 'a dual focus approach whose aim is to foster students' foreign language and content learning while the development of their first language is not impaired' (San Isidro & Lasagabaster, 2019, p. 584). The implementation of CLIL programmes at any educational level usually entails an increase in the hours of exposure to the FL, which is most often English, within the school context (San Isidro & Lasagabaster, 2019). When implemented correctly, both the curricular content and the FL share the focus of attention (Lasagabaster, 2008; Pérez-Vidal, 2013) in the CLIL classes, which provide a contextualized learning environment, where real communication is promoted (Llinares & Morton, 2010; Lorenzo, et al., 2010) through critical and meaningful interaction opportunities (Alfonso & Pladevall-Ballester, 2020; Darvin, et al., 2020; Garcia Mayo & Basterrechea, 2017). As such, in CLIL, the FL is learnt through meaningful and contextualized language use (Brinton, et al., 1989).

This context that CLIL brings to the classrooms is shared by all CLIL programmes, although there are some variable characteristics that may differ, such as the timing, the intensity, and the available resources, among others (Pérez-Vidal, 2008). Some of the main variable characteristics are the learning goals, the intensity of the programme, and the teachers involved (Dale & Tanner, 2012). Thus, the terminology hard-CLIL and soft-CLIL has recently been used to differentiate the programmes according to the three main variable characteristics just mentioned. On the one hand, in hard-CLIL, over a third or even half of the subjects are taught through CLIL by the content-specialist teachers, and both the FL and the content learning goals weight equally. On the other hand, in soft-CLIL, there is no increased exposure time to the FL, since in this case the FL teachers are the ones doing cross-curricular work and bringing to the FL sessions content from other curricular subjects as a way to provide contextualization and meaningfulness to the FL acquisition process, which is the main learning objective (Dale & Tanner, 2012; García Esteban, 2015).

As one of the main stakeholders involved in CLIL, teachers play a crucial role when it comes to its successful implementation (Pavón & Ellison, 2013). Thus, it is key that research is conducted to examine teachers' perception regarding CLIL. Some studies have started to do so, and have outlined that teachers have, overall, positive expectations of such an approach. It has

been reported that teachers expect CLIL to bring many benefits for their students and themselves as teachers. On the one hand, regarding the benefits for students, it is expected that CLIL will promote FL use and interaction (Méndez, 2014), increase engagement and motivation (e.g., Campillo et al., 2019; Infante, et al., 2009), and enhance the development of linguistic skills in all schooling languages (San Isidro & Lasagabaster, 2019). But it seems that the skill whose development teachers find is boosted the most thanks to CLIL is FL vocabulary (e.g., Méndez, 2014). On the other hand, teachers see the implementation of new teaching approaches as a chance for them to further develop professionally and receive methodological training (Hunt, 2011).

Nonetheless, some studies have also analysed the challenges that CLIL implementation may entail for the two main stakeholders involved, namely the students and the teachers. Concerning the challenges for the students, teachers are worried about the FL barrier, which may affect not only the relationship that they have with their students, but also the depth in which learners acquire the content (Alcázar-Marmol, 2018; San Isidro & Lasagabaster, 2019). This concern is accentuated when learners have low FL proficiency levels, which may cause some frustration (Pladevall-Ballester, 2015), or make curricular content understanding and, ultimately, learning more difficult (Massler, 2012; Pavón, 2014; Pavón & Ellison, 2013; Pena & Porto, 2008). Some researchers have already identified the main challenges that CLIL may entail for the teachers. First, teachers have mentioned that CLIL will bring along an increased workload (Lova, et al., 2013; McDougald, 2015) to plan lessons and create materials (e.g., Cammarata, 2009; Campillo et al., 2019; Coonan, 2008; Savić, 2010). Second, teachers have also shown concerns regarding the three-level teacher coordination between content, L1, and FL teachers that CLIL requires (e.g., Massler, 2012; Pavón, 2014; San Isidro & Lasagabaster, 2019; Savić, 2010). And third, there seems to be a generalized need for specific teacher training programmes, due to most teachers' lack of methodological knowledge about the CLIL approach (Alcázar-Marmol, 2018; Campillo, et al., 2019; Pena & Porto, 2008) and their low FL levels (Massler, 2012).

In sum, teachers seem to have rather positive expectations regarding the potential benefits of the CLIL approach, although the challenges just summarized have to be kept in mind when designing CLIL programmes and teacher training courses. Most of the studies abovementioned have been conducted with primary and secondary education teachers and, thus, it remains to be seen whether in schools where CLIL is starting to be implemented with younger learners pre-primary education teachers expect the approach to yield the same benefits and pose the same challenges.

Regarding classroom-based research on CLIL, such type of studies have gained ground within the latest decades, and a wide amount of researchers have already examined the effects of CLIL on the learners' development of a variety of linguistic skills, as well as personal and social

abilities. In terms of linguistic skills, it has been reported that CLIL enhances vocabulary, morphology, and receptive skills (e.g., Lasagabaster, 2008; Pérez-Cañado, 2018; San Isidro & Lasagabaster, 2019), while some contradictory results have been reported when it comes to syntax, informal language, pronunciation, fluency, and pragmatics development (e.g., Dalton Puffer, 2008; Pérez Vidal, 2011; Roquet & Pérez-Vidal, 2017). Regarding personal and social abilities, previous research has outlined that CLIL learners have higher self-confidence and independence when using the FL, are more creative, and develop more problem-solving strategies (Dalton-Puffer, 2008; DeKeyser, 2000; Derakhshan & Karimi, 2015). Additionally, CLIL seems to foster more positive attitudes and interest in learning (Lasagabaster & Sierra, 2009), while increasing motivation (e.g., Lasagabaster & Doiz, 2017; Navés & Victori, 2010) and engagement in the learning process of both the FL and the content (Hüttner & Smit, 2014).

Vocabulary has traditionally been a highly researched linguistic skill, also within the CLIL research domain (e.g., Agustín-Llach & Canga Alonso, 2014; Jiménez-Catalán et al., 2006; Pérez Cañado, 2018; Reynaert, 2019). That is because of the crucial role that vocabulary acquisition plays when learning any new language. Vocabulary is not only one of the first skills to develop when learning a new language, but it is also essential to be able to communicate in that language (Meara, 1996; Schmitt, 2008). However, vocabulary acquisition is quite a complex process. As pointed out by Richards (1976) and later popularized by Nation (1990, 2013), learning a word involves learning many aspects related to its form (spoken, written, and word parts), its meaning (form and meaning, concept and referents, and associations), and its use (grammatical functions, collocations, and constraints of use). Thus, considering what learning a lexical item entails, vocabulary acquisition has been defined as a continuum: the learner starts by developing receptive knowledge first, which with time will evolve to productive knowledge (Schmitt, 2010; Webb, 2009). As such, not being able to produce a word does not necessarily mean that a person does not know it, but it could be the case that they only have partial receptive knowledge of it. In fact, due to the complexity of full vocabulary mastery, having partial word knowledge may be the most common, even for native speakers (Schmitt & Schmitt, 2020).

Thus, as can be observed, vocabulary learning is a rather complex process that takes place over time. Some studies have reported that, to be able to interact naturally and function independently in a language, the TL users need to have learnt a large number of lexical items, namely between 7,000-8,000 word families (Schmitt & Schmitt, 2020). However, other studies have also found that there is a rather small amount of words that are used very frequently (in the case of English, according to the British National Corpus, BNC; and New General Service List, NGSL) and that allow language users to start communicating in that language even from the very early stages (Milton, 2009; Nation & Waring, 1997). Therefore, word frequency is an important

aspect that language teachers should take into account when preparing their course syllabus, above all in very low-level groups. This may gain even more importance in FL learning settings such as CLIL, where communication using the TL is essential, since the onset stages of FL acquisition.

To sum up, CLIL classroom-based research conducted so far has outlined many potential benefits of the approach, such as in the case of vocabulary and communication skills. However, most studies conducted had participants who were mostly in their primary and secondary education years. Very few studies (Albaladejo, et al., 2018; Asensio Arjona, 2020; García Esteban, 2015; Mair, 2018) have started to analyse the potential effects of CLIL with younger learners, namely pre-primary education students. Therefore, there is a need for further research in the field of CLIL implementation with pre-primary students, especially considering that AOA of the FL in schools keeps being brought down, and that communicative and integrated teaching approaches are gaining ground in the classrooms of younger learners.

Considering the framework presented, the goal of the present dissertation is twofold: (1) to investigate the potential effects of a soft-CLIL programme in 4- and 5-year-old pre-primary learners' English as a Foreign Language (EFL) vocabulary acquisition over the course of 6 months[1], and (2) to examine pre-service and in-service pre-primary teachers' perceptions regarding the implementation of CLIL with such young learners, to identify its expected benefits and challenges. Three studies that complement each other make up this thesis done following the compendium of publications format: the first two research articles tackle the first goal, while the third article focuses on the second goal abovementioned. Next, the general objectives of each study are presented briefly, considering the state of the art above presented, and the research gap identified.

The first two articles aim to examine vocabulary acquisition by 4- and 5-year-old pre-primary students learning EFL either through conventional EFL instruction, or through CLIL. These two studies were motivated by the shift in the paradigm of language teaching and learning from focus-on-form methodologies to communicative approaches, such as CLIL, that has taken place within the latest decades. With the emergence and spread of communicative approaches, vocabulary acquisition has gained importance within the language classrooms, as it is essential

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[1] Originally, this longitudinal study was planned to take place over a whole academic year, more specifically between September 2019 and June 2020. However, the intervention had to be cut short, ending in March 2020, due to the COVID-19 lockdown. Similarly, post-tests had to be administered earlier, namely after the second unit in March 2020, instead of June 2020.

when learning any language for the students to be able to communicate in that TL (Albaladejo et al. 2018; Meara, 1996; Schmitt, 2008). As such, there is a rather large body of research that has so far examined various aspects of vocabulary acquisition (e.g., rate, depth, aspects, coverage, frequency). However, the studies that have been conducted so far have mostly focused on primary and secondary education learners, while research on vocabulary acquisition through CLIL with younger students, namely pre-primary education children is still very scarce (Albaladejo, et al., 2018; Asensio Arjona, 2020; Garcia Esteban, 2015; Mair, 2018). Studies one and two of the present dissertation aim to contribute to this research gap, by examining the effects of a soft-CLIL programme in pre-primary education EFL learners. Thus, a 6-month CLIL intervention was designed and implemented with 4- and 5-year-old children in two schools in Catalonia. Participants' receptive and productive vocabulary uptake through CLIL was analysed and compared to the results of same-age children following conventional EFL instruction. Age and word frequency effects were also analysed.

To complement the two research articles just described, a qualitative approach was followed to tackle the second goal of the present thesis: to examine pre-primary teachers' perceptions regarding CLIL implementation at such young ages. The idea behind this study was originated from the fact that AOA is being brought down in schools, and that approaches such as CLIL are being implemented with learners of younger ages. With the rapidly increasing implementation of CLIL programmes, it becomes of crucial importance to listen to what the teachers, as one of the main stakeholders, think (e.g., Pladevall-Ballester, 2015) in order to examine their views and identify their main teaching and training needs. CLIL teachers are usually involved in the designing of such programmes, and, more importantly, are the ones who implement it in their classrooms. Several studies have already started to analyse teachers' perceptions on CLIL (e.g., Alcázar-Marmol, 2018; Amat, et al., 2017; Infante, et al., 2009; San Isidro, 2021), nevertheless, due to the limited number of CLIL programmes that have been developed and implemented so far in the pre-primary educational stage, most of the research has focused on primary, secondary, and higher education CLIL teachers' views, and very little is known about the views of pre-primary teachers, specifically regarding the expected benefits and challenges of CLIL in pre-primary. Thus, study three of the present dissertation contributes to such a research gap by collecting and examining in-service and pre-service teachers' perception on CLIL implementation in pre-primary education. Its main goal is to identify the potential benefits and challenges that CLIL in pre-primary may entail both for the learners and themselves as the teachers. Ultimately, it aims to identify pre-primary CLIL teachers' needs, both related to CLIL training and teaching, which can help design teacher training programmes better, and provide them with the adequate support and materials.

In sum, the present dissertation contributes to the FL acquisition field, more specifically to the CLIL research domain, with both quantitative and qualitative research. With a twofold aim it examines (1) vocabulary acquisition through CLIL in pre-primary education learners, and (2) pre-primary teachers' perceptions on CLIL, to identify the potential benefits, challenges, and needs. Due to the scarcity of studies conducted with such young participants, this thesis provides some relevant results regarding CLIL in pre-primary education, which will hopefully encourage further research to be conducted with students and teachers of this age group.

1.2 Structure of the Thesis

The present doctoral thesis has been done following the compendium of publications format. To comply with the requirements of such a format set by the Doctoral Programme in Communication, Education, and Humanities at the Universitat Internacional de Catalunya (UIC Barcelona), three original research papers have been published or have been accepted for publication in indexed, peer-reviewed journals (see the editors' acceptance letters in Appendix 1).

The structure of this dissertation is as follows. Chapter 1 serves as a general introduction, where the state of the art of the main interest topics is presented, the research gap is identified, and the general objectives of the dissertation are explained. This is followed by a description of the structure of the thesis. Chapter 2 reviews the previous literature relevant for the purpose of the present dissertation. It starts by contextualising the current need to learn FLs and the complexity of vocabulary learning. Next, it explores the effects that previous studies have found related to an earlier AOA in a variety of contexts, by contrasting immersion and FL settings. After that, it presents the conceptual framework for the CLIL approach, focusing on its core and variable features, its effects on various linguistic, personal, and interpersonal areas, and the previous studies with pre-primary learners specifically. The last sections respectively describe the profile of CLIL teachers and provide a review of previous research that has investigated CLIL stakeholders' perceptions of such an approach, with the main focus on the teachers. Following this, chapter 3 presents the main objectives of the dissertation, as well as the specific research questions, and hypotheses for each of the three studies. Next, chapter 4 describes the methodology followed to carry out the three studies. For each of the studies, the participants and their context are described, the data collection instruments and procedures are explained, and the data analysis process is summarised. Chapters 5 to 7 include the final version of the manuscript of the three studies that make up this dissertation.

Chapter 5 corresponds to study one, which is entitled 'Receptive vocabulary acquisition in pre-primary education through soft-content and language integrated learning', and which was published in September 2021 in the journal *English Language Teaching*, *14*(10), 1-22. This study

analysed receptive vocabulary acquisition in two groups of learners (4- and 5-year-olds): one control group following conventional EFL instruction, and one experimental group enrolled in a soft-CLIL programme for 6 months. Both groups of students attended the same schools and were taught by the same English teacher, who followed different teaching approaches when presenting the topics of interest, that is, two units related to the seasons and holidays: (1) Autumn and Halloween, and (2) Winter and Christmas[2]. After the pedagogical intervention, participants were tested on target words related to these topics through a receptive vocabulary test, which followed the same format as the Peabody Picture Vocabulary Test (PPVT-4). In the results, students' receptive vocabulary acquisition was analysed, and age and word frequency effects were also examined.

Chapter 6 presents study two, which is entitled 'Productive vocabulary development in pre-primary through soft CLIL' and which was published in July 2022 in the journal *Open Linguistics*, *8*(1), 297-327. This study followed the same methodology and groups of participants as study one. However, in this case, the focus was on productive vocabulary acquisition. As such, the non-CLIL and soft-CLIL groups were tested on the target words of the seasons through a productive vocabulary test, which followed the same format as the Expressive Vocabulary Test (EVT-3). In the results, participants' productive vocabulary acquisition was studied, and word frequency effects were also examined. Additionally, this study compared the productive vocabulary results just analysed with the receptive vocabulary results presented in study one.

Chapter 7 includes study three, which is entitled 'CLIL in pre-primary education: The views of in-service and pre-service teachers', and which has been submitted to the *Bellaterra Journal Of Teaching & Learning Language & Literature*. This article has been accepted for publication. For this study, in-service pre-primary teachers from 29 different schools in Catalonia and pre-service pre-primary teachers from 5 universities in Catalonia answered an online survey through which their perceptions regarding CLIL implementation in pre-primary education were collected. A mix of content and thematic analysis was used to analyse the participants' answers. The results and discussion sections focused on (1) analysing teachers' level of knowledge of the CLIL approach, (2) identifying the potential benefits and challenges that CLIL may bring along for their pre-primary students and themselves as teachers, and (3) determining teachers' main

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[2] Originally, the pedagogical intervention included 4 units related to the four seasons: (1) Autumn and Halloween, and (2) Winter and Christmas, (3) Spring, Easter, and Sant Jordi, and (4) Summer. However, due to the COVID-19 lockdown starting in March 2020, the last two units could not be implemented.

CLIL teaching and training needs, as well as investigating their readiness to start teaching through the CLIL approach in pre-primary.

After the three studies, chapter 8 provides a summary and discussion of the main results reported and revisits the research questions and hypotheses. In parallel, the contribution that the three studies have made to the field of FL acquisition through CLIL is discussed, along with the main limitations of the articles, and some suggestions for further research. Finally, chapter 9 serves as a conclusion for the present thesis.

Chapter 2. Literature Review

Chapter 2 serves as a general literature review of previous research of relevance for the present dissertation. As such, it starts by contextualizing FL learning considering the increase in globalization and internationalization, and the need for multilingualism and linguistic diversity. Next, the complex nature of vocabulary acquisition is studied, with special emphasis on word complexity, and the factors affecting vocabulary learning, such as word frequency. Then, the relationship between early AOA and the FL learning context is explored. After that, CLIL as a FL teaching and learning approach is presented, by defining it, studying its effects reported in previous research, and presenting the very limited research that has been conducted with pre-primary learners specifically so far. To conclude this chapter, a review of previous research on CLIL teachers' perceptions is presented, focusing on their level of knowledge of the approach, and the expected benefits, challenges, and needs.

2.1 Globalization and Language Learning

As pointed out earlier in §1.1, ever since the 1940s, the onset of what in 1993 would formally become the European Union (EU), actions have been taken to address two main concerns related to language education and preservation in the EU. Originally, the main concern was the protection of national, minority, and heritage languages of EU countries, but such a concern evolved later to the promotion of multilingualism, multiculturalism, and linguistic diversity (European Commission, 1995). As such, there was a need to increase EU citizens' competencies in multiple languages, including their L1(s), and other FLs, ideally from other EU countries. Within this context the 1+2 or mother tongue+2 principle was presented (European Commission, 1995). This formula supports and promotes the education of EU citizens in their L1(s), plus two other FLs, one of which should be a widely spoken language, while the other one should be another EU language of choice, depending on the country or region, such as a heritage language, or a neighbouring country's language. These languages were to be taught in a wholistic way within schools, to promote connection-making between them and allow learners to fully develop their linguistic repertoires (European Commission, 1995, 2003).

In short, the EU has always had the goal of better equipping its citizens to work, communicate, and participate actively in an increasingly globalized and international world through the promotion of a continuously improving linguistic education. With this aim, the European Commission and the Council of Europe have proposed and launched a number of

initiatives to increase the quality of language learning and teaching in EU countries, and a number of official publications have been issued to help achieve such a goal.

In 1995, two important documents were published: the council resolution on *Improving and diversifying language learning and teaching within the education system of the European Union* (Council of Europe, 1995), and the first *While Paper on Education and training* entitled *Teaching and Learning – Towards the learning society* (European Commission, 1995). The former, namely the council resolution, aimed to start regularizing 'the teaching and dissemination of the languages of the Member States' (Council of Europe, 1995, p.1). With the goal of strengthening the connection between the EU countries, their languages, and cultures, as well as of promoting linguistic diversity, the resolution provided some guidelines and tools for the EU countries to take into consideration when designing language education policies at all levels of education, namely from early childhood stages to higher education programmes. The latter was the first *White Paper* published by the European Commission. Such a document introduced for the first time the above mentioned 1+2 formula, namely the need to become proficient in three community languages. Furthermore, it highlighted education and training as the two main pillars for equity of opportunities and, consequently, identified the main challenges in the EU at the time and proposed guidelines to achieve higher-quality education and training (European Commission, 1995). Since 1995, when the first issue of the *White Paper* above described was published, several subsequent *White Papers* have been published identifying EU challenges at the time and proposing guidelines for the member countries to overcome them and guarantee the progress towards Europe's multilingual goals.

In parallel to these publications, a number of initiatives were also launched, such as the international mobility Erasmus+ programmes (originally named Erasmus), which first started in the late 1980s, and whose popularity has significantly been boosted since then. Later on, the *Common European framework of reference for languages: Learning, teaching, assessment* (CEFR) was established in 2001 (Council of Europe, 2001), and the *Guide for the development of language education policies in Europe* was published in 2007 (Council of Europe, 2007). The CEFR served as a tool to standardize language proficiency levels and aimed to enhance the plurilingual profile of individual learners, as well as to define curricula, facilitate testing, and stablish certification comparability across languages (Council of Europe, 2001). On the other hand, the guide served as a reference document for the organization of language teaching in the EU member states, by identifying the main challenges related to language education in EU countries and proposing possible responses. As such, it was destined mostly to those stakeholders in charge of the creation and implementation of linguistic policies in EU countries (Council of Europe, 2007).

Two other EU initiatives are especially relevant for the purpose of the present dissertation: (1) the promotion of an early onset of FL instruction in schools, and (2) the implementation of CLIL programmes in primary and secondary education levels. More details on such initiatives, are provided further ahead in this thesis, more specifically in §2.3 and §2.4 respectively.

2.2 FL Vocabulary Acquisition

Within the context just described in the previous section, learning FLs becomes crucial for citizens living anywhere around the world, due to the recent increase in internationalization and globalisation (Dalton-Puffer, et al., 2022). In the EU specifically, FL learning has been promoted within the latest decades after the 1+2 principle was formulated, and following the initiatives described in §2.1, which aimed at improving language education and promoting multilingualism. In parallel, research focusing on L1, and FL acquisition has also gained ground. One of the linguistic skills that has been researched the most is vocabulary. However, that was not always the case, as research on vocabulary learning has experienced a large increased interest after Meara's publication of 'Vocabulary acquisition: A neglected aspect of language learning' in 1980 (Webb, 2020). Since then, many aspects of vocabulary learning have been examined, such as the different aspects of vocabulary knowledge, its relationship with language proficiency, the effects of word frequency, the approaches to teaching and learning vocabulary, and the measuring of vocabulary knowledge.

Such a variety of aspects are being researched due to the complex but essential nature of vocabulary knowledge for language use (Schmitt, et al., 2015). Vocabulary (or lexical competence), alongside grammar (or syntactical competence), has been claimed to be one of the two main competencies in language learning in order to achieve communication. However, when it comes to FL learning specifically, vocabulary has been attributed greater importance than grammar. That is because, as summarized in Qian & Lin (2020), previous research has found that lexical errors in second language (L2) or FL speakers seem to be more damaging than grammatical errors, since they ultimately affect L2 production and can cause communication problems.

Thus, vocabulary learning, although quite complex, seems to be crucial in any language learning process (Meara, 1996; Schmitt, 2008). Next, some aspects of the complex nature of vocabulary acquisition that are of relevance for the present dissertation are broken down.

2.2.1 Word Complexity and Factors Affecting Vocabulary Acquisition

As mentioned above, vocabulary knowledge is essential when learning any language, although rather complex. Thus, it is highly important for language teachers to be aware of what is involved in word knowledge, to properly foster 'the development of well-rounded, usable vocabulary knowledge' (Nation, 2020, p.15). When talking about what word knowledge involves, the list of word aspects originally presented by Richards (1976), and later completed and popularized by Nation (1990; 2013) comes to mind. Such a list, represented in table format in Nation (2013), and reproduced in Table 2.1, provides the most complete and widely spread classification of word knowledge aspects to date. Nine main aspects that make up word knowledge and how they are learnt are established, which can help teachers guide learning, depending on the learners' needs and their ultimate language use objectives (Nation, 2020). As such, not all nine aspects are of equal importance for all learners, and not all should be introduced at the same time, although there seems to be an agreement that spoken form, written form, and meaning are the aspects that are developed first, and that are usually introduced at the earliest language learning stages (Nation, 2020). Therefore, it is expected that language learners have partial knowledge of words, as they start learning the basic aspects of a word and expand their knowledge of that word later on when learning the most complex word aspects, such as its collocations, or constraints of use.

Table 2.1 presents word knowledge aspects with a distinction between receptive and productive knowledge within each of the nine dimensions included. In general, receptive knowledge involves meaning recognition and meaning recall (Nation, 2013; Schmitt, 2010), and is the kind of knowledge needed for listening and reading (Nation, 2020), while productive knowledge entails form recognition and form recall (Nation, 2013; Schmitt, 2010), and is the kind of knowledge required for speaking and writing (Nation, 2020). Receptive vocabulary acquisition usually precedes productive acquisition, and, consequently, receptive knowledge tends to be larger than productive knowledge (Webb, 2009). Several researchers (Ellis & Beaton, 1993; Laufer, 2005; Shintani, 2011; Waring, 1997) have tested language learners on the same words receptively and productively and have reported higher scores in receptive than in productive vocabulary. Such results corroborate the fact that receptive vocabulary tends to be acquired before productive and, hence, the former is most often larger. In light of such findings, it is also important to note that the lack of productive word knowledge does not necessarily mean that a word is completely unknown for a learner. In most cases, they may have receptive knowledge, but may need more time to develop their productive knowledge of that word. Therefore, vocabulary knowledge can be partial, and usually starts with receptive knowledge, to later evolve to productive knowledge (Nation, 2013).

Table 2.1

What is involved in knowing a word

Form	Spoken	R[1]	What does the word sound like?
		P[2]	How is the word pronounced?
	Written	R	What does the word look like?
		P	How is the word written and spelled?
	Word parts	R	What parts are recognisable in the word?
		P	What word parts are needed to express the meaning?
Meaning	Form and meaning	R	What meaning does this word form signal?
		P	What word form can be used to express this meaning?
	Concept and referents	R	What is included in the concept?
		P	What items can the concept refer to?
	Associations	R	What other words does this make us think of?
		P	What other words could we use instead of this one?
Use	Grammatical functions	R	In what patterns does the word occur?
		P	In what patterns must we use this word?
	Collocations	R	What words or types of words occur with this one?
		P	What words or types of words must we use with this one?
	Constraints of use (register, frequency..)	R	Where, when, and how often would we expect to meet this word?
		P	Where, when, and how often can we use this word?

[1] R=receptive knowledge

[2] P=productive knowledge

Note. From *Learning vocabulary in another language* (2nd ed., p. 49) by P. Nation, 2013, Cambridge University Press (https://doi.org/10.1017/CBO9781139524759).

In sum, vocabulary knowledge can be seen as a rather complex continuum both in terms of progressing through the nine aspects of knowing a word listed by Nation (2013), and in terms of progressing from receptive to productive knowledge (Qian & Lin, 2020). Consequently, partial vocabulary knowledge seems to be the normal state of many lexical items even for native speakers, since fully mastering all aspects of a word is rather complex (Schmitt & Schmitt, 2020).

In addition to the continuum of vocabulary acquisition just mentioned, it seems that some words are intrinsically learnt more easily due to a variety of aspects that can be learner-related, setting-related, or word-related (Webb, 2020). First, regarding learner-related factors, the previously known languages, the prior vocabulary knowledge in the TL, and the learners' working memory have been pointed out as influential aspects in vocabulary uptake (Peters, 2020). In terms of the setting and approach, Pellicer-Sánchez (2020) summarized some of the most influencing factors, such as the balance between instructed and incidental exposure, the quantity of encounters, and the noticing of unknown words. Finally, there are some word-related aspects that

greatly affect vocabulary uptake, as summarized in Peters (2020), and which can in turn be divided according to those related to the word itself or those related to the words' context. Regarding the former, some influential factors are cognates, words that are similar in form or meaning, word length, which part of speech the word belongs to, its concreteness and imageability, and whether it is polysemic or homonymic, among others. Regarding the latter, namely the contextual factors, frequency of occurrence, L1 frequency, and L2/FL frequency seem to be highly influential factors as well in vocabulary learning (Peters, 2020).

2.2.2 Word Frequency Effects on Vocabulary Learning

The present section focuses on the last influential factor mentioned, as it is of relevance for the first two articles that are part of the thesis. Thus, next, we examine the concept of word frequency, its relationship with text coverage, and how it can have important pedagogical implications.

Frequency is a measure that was first introduced by Nation (2001), and that allows for word categorization and ordering within a corpus, according to how frequently words are used in a language. In English, for example, three of the main reference corpora are the British National Corpus (BNC), New General Service List (NGSL), and the Corpus of Contemporary American English (COCA)[3]. Such corpora provide a list of English words, including both function and content words, grouped in 1,000 word-bands. Such bands, and the words within each, are ordered from most to least frequent. Additionally, some corpora also include separate categories for proper nouns, and specialized vocabulary, namely academic or technical words (Nation, 2013).

Organizing words by frequency and examining how much coverage of written and spoken texts they provide is key, above all at the beginning stages of language learning. Coverage 'refers to the percentage of tokens in a text, which are accounted for (covered by) particular word lists' (Nation, 2004, p.7). It has been claimed that English language learners need to know about 7,000-8,000 word families to fully understand general spoken texts, while a greater number of word families is required to completely understand more specialized texts, such as newspapers (8,000 word families), and novels (9,000 word families), as summarized by Nation (2013) in Table 2.2.

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[3] For the purpose of the present dissertation, we focus on the BNC and the NGSL corpora from here onwards, mainly because American English is not the most common variant taught in Catalan schools, which is the context where the research in this thesis was conducted.

Table 2.2

English vocabulary sizes needed to get 95% and 98% coverage of various kinds of texts

Texts	95% coverage	98% coverage
Novels	4,000 word families	9,000 word families
Newspapers	4,000 word families	8,000 word families
Children's novels	4,000 word families	6,000 word families
Spoken English	3,000 word families	7,000 word families

Note. From *Learning vocabulary in another language* (2nd ed., p. 16) by P. Nation, 2013, Cambridge University Press (https://doi.org/10.1017/CBO9781139524759).

It has also been found that not all 1,000 word bands provide the same amount of coverage. In fact, it seems that there is a rather small number of words that are extremely frequent and that provide coverage for most of the spoken and written interactions (Nation, 2013; Nation & Meara, 2020). Figure 2.1 illustrates how the words in the first 1,000 band can provide around an 80% coverage in written texts, and slightly higher in spoken texts in English (Vilkaitè-Lozdiené & Schmitt, 2020).

Figure 2.1

Vocabulary size and text coverage

Approximate coverage (%)
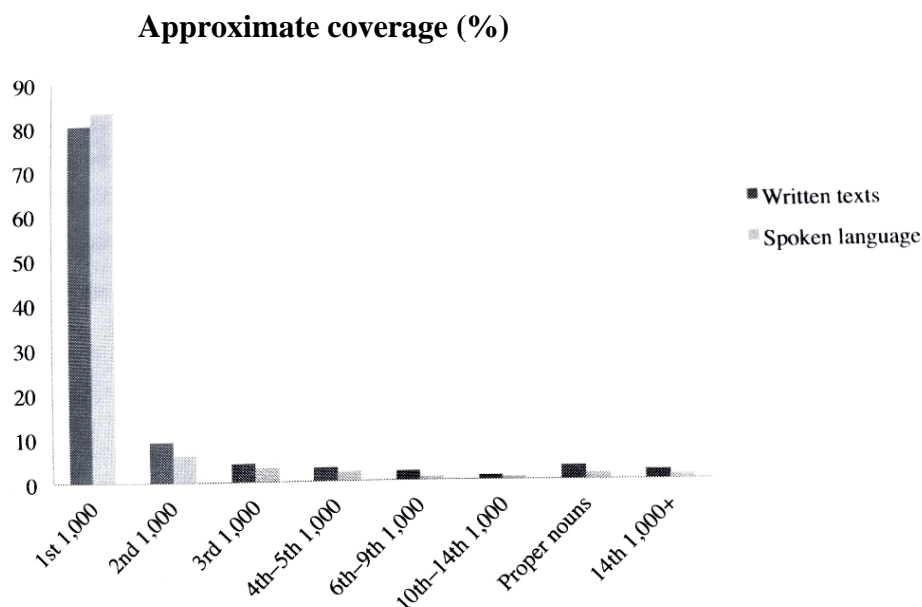
Note. From "Frequency as a guide for vocabulary usefulness. High-, mid-, and low-frequency words", by Vilkaitè-Lozdiené & Schmitt, 2020. In *The Routledge handbook of vocabulary studies* (p. 86) by S. Webb, 2020, Routledge Hanbooks (https://doi.org/10.4324/9780429291586).

Similar findings to those illustrated in Figure 2.1 were previously reported by Nation (2013), when he examined the coverage of the BNC by word families. Nation's (2013) results (summarized in Table 2.3) corroborate that with the first four 1,000 word bands of the BNC, a cumulative coverage of 95% is reached in English, including proper nouns, marginal words, and compounds, although these three last categories are much smaller. Additionally, from the fourth 1,000 band onwards, the percentage of coverage is highly reduced, and only increases by about 0.5 or 1% from one band to the next. Such results are especially relevant for early language learners, who by acquiring the first 3,000-4,000 most frequent word families would already be able to start communicating in the TL. Therefore, language teachers should be made aware of such lists to prioritize the teaching of higher-frequency words first, since these words are actually encountered more often, and thus have better chances of being learnt (Vilkaitè-Lozdiené & Schmitt, 2020), which ultimately would allow learners to start communicating from very early language learning stages.

Table 2.3

Coverage of the British National Corpus by word family lists made from the corpus

Lists	% coverage of tokens	% cumulative coverage of tokens including proper nouns, marginal words, and transparent compounds
1st 1,000	77.96	81.14
2nd 1,000	8.10	89.24
3rd 1,000	4.36	93.60
4th 1,000	1.77	95.37
5th 1,000	1.04	96.41
6th 1,000	0.67	97.08
7th 1,000	0.45	97.53
8th 1,000	0.33	97.86
9th 1,000	0.22	98.08
10th 1,000	0.28	98.23
[…]	[…]	[…]
20th 1,000	0.01	98.86
Proper nouns	2.75	
Marginal words	0.31	
Compounds	0.30	
Not in the lists	1.02	99.08

Note. Adapted from *Learning vocabulary in another language* (2nd ed., p. 21) by P. Nation, 2013, Cambridge University Press (https://doi.org/10.1017/CBO9781139524759).

Thus, as seen in Figure 2.1 and Table 2.3, frequency provides an accurate picture of how much coverage words provide in spoken and written texts in a language. Of important relevance is the fact that there is a rather small number of words that are of very high frequency and that provide around 80-90% coverage in English. Such lexical items have been classified under the category of high-frequency words. Although there seems to be an open debate as to where to draw the cut off line for high-frequency words, the boundary of 3,000 seems to be the most accepted and popular one (e.g., Nation, 2013; Schmitt & Schmitt, 2014, 2020; Waring & Nation, 1997). Regardless, the list of high-frequency words is quite stable, as it does not change drastically depending on the corpus, nor over time (Vilkaitè-Lozdiené & Schmitt, 2020). These high-frequency words have been found to be acquired more easily and faster (Alexiou, 2015) than lower-frequency ones, probably because they are more concrete (Shaban, 2013), their referents are more common, and are more present in our daily lives (Alexiou, 2015), so they are encountered more often (Albaladejo, et al., 2018; Vilkaitè-Lozdiené & Schmitt, 2020). Thus, learning the highest-frequency words first when studying a new language would allow beginner students to easily learn basic words that are useful for them and that allow them to start communicating from the very early stages (Vilkaitè-Lozdiené & Schmitt, 2020).

Contrary to high-frequency words, there is a rather large number of words that are not used as often, and that provide much less coverage. Such lexical items have traditionally been classified as low-frequency words. The line for low-frequency words has been drawn below the tenth 1,000 word band. This category of words includes lexical items that usually belong to a specific field, so low-frequency words are very infrequent in general interactions and texts (which are used to compile frequency corpus lists), but their frequency may increase for people working in that specific field (Vilkaitè-Lozdiené & Schmitt, 2020).

Finally, to fill in the gap between high- and low-frequency, the mid-frequency words category emerged, which includes words that are between the third and ninth 1,000 bands (Schmitt & Schmitt, 2014). The types of words included in this category are usually more specific than the ones in the high-frequency category and are learnt on demand depending on the learners' interests and learning objectives (Vilkaitè-Lozdiené & Schmitt, 2020). Ultimately, learning mid-frequency words allows language learners to move from reading general texts, to authentic field-specific texts (Vilkaitè-Lozdiené & Schmitt, 2020).

A summary of the coverage that each of the three categories into which words can be classified according to their frequency was provide by Nation (2013) and can be found in Table 2.4. Concerning Table 2.4, it is important to note that the inclusion of the third 1,000 band in the high-frequency words category has now been largely accepted, and thus high-frequency words would provide slightly more coverage than indicated.

Table 2.4

Coverage of the British National Corpus by high-, mid-, and low-frequency words

Type of vocabulary	% coverage
High-frequency (2,000 word families)	86%
Mid-frequency (7,000 word families)	9%
Low-frequency (tenth 1,000 word level onwards)	1-2%
Proper nouns, exclamations, etc.	3-4%
Total	100%

Note. From *Learning vocabulary in another language* (2nd ed., p. 22) by P. Nation, 2013, Cambridge University Press (https://doi.org/10.1017/CBO9781139524759).

In sum, frequency is an important aspect of vocabulary to be taken into account when choosing which words to start presenting to language learners since their beginning stages. As the concept of high-frequency indicates, these words are encountered very often, which increases the chances of learning and using them. Thus, high-frequency words should be prioritized, above all in early language learning, as they provide a wide text coverage, and allow for basic interactions (Alexiou, 2015; Vilkaitè-Lozdiené & Schmitt, 2020). This entails a very relevant teaching implication, which should be disseminated to language teachers, as frequency can become an important criterion for vocabulary selection and syllabus design.

2.3 Age of Onset of Acquisition and Language Learning Contexts

Within the latest decades, globalization and internationalization have rapidly increased, which consequently has highlighted the need to raise L1 proficiency levels, and the importance of FL learning. §2.1 of the present dissertation has provided an overview of the main initiatives and documents that have been implemented and published within the EU context to foster European citizens' multilingual development. Such a need to learn FLs, together with the measures promoted by the European Commission, have brought along some changes in schools' language policies. First, an early start to FL learning has been promoted, by bringing down the age of onset of acquisition (Muñoz, et al., 2010). And second, FL teaching methodologies have shifted away from teachers-centred ones to communicative immersion-like approaches, such as CLIL (Pérez-Vidal, 2011). In this section we examine the effects of bringing down the AOA in relation to the different FL learning contexts, ranging from immersion to low-exposure FL settings.

The advancement in the AOA and the promotion of an earlier start to FL learning in schools have been motivated by the traditional believe that the sooner children start to learn a new FL, the better the chances are for them to reach native-like proficiency in the TL. Such a statement is supported by the Critical Period Hypothesis (CPH), which was first proposed by Penfield

(Penfield & Roberts, 1959), and later popularized by Lenneberg (1967). According to the CPH, there is a period of growth during which the attainment of native-like competence when learning a FL is possible. However, when the learning of a FL starts after such a period, which has been traditionally set at around adolescence, the chances of reaching native-like competence in that FL diminish greatly (Lenneberg, 1967; Penfield & Roberts, 1959).

Although the CPH has greatly motivated an early start to FL learning, it has to be interpreted carefully, by taking into consideration the language learning context, which has been found to influence differently language learners of different ages (Miralpeix, 2006; Muñoz et al., 2010). For instance, children who start learning a FL at very young ages seem to benefit more from naturalistic environments, such as L2 or immersion contexts, in which they can learn implicitly, while those who start at an older age benefit more from Formal Instruction (FI) contexts, in which explicit and analytic learning takes place (DeKeyser, 2000; Krashen et al. 1979). Although not much empirical research has been carried out so far to examine how both age and learning context affect FL acquisition, there are three especially relevant studies in this domain. Artieda, et al. (2020) found that the group of older learners following FI outperformed the younger group following FI+CLIL, while keeping the hours of instruction within school the same. Such findings led the authors to state that biological age indeed seems to have an impact when learning a FL. Similarly, Muñoz (2006) reported a higher FL acquisition rate at the initial FL learning stages in older learners, than in younger ones. The author attributed these results to the fact that older students can draw from their explicit learning mechanisms in FI settings, while younger learners have not developed them yet, but would benefit more from a naturalistic learning context, where they can learn implicitly. In a previous study, Krashen, et al. (1979) found that children learning a FL in an immersion context actually showed higher attainment levels in the long run, when compared to FL learners that had started as adults.

The findings reported in the studies just presented raise questions about the generalization of the traditional believe that the earlier is the better, as it seems that in FL settings, where the TL is taught through FI, and where exposure to the FL is very limited, older learners actually outperform younger learners (e.g., Artieda, et al., 2020; Muñoz, 2006, 2008). However, immersion-like contexts do seem to allow FL learners that started at earlier ages to reach higher ultimate attainment levels (Krashen, et al., 1979). As such, immersion seems to be the ideal language learning context for young learners, as it increases quality, quantity, and intensity of contact with the TL (Muñoz, 2006; Muñoz & Singleton, 2011).

Nonetheless, it is worth noting that nowadays in most cases the TL is still being learnt in a FL setting with limited quality and quantity of exposure, as FL immersion programmes are most often not an easy option, nor available to all language learners. To face the limitation of FL

contexts, as compared to immersion or L2 settings, other teaching approaches to increase quality, quantity, and intensity of contact with the TL have emerged and quickly gained ground. That is the case of CLIL, which increases exposure to the FL, while providing a meaningful and contextualized immersion-like learning environment (Llinares & Morton, 2010; Lorenzo, et al., 2010; San Isidro & Lasagabaster, 2019). Further details about the CLIL approach are provided in §2.4 of the present dissertation.

In sum, the traditional belief that the earlier a FL is learnt, the better the chances are for the learners to reach nativelike competence, is not to be generalized, as FL acquisition seems to be highly dependent on the learning context. Factors such as quality and quantity of exposure have been reported to play a crucial role in FL learning, and influence FL learning rate (Miralpeix, 2006, 2007; Muñoz, 2006, 2008; Muñoz, et al, 2010). More specifically, it cannot be expected that bringing down the AOA in schools will automatically and by itself result in higher FL attainment levels. Earlier AOA should come in combination with an increase in the intensity, quality, and quantity of exposure to the TL (Miralpeix, 2007; Muñoz, 2008). This shift towards immersion-like contexts such as CLIL, in combination with an earlier onset of language teaching in schools, is expected to allow FL learners with earlier AOA to reach higher ultimate attainment levels in the FL. However, very little research has been conducted so far with very young learners, namely below the age of 6, in instructional FL learning contexts. Thus, the effects of immersion-like programmes such as CLIL, in combination with the advancement in the AOA in schools, still remain to be seen. The research presented in this dissertation aims to contribute to this research gap, by examining the effects of a CLIL programme on very young pre-primary education learners' FL vocabulary acquisition.

2.4 Content and Language Integrated Learning

Immersion programmes have been around since the 1960s, when they became very popular in Quebec (Canada) to overcome the failure of traditional FL instruction models to teach French. Such immersion programmes counted with native speakers as teachers, and increased exposure to French (the co-official language, alongside English) by using it as the instruction language in up to half of the curriculum. Later on, in the 1990s, in Europe, concerns regarding EU citizens' low linguistic competencies began to raise. As such, there was a shift in the language teaching and learning paradigm that was shaped by the publication of several important documents, such as the guide on *Improving and diversifying language learning and teaching within the education system of the European Union* (Council of Europe, 1995), and the first *While Paper on Education and training* entitled *Teaching and Learning – Towards the Learning Society* (European Commission, 1995). Both documents (described in greater detail in §2.1 of this thesis) promoted

initiatives that helped, at a European level, to enhance the multilingual and multicultural profile of EU countries and their citizens. Although such documents served as a guide, ultimately it was the EU member states, and their autonomous communities in some cases, that had to design and implement their own specific policies to achieve the above mentioned European goals towards multilingualism.

It is within this context that immersion and CLIL programmes began to gain ground in many European countries, especially in those where exposure to the FL outside of the school is extremely limited, such as the case of Spain. The term CLIL was first used in Europe in the 1990s, as an umbrella term to refer to a wide range of educational integrated or immersion-like approaches. However, it was not until the 2000s that the European Commission published the first two very relevant documents regarding CLIL implementation. The first one was a technical report entitled *CLIL/EMILE – The European dimension* (European Commission, 2002; Marsh, 2002) which aimed to achieve Europe's multilingual mother tongue+2 goal by converting 'what is viewed in some ways as a language problem, into language potential, by examining how current approaches to foreign language education can be utilized, adapted or enhanced' (European Commission, 2002, p.9). To do so, the report started by providing an overview of the linguistic contexts of EU countries, to then summarize the key results in research thus far, regarding language learning outcomes and teaching approaches. The report also provided some specific actions and examined 17 case studies of EU member states. Additionally, it devoted an entire chapter to CLIL, in which its success, opportunities, and challenges are analysed. After this, the document concluded with a chapter of recommendations of good practice to be considered at European level (European Commission, 2002; Marsh, 2002).

The second document was an action plan entitled *Promoting language learning and linguistic diversity: An action plan 2004-2006* (European Commission, 2003). Such a document highlighted once again the importance of language learning, and recognized the progress made in the EU in the previous years. It also pointed out that further efforts were needed regarding the achievement of the 1+2 formula, and the improvement of quality in language teaching policies at all educational levels. To do so, it proposed policy objectives and a list of actions to be taken in order to reach such goals (European Commission, 2003).

These two documents were especially relevant for the CLIL landscape, since they helped pave way for the implementation of a wider number of CLIL programmes around Europe, as well as for the improvement of already running ones. Following that, several projects at a European level have been developed, for example, to boost CLIL in primary education. That is the case of two major projects: the *CLIL for Children* (2015-2018), and the subsequent *CLIL for Young European Citizens* (CLIL4YEC; 2019-2023). The latter is one of the most recent projects that

counts with the participation of four EU countries (Italy, Rumania, Portugal, and Spain), and which has led to numerous publications, including a state-of-the-art report (Morgado, 2020), a compilation of open educational resources (Lazar & Langa, 2020), and several teacher guides (e.g., Alejo-González, et al., 2020). Another example is the *Eurydice* project (1980-Present day), which, with a network of 37 EU countries, studies how the education systems in Europe are organized and how they work. Some of first results of the project specifically focusing on CLIL in Europe, were collected and disseminated in the report entitled *Content and Language Integrated Learning (CLIL) at school in Europe* (Eurydice European Unit, 2006). After that, regular publications of reports have been issued, providing updated data and results regarding the policies, and organisation of the education systems in the 37 participating EU countries.

To summarize, since its onset, the EU has been concerned with the promotion of multilingualism and, thus, numerous documents have been published in which real challenges are identified, and guidelines and answers for EU countries to develop their own specific language policies are proposed. Consequently, the number of CLIL programmes around EU countries has increased significantly within the latest decades, which has been motivated by the policies to promote multilingualism in Europe (Pérez-Vidal, et al., 2013), the need to improve the otherwise deficient level of FL in some parts of Europe (Pérez-Cañado, 2011), and the more recent global internationalisation for which schools have to prepare students (Dalton-Puffer, et al., 2022).

2.4.1 CLIL Definition

Since the concept of CLIL was coined, several definitions have been used to describe such a FL teaching and learning approach. The term CLIL was originally used as an umbrella term to describe settings where language and content were taught and learnt in an interdisciplinary way (Aguilar & Muñoz, 2014; Ruiz de Zarobe, 2008). As such, it included not only what is now understood as CLIL, but also other FL teaching approaches like immersion, Content-Based Language Teaching (CBLT), and Content-Based Instruction (CBI). More recently, the distinction between such FL learning contexts has become more explicit, and, thus, CLIL definitions have become narrower. One of the most recent and accurate ones was formulated by San Isidro & Lasagabaster (2019), who described CLIL as 'a dual focus approach whose aim is to foster students' foreign language and content learning while the development of their first language is not impaired' (p.584). Two key aspects of this definition are worth outlining and examining in greater detail: (1) the fact that the students' L1 should not be impaired or compromised, and (2) that CLIL is a dual focus approach.

Regarding the former, it is important to highlight that CLIL programmes usually increase the number of hours of FL exposure within the school, which is something crucial in a FL

environment (San Isidro & Lasagabaster, 2019), where the exposure to the TL outside of the school context is very limited (Pérez-Vidal, 2011). Increased FL exposure, as well as the communicative and naturalistic CLIL environment have been attributed to be some of the sources for the benefits that CLIL provides (e.g., Lasagabaster & Sierra, 2009). However, some concerns have been raised by teachers and parents regarding L1 development, above all in heritage speakers, and in children schooled in context where multiple L1s coexist, or where one of the L1s is a minority language, since increased exposure to the FL through CLIL usually implies that there is a decrease in the L1 exposure within the school. This is an aspect that requires further research, since most studies on CLIL have so far focused on its effects on the FL, but not on the L1(s).

Concerning the latter, CLIL's dual nature is its key feature, and as such it entails that, when implemented properly, both the FL and the curricular content share the focus of attention and, thus, equally important learning goals are set for both (Dale & Tanner, 2012; Lasagabaster, 2008; Ortega, 2015). To achieve this, there should be an ongoing balanced shift between focus on content and language, to avoid one of them taking on disproportionate importance over the other (Tedick & Lyster, 2020). This interplay and balance of content and language in CLIL has been recently referred to as counterbalanced instruction by Tedick & Lyster (2020). Such a counterbalanced approach presents content (meaning) and language (form) as complementary, and 'intentionally draws attention to language in discourse contexts related to subject matter or literacy theme' (Tedick & Lyster, 2020, p.79), to facilitate students' noticing and use the FL, which otherwise may be overshadowed by the subject content (Tedick & Lyster, 2020).

Hence, to successfully integrate a focus on form while keeping the balance between content and language, which is CLIL's main goal, there is a need for systematic planning. To do so, Tedick & Lyster (2020) proposed the CAPA model, with a four-phase instruction sequence: (1) contextualization, (2) awareness, (3) practice, and (4) autonomy. In the contextualization phase, the focus is on content, and the aim is to set up a meaningful context related to the content by the means of any kind of materials (written or spoken texts), which are usually adapted to guarantee frequent and salient encounters with the specific target features. In the awareness phase, which is language-focused, noticing is promoted to later allow students to reflect on the target linguistic features' patterns of use within the texts. The third phase, namely the practice phase, focuses on language again, and provides opportunities for students to use the target features in a controlled meaningful and contextualized way, while they are given clear and relevant corrective feedback by the teacher. The last phase, called the autonomy phase, is content-focused and it provides students with opportunities to use the target features in an open-ended way, for them to increase their fluency, motivation, and confidence in the TL, in a context where accuracy and corrective feedback are still key elements.

From the CLIL definition above presented, and Tedick & Lyster's CAPA model, two of the four main pillars of CLIL become clear, namely (1) communication, and linguistic development, and (2) subject-matter content, which in turn provides context for meaningful language. Alongside such language and content learning objectives, CLIL also aims to enhance learners' development of (3) high order thinking skills, according to Bloom's taxonomy (1984), and (4) cultural awareness. These four pillars of CLIL have been referred to in the 4Cs framework developed by Coyle (Coyle, 1990, 2008; Coyle et al., 2010), in which the 4Cs stand for communication (language knowledge and skills), content (subject matter declarative and procedural knowledge), cognition (high- and low-order thinking skills; HOTS and LOTS), and culture (cooperative learning and global awareness). Within this framework, the need for CLIL to focus on integration is highlighted, to ultimately establish an interrelationship between the 4Cs elements while providing a wholistic and meaningful learning experience for the learners.

In short, CLIL is a dual-focused teaching and learning approach, whose aim is to foster equally subject content learning, and FL acquisition. As such, content is one of the learning goals, but also the means to provide contextualization for meaningful FL learning, which highly relies on communication and interaction, rather than on focus-on-form instruction.

2.4.2 CLIL Core Features and Programme Variability

CLIL programmes have been attributed to provide a privileged classroom setting for FL learning in contexts where exposure to the FL is otherwise very limited and decontextualized. Such CLIL context enhances real communication (Llinares & Morton, 2010; Lorenzo, et al., 2010), allows for meaningful interaction (Alfonso & Pladevall-Ballester, 2020; Darvin, et al., 2020; Garcia Mayo & Basterrechea, 2017), and fosters contextualized language use (Brinton, et al., 1989 Llinares & Morton, 2010; Lorenzo, et al., 2010). The dual nature of CLIL seems to reduce the pressure that students feel to use and learn the FL, when compared to conventional focus-on-form FL classes (Lasagabaster & Sierra, 2009). Thus, CLIL provides a more relaxed and natural learning atmosphere, which has been claimed to enhance FL acquisition (e.g., Garcia Esteban, 2015; Lasagabaster & Sierra, 2009), while research examining CLIL effects on content learning is still too scarce to draw robust conclusions.

In addition to the CLIL context just presented, some common core characteristics that shape all CLIL programmes were listed by Pérez-Vidal (2013). These commonalities (Table 2.5) include, among others, the dual focus on language and content, and the increased exposure to the FL already mentioned by San Isidro & Lasagabaster (2019). Other core features listed by Pérez-Vidal (2008) refer to the use, the status, and the exposure to the L1 and L2 of the CLIL students and teachers. An important aspect worth mentioning is the limited exposure to the L2 (or FL)

outside of the schooling setting, and the fact that, consequently, the classroom becomes the main FL learning environment.

However, due to the popularization of CLIL, many different programmes have emerged within the last couple of decades, each with its own variable features. Pérez-Vidal (2008) summarized some of these variable features of CLIL programmes, such as their timing, continuity, resources, institutional support, etc. (see complete list in Table 2.5). Such a list of variable features of CLIL has over time been completed with other important aspects that characterize each specific CLIL programme. Most recently, Tedick & Lyster (2020) added some other variable characteristics of immersion programmes, like the target languages, the student population, the programme onset, the level of exposure and amount of instruction hours to the FL, the L1(s) and the minority languages, and the language of initial literacy instruction, among others.

Table 2.5

Features of CLIL programmes

Core features of CLIL programmes	Variable features of CLIL programmes
The classroom is the learning context, in an environment where the L2 is not spoken	Timing of the programme
	Continuation
The L2 is the medium of instruction	
L2 exposure is limited to the classroom	Students' support and requirements
	Resources
The other curricular languages are also object of attention	
	Institutional implication
Learners have a limited knowledge of the L2	Social spreading (administration, families, students, etc.)
The teachers share the L1 of the students and are competent in the L2	
	L2 status, language, and culture
The L2 syllabus is the same as that of the L1	
The classroom culture is that of the L1, not the L2	
There is an increase in the total number of hours in contact with the L2	
European perspective towards multilingualism is presented	

Note. Adapted and translated from "El enfoque integrado de contenidos y lenguas en Europa. Principios sociales, educativos y psicolingüísticos" [Content and language integrated learning in Europe. Social, educational, and psycholinguistic principles] by C. Pérez-Vidal, 2008, *Aula de Innovación Educativa, 168*, p. 13.

As such, there can be a lot of variability between different CLIL programmes. Two variable characteristics of CLIL programmes are of special interest for the purpose of the present dissertation: (1) the timing or intensity of the programmes (Dale & Tanner, 2012; Pérez-Vidal, 2008), and (2) the profile of the teachers involved in the CLIL instruction (Dale & Tanner, 2012). These two variables will be referred to and further analysed in the following paragraphs, in relation to the concepts of soft- and hard-CLIL, which are presented first, as they are key for the first two articles that comprise this doctoral thesis.

Before examining the concepts of hard- and soft-CLIL and how they differ regarding their intensity and teachers involved, it is essential to analyse where CLIL stands within the continuum of FL acquisition contexts. Such a spectrum takes into consideration the amount of FL exposure, and the main learning goals (e.g., language-focused, or content-focused), as presented in Figure 2.2. On one end of the continuum lays the traditional FI setting, in which exposure to the FL is usually limited solely to the FL classes, which are clearly language-focused (Larsen-Freeman, 2010). In this context, FL learning is usually decontextualized, and the activities done in class lack of communicative goals, as they are mostly form-focused (e.g., drills, fill-in-the-gaps, repetitions) (Larsen-Freeman, 2010). On the other end of the spectrum, immersion contexts can be found, such as study abroad or international exchange programmes, second language learning contexts, or high intensity CLIL programmes, also referred to as hard-CLIL. Within these contexts, FL learners are exposed to massive amounts of input in the FL in a contextualized way, since the FL is used to function and communicate in the learners' daily lives, which makes FL learning a more meaningful process (Lasagabaster & Sierra, 2009; Llinares & Morton, 2010; Lorenzo, et al., 2010). Between the two ends of the spectrum that have just been described lay all other FL acquisition contexts: from CBLT, which is more language-focused, to CLIL, in which communication is a key element, and the focus is shared between content and language. Such a language learning continuum is represented in Figure 2.2.

Figure 2.2

Continuum of language acquisition contexts
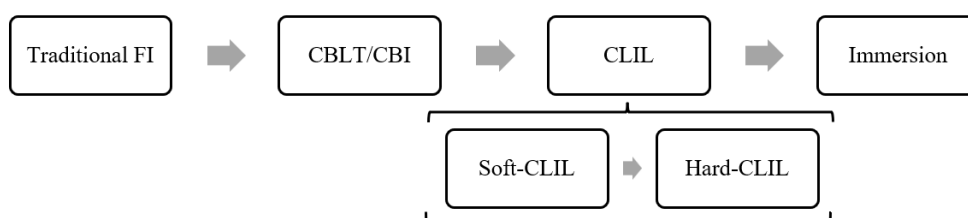
Note. Adapted from "Integration of content and language learning" by G. Thompson, & J. Mckinley. In *TESOL Encyclopedia of English Language Teaching* by J. I. Liontas, M. DelliCarpini, S. Abrar-ul-Hassan, 2018, Wiley

With the popularization of CLIL, the variety in the specific features of CLIL programmes has increased. Thus, more recently, the concepts of hard-CLIL and soft-CLIL (represented within the continuum in Figure 2.2) have been coined and spread. Although Dale & Tanner (2012) already made this distinction without using these naming conventions (see Table 2.6), and although this terminology had already been used by some researchers (e.g., García Esteban, 2015), the use of these terms was not popularized until the concept of soft-CLIL was specifically used to describe FL teaching practiced in the Japanese context (e.g., Ikeda, et al., 2021).

The abovementioned distinction between hard-CLIL and soft-CLIL allows for a categorization of CLIL programmes considering two of their variable characteristics abovementioned: (1) their intensity (hours of CLIL instruction per week), and (2) the profile of the teachers involved (content specialists vs. FL specialists). Additionally, despite CLIL's dual focus, different programmes may still show slight differences regarding (3) whether the main learning outcomes are catered toward the content or the FL (content-led vs. language-oriented). In the next paragraphs, we examine how each of these three aspects shape hard- and soft-CLIL programmes.

First, hours of CLIL instruction per week is a straightforward variable to account for when classifying CLIL programmes. In hard-CLIL, over a third or a half of the schooling hours or subjects are taught through CLIL (García Esteban, 2015), which usually means that there is a reduction in the L1 hours of instruction. In contrast, soft-CLIL does not entail an increase in the hours of exposure to the FL, nor a reduction in the L1 instruction, since soft-CLIL is most often embedded within the regular FL sessions (Dale & Tanner, 2012; García Esteban, 2015).

Second, CLIL programmes of both intensities differ regarding the teachers who are in charge of the CLIL instruction (Table 2.6; Dale & Tanner, 2012). As such, in hard-CLIL, the content teachers implement CLIL within their subject lessons. In most cases, the preferred subjects in which to implement CLIL are Arts and crafts, Science, and Physical education, among others (Eurydice European Unit, 2006). As to soft-CLIL, the FL teachers are the ones implementing it. Thus, FL teachers have to do cross-curricular work to bring to the FL sessions content from other subject as a way to contextualize (García Esteban, 2015).

Finally, soft- and hard-CLIL programmes differ regarding the focus of instruction. Even though in both cases the FL and the content are object of attention, hard-CLIL programmes are content-lead, while soft-CLIL programmes are language-oriented (Ikeda, 2013; Ikeda, et al., 2021). Consequently, the main expected learning outcomes and the focus of the evaluation will be either on content or on language respectively. A more detailed characterization of this distinction can be found in Table 2.6, originally from Dale & Tanner (2012), and adapted by

Ikeda, et al. (2021), who introduced the terms soft- and hard-CLIL, which had not been used in the original version of the table.

Table 2.6

Differences between soft-CLIL and hard-CLIL

	Soft-CLIL	Hard-CLIL
Who teaches?	CLIL language teachers (in language lessons)	CLIL subject teachers (in subject lessons)
What kind of language work do they do?	Work on general language while supporting subject-related topics and language in their language lessons	Work on the language of their subject
What is the aim?	To teach language [and some content]	To teach content and some language
What do they teach?	The language curriculum as well as the language of the subjects to support subject teachers	Curricular subject matter and subject language
Who do they work with?	Work with language department colleagues and subject teachers on developing subject and language with learners	Work with language teachers on developing subject and language with learners
How do they assess?	Assess and mark language	Assess and mark content (and sometimes language)
What do they give feedback on?	Give feedback on language	Give feedback on content (and sometimes on language)
What kind of knowledge do they refer to?	Knowledge of the content of the subject teachers' lessons, which is sufficient to be able to work on related ideas and language during language lessons	Content knowledge and knowledge about the language of their subject, such as text-types, vocabulary, typical writing or speaking activities, language functions
What assumption do they have about learning?	That language depends on content; content depends on language	That content depends on language; language depends on content

Note. From *Soft CLIL and English language teaching. Understanding Japanese policy, practice, and implications* (p. 17) by M. Ikeda, S. Izumi, Y. Watanabe, R. Pinner, & M. Davirs, 2021, Routledge Handbooks (https://doi.org/10.4324/9780429032332). Adapted from *CLIL activities. A resource for subject and language teaching* (p. 4-5) by L. Dale, & R. Tanner, 2012, Cambridge University Press.

To summarize, CLIL is a dual-focused teaching and learning approach, in which both the target FL and the curricular content share the focus of attention. CLIL provides a learning context that has found to be beneficial for FL acquisition, as it promotes a meaningful learning context, and enhances critical and real-life-like interaction. Due to the increasing number of CLIL

programmes implemented over the world, there are some variable characteristics that differ from programme to programme (e.g., target students, programme intensity, teachers involved, learning goals). These sources of variation within each programme should allow for schools and teachers to design CLIL programmes that fit well within their students' profiles and needs.

Thus, CLIL is flexible, and there are different models within such an approach. For the purpose of the present dissertation, more specifically for the first two studies, the concept of soft-CLIL becomes essential. Ikeda (2013) provides an accurate definition of soft-CLIL, which takes into consideration the aspects examined in this section: soft-CLIL is 'a type of content and language integrated instruction taught by trained CLIL language teachers to help learners develop the foreign language competency as a primary aim, and their subject/topic knowledge as a secondary aim' (Ikeda, 2013, p.32), while following the principles of the 4Cs framework (Ikeda, et al., 2020). The framework of soft-CLIL just defined will be the basis for the CLIL programme examined in the first two studies of this thesis.

2.4.3 CLIL Effects

Since the onset and expansion of CLIL, a large number of research articles have examined the effects of such an approach on the development of linguistic skills, as well as personal and social abilities of learners of different ages following different variations of CLIL programmes in diverse contexts. An analysis of these previous studies and their findings is presented in the current section.

In general terms, as summarized in Table 2.7 by Dalton-Puffer (2008), and also reported in later studies described further ahead, it seems that the linguistic skills that benefit the most from CLIL are receptive skills (listening and reading), vocabulary and morphology. CLIL has also been reported to enhance learners' creativity, risk-taking and problem-solving strategies. Additionally, very positive emotive and affective outcomes have been reported in CLIL students, such as higher self-confidence, independence in the FL use, and more engagement and motivation in the learning of content and FL (e.g., Hüttner & Smit, 2014; Lasagabaster & Sierra, 2009).

Although there is a wide array of studies reporting positive effects of CLIL on learners' personal, social, and linguistic development, some contradictory results have also been reported (Table 2.7). The linguistic skills regarding which unclear effects of CLIL have been reported to the greatest extent are syntax, writing, informal and non-technical language, pronunciation, and pragmatics (e.g., Dalton-Puffer, 2008; Pérez Vidal, 2011; Roquet & Pérez Vidal, 2017).

Table 2.7

Language competencies favourably affected or unaffected by CLIL

Favourably affected	Unaffected or indefinite
Receptive skills	Syntax
Vocabulary	Writing
Morphology	Informal/non-technical language
Creativity, risk-taking, quantity	Pronunciation
Emotive/affective outcomes	Pragmatics

Note. From "Outcomes and processes in Content and Language Integrated Learning (CLIL): Current research from Europe" by C. Dalton-Puffer. In W. Delanoy, & L. Volkmann (Eds.), *Future perspectives for English language teaching* (pp. 143), 2008, Carl Winter.

The first part of the present section has provided a general overview of the skills positively affected by CLIL, as well as the linguistic competencies in which its effects are unclear. However, such findings cannot be generalized to learners of all ages and in any context. Due to the wide spread of CLIL in primary and secondary education levels, most of the research examining CLIL effects has done so with learners of these grades, while studies with younger students are still very scarce. Although the present dissertation focuses on CLIL in pre-primary education, it was deemed necessary to include a review of previous findings of such studies, to gain a general overview of the state-of-the-art of this specific research area.

Regarding overall FL proficiency, CLIL learners tend to outperform their non-CLIL peers, in the case of students in primary (Pérez Cañado, 2018), as well as in secondary education levels (Alonso et al., 2008; Lasagabaster, 2008; Merino & Lasagabaster, 2015, 2018; Pérez Cañado, 2018; Pérez Cañado & Lancaster, 2017; Ruiz de Zarobe, 2008; San Isidro & Lasagabaster, 2019; Sylvén, 2010). To our knowledge, only one study has found no differences between the CLIL and non-CLIL groups when examining general FL proficiency (Dallinger, et al., 2016). Considering such findings, it is worth pointing out that, although CLIL learners overall seem to outperform their non-CLIL peers in terms of global FL proficiency level, only one longitudinal study has reported significantly greater linguistic improvement in the CLIL group in the long term, as compared with the non-CLIL one (San Isidro & Lasagabaster, 2019), while some others have found no differences in the general linguistic progress over time (Merino & Lasagabaster, 2015; Ruiz de Zarobe, 2008).

Many researchers have also examined CLIL effects on each of the main FL linguistic skills. As far as reading comprehension is concerned, few studies have so far reported no differences in the results of CLIL and non-CLIL learners (Nieto, 2016; Pladevall-Ballester & Vallbona, 2016). On the contrary, a much greater number of researchers have reported higher

scores in CLIL learners' reading comprehension ability, when compared to their same-age non-CLIL counterparts (Admiraal et al., 2006; Artieda, et al., 2020, Goris, et al., 2013; Lasagabaster, 2008; Merino & Lasagabaster, 2015; Pérez-Cañado, 2018; Pérez-Vidal & Roquet, 2015; San Isidro & Lasagabaster, 2019). In the specific case of reading, it is relevant to examine the profile of the participants in the studies just mentioned, since there is one aspect that outstands as potentially influential: their age or grade. The numerous studies in which CLIL instruction seems to enhance learners' reading comprehension abilities were all conducted with participants in secondary education, except for Pérez-Cañado (2018), which included late primary, as well as secondary learners. On the contrary, the participants in the two studies (Nieto, 2016; Pladevall-Ballester & Vallbona, 2016) that reported no difference between the CLIL and non-CLIL groups in reading comprehension were primary education students. Such results may be due to the lower literacy levels of primary students, as compared to secondary learners. However, further research is still needed regarding CLIL's effects on learners' reading comprehension abilities, as age seems to be an important factor.

Similar results to reading comprehension have been found so far regarding CLIL's effects on listening comprehension. The majority of studies examining how CLIL affects listening comprehension have reported higher outcomes in CLIL students, than their non-CLIL peers (Dallinger, et al., 2016; Lasagabaster, 2008, 2011; Lorenzo et al., 2010; Merino & Lasagabaster, 2015; Pérez-Cañado, 2018; San Isidro, 2010; San Isidro & Lasagabaster, 2019; Serra, 2007). However, there are some studies in which no differences were found between both groups (Navés, 2011; Nieto, 2016; Pérez-Cañado & Lancaster, 2017). In addition, listening is the only linguistic skill in which some studies have reported higher results in non-CLIL learners than in the CLIL ones (Gayete, 2022; Pladevall-Ballester & Vallbona, 2016).

Therefore, although at the onset of the implementation of CLIL programmes researchers found that receptive skills were favourably affected by CLIL (e.g., Dalton-Puffer, 2008; Pérez-Vidal, 2011), with the emergence of more CLIL programmes, such results are less clear. Still, it seems that the number of studies reporting positive effects of CLIL on students' listening and reading abilities outweighs the number of studies that found unclear or negative effects. However, further research regarding receptive skills is needed to identify the source of such mixed results.

On the contrary, when it comes to productive skills, it seems that the findings reported in previous studies are overwhelmingly more positive (cf. Dalton-Puffer, 2008). Regarding writing, many studies have reported CLIL learners outperforming their non-CLIL peers (Gené-Gil, et al., 2015; Lasagabaster, 2008; Lorenzo et al., 2010; Merino & Lasagabaster, 2015; Navés, 2011; San Isidro & Lasagabaster, 2019), contrary to Dalton-Puffer (2008), in which writing was considered a skill unaffected by CLIL. Furthermore, some researchers have examined written production in

greater detail, to identify the specific aspects embedded within writing that seem to be enhanced the most through CLIL. In the case of Roquet & Pérez-Vidal (2017), higher outcomes in writing in the CLIL students were only reported in the domain of accuracy, while no significant differences were found in fluency, complexity, task fulfilment, organization, grammar, and vocabulary. Similarly, Artieda et al. (2020), and Dalton-Puffer (2011) reported higher degrees of accuracy in writing in CLIL students than non-CLIL ones.

In terms of speaking, equally positive results as in writing have been reported in previous research. To our knowledge, in this case, only one study has reported similar performances in speaking by CLIL and non-CLIL learners (Serra, 2007). On the contrary, there is a large amount of studies that have found that CLIL students significantly outperformed their non-CLIL peers in speaking activities (Gayete, 2022; Lasagabaster, 2008, 2011; Lorenzo, et al., 2010; Merino & Lasagabaster, 2015; Nieto, 2016; Pérez-Cañado & Lancaster, 2017; Ruiz de Zarobe, 2008; San Isidro & Lasagabaster, 2019; San Isidro, 2010). However, when examining pronunciation specifically, results are unclear: while Ruiz de Zarobe (2008) found it was greatly enhanced through CLIL, some contradictory results have also been reported (Admiraal, et al., 2006; Dalton-Puffer, 2008).

Thus, concerning productive skills, there is a significant number of studies that have found that CLIL learners outperform their non-CLIL peers both in writing and speaking tests. However, further research needs to be conducted to examine in greater detail how CLIL affects the more specific aspects embedded within these two productive skills (e.g., fluency, accuracy, pronunciation).

Concerning the effects of CLIL on grammar, only one study has so far found no differences between the CLIL and non-CLIL groups' results (Gené-Gil, et, 2016). Opposite results have been reported in numerous studies that have found significantly better scores in CLIL learners, when compared to their same-grade non-CLIL counterparts (Gené-Gil, et al., 2015; Goris, et al., 2013; Lasagabaster, 2008; Pérez-Cañado, 2018; Roquet & Pérez-Vidal, 2017; Ruiz de Zarobe, 2008). However, CLIL research focusing on grammar is still very scarce.

Finally, vocabulary is possibly one of the linguistic skills that has been researched the most to examine how it is developed in CLIL contexts. Although it could be expected that vocabulary acquisition would be enhanced greatly through CLIL due to the nature of the approach, several research studies have found no differences in vocabulary acquisition by CLIL learners and their non-CLIL counterparts (Gené-Gil, et al., 2015; Gené-Gil, et al., 2016; Roquet & Pérez-Vidal, 2017; Sylvén, 2010). However, one study reported positive trends in the CLIL groups' vocabulary acquisition (Agustín-Llach, 2015), and some others reported significantly higher scores in CLIL groups' vocabulary test results (Goris, et al., 2013; Jiménez-Catalán et al.,

2006; Pérez-Cañado, 2018; Pérez-Vial & Roquet, 2015; Ruiz de Zarobe, 2008). The studies just mentioned have all examined vocabulary acquisition itself, and some mixed results have been found. Similarly, contradictory results were reported in two articles that analysed vocabulary acquisition rate. While Agustín-Llach & Canga Alonso (2014) found higher vocabulary learning rate in CLIL learners, than in non-CLIL students, Admiraal, et al., (2006) found no differences between both groups and, thus, similar vocabulary acquisition rates. Such contradictory findings call for further research on the effects of CLIL on vocabulary acquisition and vocabulary learning rate.

In sum, mixed findings have so far been reported both in the case of grammar and vocabulary. Although the number of articles finding positive outcomes in favour of the CLIL groups in these two skills outweighs the studies that did not find any differences, further research should be conducted to identify other individual, contextual or programme factors that may affect vocabulary and grammar acquisition through CLIL.

In addition to the linguistic skills that have just been examined, the effects of CLIL on subject content, and L1 development have been studied. However, since these are not the focus of the present dissertation, no further analysis on this topic will be conducted. Similarly, the effects of CLIL on other personal, and social competencies will not be discussed here. Nonetheless, it is worth highlighting the large number of studies that have reported an increase in learners' motivation and interest in CLIL classes (Lasagabaster & Doiz, 2017; Lasagabaster & Sierra, 2009; Navés & Victori, 2010; Ruiz de Zarobe & Lasagabaster, 2010; San Isidro, 2010), as well as their creativity, risk-taking willingness, and independence in FL use (Dalton-Puffer, 2008; Hüttner & Smit, 2014; Lasagabaster & Sierra, 2009).

In sum, the present section has provided an overview of the effects of CLIL on the main linguistic skill, namely reading, listening, writing, speaking, grammar, and vocabulary. In spite of some contradictory findings being reported, in the case of studies in which no differences were found between the CLIL and non-CLIL groups, a larger number of studies have so far reported overall higher results in CLIL learners, as compared to their non-CLIL peers. Nonetheless, the results just summarized should be interpreted with caution, since in some cases, participants that were part of the CLIL groups showed higher starting levels than the non-CLIL ones (Admiraal, et al., 2006; Goris, et al., 2013), or had been specifically selected to take part in the CLIL programme (Bruton, 2011; Pérez-Vidal, 2013).

Additionally, there is a need for further research in the shape of longer longitudinal studies to examine the long-term effects of CLIL on learners' linguistic development. Most of the research studies presented in the current section followed a longitudinal design from between one and three years. Nevertheless, some researchers that have conducted studies with learners over

longer time periods or with learners of different ages have reported that the differences between the CLIL and non-CLIL groups either increased over time (Alonso et al., 2008) or were larger with older learners (Agustín-Llach & Canga Alonso, 2014; Pérez-Cañado, 2018). Such conclusions, thus, call for more research in which CLIL FL learners are followed over longer time periods.

One last line of research that should be further explored within the CLIL research domain is related to the effects of such an approach on very younger learners' linguistic development in the FL. All studies that have been included in the present literature review have been conducted with secondary education students, and primary education learners to a lesser extent. However, since schools are starting to implement CLIL programmes at younger stages, such as in pre-primary, some research should be conducted to examine the potential effects of CLIL with such young students. This topic is further developed in the following section of the current dissertation.

2.4.4 CLIL in Pre-Primary Education

§2.4.3 has provided a detailed review of research studies that have examined the effects of CLIL on linguistic abilities, personal skills, and social competencies in learners following a variety of CLIL programmes in different contexts. However, most CLIL implementation and research so far, such as in the case of the studies just presented, has been conducted with primary, secondary or, to a lesser extent, higher education students. That is because CLIL implementation in earlier educational stages, namely pre-primary education, is still not a common practice, although it would offer 'an ideal space in which to introduce an L2 naturally, integrating language learning with routines, social experience, expressive activities, and play-learning' (Mair, 2018, p.28). Despite that, research with this group of participants is still very scarce, but it may gain importance within the FL acquisition domain, considering that the FL AOA in schools and the onset of implementation of CLIL programmes are being brought down.

So far, to our knowledge, only four studies (Albaladejo, et al., 2018; Asensio Arjona, 2020; García Esteban, 2015; Mair, 2018) have started to examine different aspects of CLIL implementation in pre-primary education. However, none of them were classroom-based experimental studies comparing pre-primary learners following CLIL to a control group following conventional EFL instruction with the same background and within the same settings. Three of these studies were of qualitative nature and explored pre-primary teachers' views regarding various aspects of CLIL implementation at such early schooling years. More specifically, Mair (2018) examined a CLIL teacher training programme, as well as the perceptions of pre-primary teachers regarding the main challenges they had to face when implementing a CLIL unit. In turn, Garcia Esteban (2015) focused on a group of pre-service pre-primary teachers

and examined their views regarding the adaptation and creation of CLIL materials and units. Finally, Asensio Arjona (2020) designed a CLIL programme integrating EFL and music instruction and examined the perceptions of the teachers involved after CLIL microteaching experiences of said programme. Due to the qualitative nature of these three studies and their focus on teachers' views, they are presented in further detail in §2.6.5 of the present dissertation, where studies examining teacher perceptions regarding CLIL are analysed in greater detail.

The last study cited above (Albaladejo et al., 2018) examined vocabulary uptake in pre-primary EFL learners through songs and stories. Although the term CLIL was not explicitly used by the authors, the nature of the intervention could be classified as a soft version of CLIL, in which songs and stories are used to provide meaningful and engaging context for EFL vocabulary acquisition. More specifically, the authors examined how the usage of stories and songs conditions FL vocabulary uptake by pre-primary students. Findings showed that, as compared to songs, stories seem to allow for greater vocabulary acquisition levels, which was attributed to the meaningful, comprehensive, and engaging contexts that stories provide. However, the small number of participants, and the uneven encounters with the target words in each condition pose significant limitation in the study.

In sum, this revision of previous CLIL literature shows that there is a rather large number of studies that have examined CLIL effects on a variety of personal and social competencies, as well as linguistic skills, in learners of varied ages. Although studies with primary, secondary, or higher education participants have reported overall positive outcomes, further research is still needed to attempt to explain the cases in which contradictory results have been reported. Regarding CLIL in pre-primary education, research is still very scarce. Thus, this calls for more studies examining the effects of CLIL in pre-primary education students, and even more so considering that the students are being exposed to the FL since earlier ages within schools, and that integrated approaches are gaining ground with such young learners. Therefore, this is the research gap to which the first two studies of the present dissertation aim to contribute, by analysing receptive and productive vocabulary acquisition in pre-primary learners following a 6-month CLIL programme, as compared to their same-age peers following conventional EFL instruction.

2.5 CLIL Teacher's Profile

Traditionally, teacher-centred FL teaching approaches have relied on the teacher figure as the transmitter of knowledge, while students were expected to learn the FL through very delimited language-focused activities, such as drills, repetitions, and fill-in-the-gaps exercises (Larsen-Freeman, 2010). However, with the emergence of CLIL, such a paradigm has shifted completely.

As described in §2.4, CLIL is a student-centred approach that relies heavily on meaningful and communicative use of the TL (Alfonso & Pladevall-Ballester, 2020; Garcia Mayo & Basterrechea, 2017; Llinares & Morton, 2010; Lorenzo, et al., 2010). In CLIL, the teacher should no longer be the knowledge transmitter, and become a guiding figure (Dafouz & Guerrini, 2009). But to successfully undertake this role is not an easy task, while guaranteeing content and FL integration, and maintaining the core CLIL principles and objectives, detailed in the CAPA model and 4Cs framework.

As such, some researchers have attempted to develop the ideal profile of the CLIL teacher, to determine the main competencies that they should be equipped with or trained on. This was already a concern in 1997, when CLIL was still at its onset stages. At that time, Stryker & Leaver (1997) provided a short list of strategies that were considered essential for CBI instructors. Such a list was later summarized by Pavón & Rubio (2010), and included six main elements: (1) the need for a change in teaching style, (2) the important role that group work and cooperative learning play in CLIL and CBI classrooms to foster meaningful learning, (3) the relevance of conducting a needs analysis to determine the prior knowledge and skills of the learners, (4) the need to help students foster and develop coping strategies to face challenges, (5) the use of suitable techniques, and (6) the importance of guiding students to reach and maintain high levels of self-confidence.

The six elements just listed are related to the functions of the teachers within CLIL and CBI sessions, and how their guiding role fosters learners' linguistic and personal development. However, there are some other key areas in which CLIL teachers need to receive training and be highly competent that were not taken into account by Stryker & Leaver (1997), nor by Pavón & Rubio (2010). Hansen-Pauly, et al. (2009) originally, and Pavón & Ellison (2013) later, listed such areas of competencies as follows: learner needs, planning, multimodality, interaction, subject literacies, evaluation, cooperation and reflection, context, and culture. In a later publication, Marsh, et al. (2010) provided a slightly modified version of such a list of CLIL teacher competencies, which included the following ones: personal reflection, CLIL fundamentals, content and language awareness, methodology and assessment, research, and evaluation, learning resources and environment, classroom management, and CLIL management.

The above described attempts to list the key areas of competencies for CLIL teachers already provide a broad and complete picture. However, the most detailed description of these key areas and competencies to date was elaborated by Bertaux et al. (2010) in a document entitled *The CLIL teacher's competence grid*. This document provides an exhaustive list of competencies organized in categories, each of them accompanied by an even more complete list of indicators.

Cortina-Pérez & Pino (2021) provided an adapted version of this grid, which can be found in Table 2.8.

Table 2.8

Areas of competence and competencies in the CLIL teacher competence grid

Areas of competence	Competencies
Programme parameters	Defining CLIL Adopting an approach to CLIL
CLIL policy	Adapting CLIL to the local context
Target language competencies for teaching CLIL	Integrating CLIL into the curriculum Linking CLIL programme with school ethos Articulating quality measures for CLIL Using BICS (Cummins) Using CALP (Cummins) Using language of teaching
Course development	Designing a course
Partnerships in supporting student learning	Working with others to enhance student learning Building constructive relationship with students
Integration	Merging content, language and learning skills into an integrated approach
Implementation	Lesson planning Translating plans into actions Fostering outcome attainment
Second Language Acquisition (SLA)	Knowing second language attainment levels Applying SLA knowledge in lesson preparation Applying SLA knowledge in the classroom
Interculturality	Promoting oral awareness and interculturality
Learning environment management	Taking into account the affective side of learning Making the CLIL language process efficient
Learner focus in the CLIL environment	Having knowledge and awareness of cognition and metacognition in the CLIL environment
Learning assessment and evaluation in CLIL	Knowing about and applying assessment and evaluation procedures and tools
Life-long learning and innovative teaching and learning approaches	Keeping up with new development Using ICT as a teaching resource

Note. From "Analysing CLIL teacher competences in pre-service preschool education. A case study at the university of Granada" by B. Cortina-Pérez, & A. M. Pino, *European Journal of Teacher Education*, 2021, p.4. Adapted from "The CLIL teacher's competence grid" by P. Betraux, et al., 2010.

Thus, from the grid compiled by Bertaux et al. (2010) of CLIL teacher's competencies, it can be seen that being a CLIL instructor entails being trained on and mastering a large number of competencies in order to guarantee successful implementation of CLIL programmes. Such

competencies range from the knowledge of the theoretical CLIL framework, and policies, to the guidelines for course programming, and the actual implementation in the classroom. Considering the complex profile of CLIL teachers and the complex nature of the approach, it becomes paramount to examine their views regarding CLIL, in order to identify the potential benefits and expected challenges, as well as the teaching and training needs. Analysing teachers' perceptions will allow to improve how CLIL is implemented in schools, and how teacher training programmes are designed, to foster the development of the key CLIL teacher competencies described above. Therefore, the next section of this dissertation presents previous research findings regarding teachers' perceptions of CLIL implementation.

2.6 Stakeholders' Perceptions regarding the Implementation of CLIL

With the emergence and the latest decades' rapidly increasing popularization of new FL teaching and learning approaches such as CLIL, a significant number of researchers have examined the effects of this approach on FL learners' development of a variety of skills. However, with new approaches, new challenges in their implementation are also to be expected. As such, it becomes crucial to analyse the perceptions of the main stakeholders involved, namely the students, their families, and the teachers (Banegas, 2012; Campillo, et al., 2019; Ruíz-Garrido, & Fortanet-Gómez, 2009). This type of research allows to identify the potential benefits, challenges, and needs for all three groups of stakeholders when working through CLIL. Ultimately, such findings will help improve not only CLIL programme design and implementation, but also CLIL teacher training programmes, to better equip the teachers with the necessary skills, and resources.

Some researchers have already started to examine CLIL stakeholders' perceptions. Some have also analysed students' and families' perceptions, but since these stakeholders are not the focus of attention of this thesis, the literature review presented here focuses solely on teachers, which is the main topic of interest in this dissertations' third article. Since most research on teachers' perceptions of CLIL has focused on in-service teachers, three subsections summarize the findings reported in previous studies regarding in-service teachers' CLIL knowledge, as well as their views regarding CLIL benefits and challenges for their students, and themselves as CLIL teachers. After that, a short review of the few studies that have examined pre-service teachers' views is provided. Finally, this section concludes with a more exhaustive description of the few studies that have investigated teachers' perceptions regarding CLIL implementation in pre-primary education specifically.

2.6.1 In-Service Teachers' Knowledge about CLIL

The development of new FL teaching approaches, such as CLIL, brings along new potential benefits in learning outcomes, as well as challenges for all stakeholders involved (Hunt, 2011; Johnson, 2012; Lova, et al., 2013). One of the main challenges is getting teachers familiarized with the approach, so that they understand its core principles, and feel comfortable enough to implement it. Previous research has shown that a priori, teachers without previous CLIL experience seem motivated to teach through this approach (Infante, et al., 2009; Savić, 2010), although they have expressed some hesitation due to the uncertainty that teaching through a rather new approach entails (Fernández, et al., 2005). Teachers with some CLIL experience have also reported that with time they were able to overcome such feeling of uncertainty and to enjoy more teaching through CLIL (Pladevall-Ballester, 2015), which in turn boosted their confidence (Hunt, 2011).

Such an uncertainty feeling may be due to teachers' limited knowledge of what CLIL actually is (Fernández, et al., 2005). In spite of some previous studies having reported that when teachers start implementing CLIL they have some knowledge of its core features (Borrull, et al., 2008), their methodological knowledge is, in most cases, rather limited (McDougald, 2015; Savić, 2010). When asked to define CLIL, there is no consensus in the results reported in previous studies regarding the role that content and language play in CLIL, and how their shared focus is balanced. Some researchers have reported that teachers think that CLIL's main focus lies on the content learning rather than on the linguistic aspect (Johnson, 2012; Sancho-Esper, et al., 2016). According to these teachers, the language is often seen just as the means to the content learning (Johnson, 2012) and, thus, meaning is more important than form (Pavón, et al., 2015), which can lead to a reluctance towards explicit FL instruction (Sancho-Esper, et al., 2016). On the contrary, few studies have mentioned teachers being highly aware of the importance of integration of content and language learning goals. This was, for instance, the case of Tachaiyaphum & Sukying's study (2017), in which the participating teachers highlighted the dual focus of the approach and had some knowledge of the 4Cs framework developed by Coyle. Finally, even fewer studies have reported that CLIL teachers see the FL as the main focus (e.g., Fernández, et al., 2005).

Thus, from the findings just summarized, it becomes clear that most teachers are not fully aware of the main CLIL principles, namely the need for integration of content and language learning objectives, and for balanced instruction. This lack of methodological knowledge in CLIL teachers concerning its core features is rather worrying, considering that knowing about the approach is essential to implement it properly and help foster students' learning and development (Alcázar-Marmol, 2018; Pavón, et al., 2015). Therefore, further methodological training is needed

in future and current CLIL teachers. The issue of training needs is addressed in depth later on in §2.6.3 of this dissertation.

2.6.2 In-Service Teachers' Perceptions: CLIL Benefits and Challenges for Students

Some researchers have examined teachers' perceptions regarding what benefits and challenges they think CLIL may entail for their students following CLIL programmes during the primary and secondary education stages. A summary of the main findings reported is presented next.

In terms of CLIL benefits for the students, the main ones that has been mentioned by teachers interviewed or surveyed in many studies are increased engagement (Pavón, et al., 2015), higher motivation (e.g., Borrull, et al., 2008; Campillo, et al., 2019; Infante, et al., 2009; Pavón & Rubio, 2010), and more positive attitudes (San Isidro & Lasagabaster, 2019). In terms of linguistic benefits, vocabulary is the skill that teachers expect students to improve the most through CLIL (Massler, 2012; Méndez, 2014; Pladevall-Ballester, 2015), followed by oral abilities (Campillo et al., 2019; Massler, 2012; Pladevall-Ballester, 2015), and communicative competence (Méndez, 2014; Pavón, et al., 2015). Additionally, listening comprehension (Massler, 2012; Pladevall-Ballester, 2015), and intercultural awareness (Campillo et al., 2019) are also expected to be enhanced through CLIL. When inquired about the specific features of CLIL that they think may help boost the development of the competencies above mentioned, teachers highlighted the experiential (Fleta, 2016) and active (Borrull, et al., 2008) nature of CLIL, in which interaction, group and collaborative work are promoted (Pavón, et al., 2015). According to the teachers, such a context allows learners to freely communicate in a real-life-like environment (Borrull, et al., 2008), in which they feel more comfortable and less embarrassed to use the TL (Pavón, et al., 2015).

Regarding the challenges for the students, three main concerns have been raised by CLIL teachers in previous studies: (1) how CLIL may affect L1 development, (2) how content learning and communication may be obstructed by students' low FL levels, and (3) how to provide the necessary support to students with any kind of special needs.

In terms of the first concern, Pena & Porto (2008) found that teachers were worried about how increased exposure to the FL through CLIL may hinder L1 development (e.g., Pena & Porto, 2008). However, in a later study by San Isidro & Lasagabaster (2019), CLIL teachers in a bilingual context mentioned that they felt that CLIL actually enhanced development of the three languages, namely the two L1s (Spanish and Euskera), and English as the FL. Nonetheless, research examining how the L1 is affected in CLIL learners, due to the increased exposure to the FL at the expense of L1 hours, is still very scarce.

Regarding the second challenge, several studies have reported that teachers are very concerned with how learners' low FL levels may obstruct their learning process. Having a low FL level may mean that the students are not able to communicate (Infante, et al., 2009), or that their fluidity when doing so is much more limited (Johnson, 2012). In addition, low FL proficiency levels may also make content learning more difficult (Infante, et al., 2009; Massler, 2012; Pavón, 2014; Pavón & Ellison, 2013; Pavón & Rubio, 2010; Pena & Porto, 2008). Thus, teachers are worried that students may not be able to acquire content in the same depth through CLIL in the FL, as they normally would through the L1 (Alcázar-Marmol, 2018; San Isidro & Lasagabaster, 2019).

Finally, CLIL teachers have also expressed concerns regarding how to deal with learners that require some kind of special attention or individualised support. More specifically, they are worried about three main groups of learners. First, the overall low-achieving students, who may be at a disadvantage (Massler, 2012) or feel frustrated (Pladevall-Ballester, 2015). Second, the students with disabilities (Pena & Porto, 2008), who may require more individualized attention. And third, the immigrant learners who already do not share the L1 of the context, and for whom CLIL may pose an additional challenge (Fernández, et al., 2005). In all these cases, teachers should be aware of their students' weaknesses and strengths in order to provide the necessary additional support (Pavón, et al., 2015), by defining strategies to meet their students' needs (Mehisto & Asser, 2008), which may be accentuated due to the CLIL approach.

In sum, studies that have examined primary and secondary education teachers' perception regarding CLIL's potential benefits and challenges for the learners have found that teachers are quite optimistic regarding the potential advantages that such an approach may provide. However, the implementation of CLIL is not exempt of challenges for the students. Identifying these challenges will allow, on the one hand, CLIL teachers to define better their teaching practices and to provide individual support when needed, and, on the other hand, teacher trainers to better design CLIL training programmes.

2.6.3 In-Service Teachers' Perceptions: CLIL Benefits, Challenges and Needs for Teachers

As seen from §2.6.2, there have been many studies that have examined teachers' perception regarding CLIL's benefits and challenges for the learners enrolled in such programmes. Similarly, there is a rather large body of research that has studied teachers' perceptions from a slightly different angle, namely, to identify the main potential benefits and challenges for the CLIL teachers themselves, as well as their teaching and training needs. Such findings are summarized in the following paragraphs.

Few studies have focused on the potential benefits that teachers may reap from teaching through CLIL. Such few research articles have reported that teachers see implementing CLIL as a source for their own professional development, and as a chance to undertake further training (Hunt, 2011). However, it can be hard to find teachers who are fully trained and willing to teach through CLIL (Infante, et al., 2009; Mehisto, et al., 2008), due to the long list of challenges that they expect to encounter when implementing CLIL, and overall lack of training.

The challenges for CLIL teachers reported in previous studies examining CLIL teachers' perception can be grouped in three main categories: (1) the lack of knowledge and need for training, (2) the dual nature of CLIL and need for teacher cooperation, and (3) the lack of CLIL materials and additional workload. We examine such challenges in greater detail in the following paragraphs, to ultimately identify CLIL teachers' training and teaching needs.

Regarding the first set of challenges, previous research has found that teachers perceive that they lack in knowledge related to three main areas that are key for CLIL teaching, namely, the FL, the specific subject-content, and the CLIL methodology itself. First, in terms of the FL, content teachers in charge of implementing CLIL have reported that they feel insecure about their FL level (McDougald, 2015), which has been claimed to be very low in many cases (e.g., Massler, 2012; Pena & Porto, 2008; Pavón & Ellison, 2013). Therefore, there is an urgent need for further training focusing on the improvement of CLIL teachers' FL proficiency levels (Cabezuelo Gutiérrez & Fernández, 2014; Pena & Porto, 2008). Second, previous studies have found that when FL specialists are in charge of CLIL, they feel that they have not mastered the specific content knowledge enough (Banegas, 2012) and feel insecure about their content command (as seen in the overview provided by Alcázar-Marmol, 2018). Thus, a need for more training in the subject that is being taught is also necessary (Pladevall-Ballester, 2015). Finally, as mentioned previously in §2.6.1 of the present dissertation, there is a generalized lack of methodological knowledge in teachers regarding the specifics of what CLIL is and what teaching through it really entails (Alcázar-Marmol, 2018; Campillo, et al., 2019; Pena & Porto, 2008). CLIL teachers have previously reported that they view their own methodological knowledge as limited, in terms of the CLIL models, variants, parameters, effects, and functioning, among other key aspects (Pérez-Cañado, 2016). Thus, there is a need for further methodological training on these aspects (Fernández, et al., 2005; Infante, et al., 2009; San Isidro & Lasagabaster, 2019; Savić, 2010). Additionally, CLIL teachers have also mentioned the need to receive further training related to practical issues of CLIL implementation (Pavón & Ellison, 2013; Pavón, et al., 2015; San Isidro, 2021), more specifically related to the usage of interaction strategies in the classroom (Wolff, 2012), and the development and implementation of activities that promote linguistic competence development with a communicative end goal (Pavón & Ellison, 2013).

In sum, there is a need for more teacher training regarding the methodology itself, as well as the FL, the curricular content, and how to integrate them both when teaching (Alcázar-Marmol, 2018). Such a training should not only take place through pre-service teacher programmes, but it should be kept permanent in the shape of in-service teacher training courses (Cabezuelo Gutiérrez & Fernández, 2014), considering that appropriate teacher training has been claimed to be essential for CLIL programme success (Mehisto & Asser, 2008; Pavón & Ellison, 2013).

The second set of challenges CLIL teachers face is related to the dual nature of CLIL and the consequent need for teacher cooperation. Teachers have previously mentioned that they find it difficult to properly integrate and balance FL and content (Infante, et al., 2009). In order to guarantee successful integration of linguistic and content learning objectives (Pavón & Rubio, 2010), it is essential that teachers are willing to cooperate. Such a need for teacher cooperation has been mentioned by a wide number of teachers in a large number of research studies (Du Plessis & Louw, 2008; Fernández, et al., 2005; Hunt, 2011; Infante, et al., 2009; Massler, 2012; San Isidro & Lasagabaster, 2019; Sancho-Esper, et al., 2016; Savić, 2010; Tachaiyaphum & Sukying, 2017). However, teacher cooperation is quite complex, as it requires a three-level coordination, namely between content, L1, and FL teachers (Pavón, 2014). First, content and language teachers have to collaborate to identify the students' specific linguistic needs for the subject matter being taught through CLIL. Such a specific needs analysis will allow teachers to have a better understanding of students' previous knowledge, to draw from it, and to provide the necessary support strategies and scaffolding when introducing new content (Pavón, 2014). Second, content teachers of the different subjects need to collaborate to 'foster a more effective assimilation and consolidation of content, trying to diminish the negative effects of teaching academic information through a FL' (Pavón, 2014, p. 120). Thus, content can be taught and reviewed in parallel in different areas or curricular subjects, which would also allow for language and content use in different contexts. Finally, teachers of all languages (L1s and FLs) should also work together since linguistic competence in one language can transfer and affect the learning of other languages. Thus, FL and CLIL teachers may take advantage of students' previous knowledge in the L1 to build from it in the FL, for instance, by encouraging students to build connections between the languages (Pavón, 2014).

Successfully achieving this three-level teacher coordination may be difficult, but when done properly it brings along many benefits, such as the establishment of a space for teachers to exchange ideas and experiences to promote good practices (Campillo, et al., 2019; Infante, et al., 2009), or the chance to work together to balance out the lack of specialized FL or subject knowledge (Infante, et al., 2009), which will ultimately help minimize individual teachers' challenges (Campillo, et al., 2019; San Isidro, 2021).

In short, a three-level teacher collaboration is key for successful CLIL implementation. However, it needs to come in hand with institutional support (Borrull, et al., 2008; McDougald, 2015; San Isidro & Lasagabaster, 2019; Savić, 2010) that facilitates time and spaces for teachers to communicate and share experiences, as well as to help each other overcome challenges.

Finally, the last set of challenges is related to the lack of materials and the additional workload for teachers. The integrated nature of CLIL, as compared to the traditional FI approaches, requires a reconceptualization of the entire preparation process regarding the search, selection, and adaptation of materials, as well as the sequencing and planning of didactic units (Coonan, 2008). Concerning the search and selection of materials, although CLIL has been around for some decades now, there is still a lack of materials (Fernández, et al., 2005; Infante, et al., 2009), which are not easy to access (Pena & Porto, 2008). Thus, in many cases, teachers end up having to create their own materials (Cammarata, 2009; Campillo, et al., 2019; McDougald, 2015; Savić, 2010), or adapt already existing ones so that they are more visual and are suitable for CLIL lessons (Hunt, 2011; Infante, et al., 2009; Pavón, et al., 2015). Additionally, many CLIL teachers have to create their own didactic units, and plan their lessons from scratch (Cammarata, 2009; Coonan, 2008; Pladevall-Ballester, 2015), which also entails having to make changes in the evaluation system (Borrull, et al., 2008). This whole process just described is quite complex, and time consuming (Lova, et al., 2013; Tachaiyaphum & Sukying, 2017), which usually results in an increased workload for teachers (Lova, et al., 2013; McDougald, 2015) that requires time and effort (Fernández, et al., 2005) within their already limited preparation time (Borrull, et al., 2008; Lova, et al., 2013; Pladevall-Ballester, 2015).

Thus, despite CLIL having been implemented for a couple of decades already, there is still a lack of materials, which consequently means that teachers are expected to adapt, or develop their own materials and didactic units themselves. This involves an additional workload and highlights the need for more resources to be made available to CLIL teachers (Lova, et al., 2013). However, some teachers see this process as a future investment (Fernández, et al., 2005) and an opportunity to collaborate with other teachers to create materials (Infante, et al., 2009).

To summarize, although CLIL teachers see CLIL implementation as a professional development opportunity for themselves, and a chance to boost their motivation, there is a long list of challenges that need to be addressed. Such challenges can be translated into the main CLIL teacher needs: (1) the need for more FL, content and methodological training, (2) the need for three-level teacher cooperation, and (3) the need for more resources and materials. Ultimately, the identification of CLIL teacher needs can, on the one hand, guide schools regarding how to provide the adequate support to CLIL teachers, and, on the other hand, orient teacher trainers regarding how to design CLIL training courses to better prepare future CLIL teachers.

2.6.4 Pre-Service Teachers' Perceptions

§2.6.2 and §2.6.3 of the present chapter have reviewed the findings reported in previous studies examining in-service teachers' perceptions regarding CLIL implementation. There is a significant body of studies that have done so, however, to our knowledge, very fewer studies have so far collected and analysed pre-service teachers' perceptions regarding CLIL implementation at any educational stage. This is, however, an important field of research, as pre-service teachers are still at the onset of their teaching careers, and examining their CLIL knowledge, expected challenges and concerns may help improve the training programmes that they are still undergoing. Additionally, it is especially important because teaching experience in CLIL may play a crucial role, due to the complex dual-focus nature of the approach. Thus, the lack of teaching experience in pre-service teachers may influence their views on CLIL, which may change overtime once they have undergone further training, have gained teaching experience (Cabezuelo Gutiérrez & Fernández, 2014), and have learnt strategies to cope with challenges in the classroom (Infante, et al., 2009).

When analysing their level of CLIL knowledge, Tachaiyaphum & Sukying (2017) found that pre-service teachers seem to be somewhat acquainted with what teaching through CLIL entails. Similarly, Amat, et al. (2017) found that pre-service teachers are familiar with the communicative element of CLIL, as well as the active and cooperative nature of the approach. Nonetheless, most do not feel secure enough to implement CLIL yet (Amat, et al., 2017; Cortina-Pérez & Pino Rodríguez, 2021) because of their low FL level, lack of methodological training, and lack of subject-specific content knowledge (Amat et al., 2017; Tachaiyaphum & Sukying, 2017).

One study by Amat, et al. (2017) asked pre-service teachers about the potential benefits of CLIL for the students. The participants' reflections showed that pre-service teachers had positive expectations of CLIL, as they thought it would increase students' motivation and learning of the subject-related vocabulary through communicative real-life-like situations. Pre-service teachers also highlighted the importance of the active methodology in CLIL classes, mostly through cooperative work, as the source of FL interactions between the students (Amat, et al., 2017). However, they also pointed out that CLIL may entail challenges for the learners, mostly because of their low FL level, which may hinder understanding and learning (Amat, et al., 2017). Additionally, pre-service teachers were also concerned that CLIL might reduce students' open participation in classes due to them feeling insecure, ashamed, or scared of using the FL publicly (Amat, et al., 2017).

When it comes to the potential benefits of CLIL for the teachers, to our knowledge, no study so far has examined pre-service teachers' views. But two studies have collected and

analysed pre-service teachers' expected challenges of CLIL for themselves as future teachers. Similar findings to those identified by in-service teachers have been reported so far. It seems that pre-service teachers feel insecure to start teaching through CLIL because of three main aspects: (1) their low FL level and limited specialized content knowledge (Amat, et al., 2017), (2) their hesitation as to how to integrate content and language properly (Tachaiyaphum & Sukying, 2017), and (3) the additional workload and the need for more preparation time (Tachaiyaphum & Sukying, 2017). Additionally, pre-service teachers seem to be aware of the importance of teacher cooperation to successfully implement CLIL and integrate both language and content learning objectives (Amat, et al., 2017; Tachaiyaphum & Sukying, 2017).

In sum, very few studies have examined pre-service teachers' perceptions so far. Those that have done so have reported that pre-service teachers seem to be quite familiar with the CLIL approach, but still hesitant to implement it because of their low FL level, their lack of subject-specific knowledge, and the additional workload. Although these findings are in line with the ones reported in studies conducted with in-service teachers, there is a need for further research including pre-service teachers, to learn more about the profile and the perceptions of the teachers at the starting point of their teaching careers. This will contribute to the improvement of teacher training programmes, to better equip future CLIL teachers from the onset of their teaching years.

2.6.5 Teachers' Perceptions regarding CLIL in Pre-Primary Education

Regarding the pre-primary education stage specifically, the dearth of CLIL programmes with such young learners opens up a large research gap examining teachers' perceptions concerning the implementation of CLIL at such early schooling years. There are, however, five studies that have started to do so despite the scarcity of active CLIL programmes in pre-primary education.

Out of the five studies conducted so far on teachers' perceptions regarding CLIL or bilingual education programmes in pre-primary, only one took place in a context where the bilingual programme was already ongoing, and teachers had some experience in it. That is the case of Du Plessis & Louw (2008), who collected data from pre-primary education teachers through a survey in order to examine their views of the bilingual model ELoLt (English is the only Language of Learning and Teaching) in South Africa. Among the main findings reported, the authors highlighted three main challenges: (1) the lack of parents' support and their low English level, (2) the very limited EFL skills in the learners, and (3) the fact that limited EFL skills entails that learners are not able to communicate or understand each other. As regards with the teachers' perceptions about their own competencies, there was a positive correlation between years of teaching experience and confidence in the teachers' ability to teach through a bilingual approach. Teachers also highlighter the importance of working collaboratively with other

teachers, as well as with speech-language therapists. Finally, it was also reported that although most teachers felt they had the appropriate support in their classrooms, they had not received enough training, which left them unprepared to teach in such a bilingual context.

In another study, Mair (2018) followed four non-FL specialist teachers who underwent a training programme to teach through CLIL in Italian preschools. As part of the research project, the four teachers took part in the training sessions, and developed a CLIL unit related to the topic of the four seasons to be implemented in preschool. To design the unit, they set language and content objectives, and created CLIL materials. After that, the unit was implemented over the course of a month, and teachers' and parents' perceptions were collected through questionnaires. Of special interest for this thesis are the results reported in the teachers' focus groups, which are the ones presented in Mair (2018). Similar to the results summarized previously in the current section, the four CLIL teachers who took part in Mair's (2018) research project reported three main challenges: (1) their low FL level, which lead to pronunciation problems and lack of spontaneity, (2) the increased workload, both to attend training courses, despite their usefulness, and to prepare CLIL materials, and (3) the need for teacher collaboration. Nonetheless, teachers were overall motivated, and some positive takeaways were also mentioned, such as the value of regular class teachers (instead of FL specialists) implementing CLIL to normalize FL use within the school, and the importance of making CLIL materials available for the students to interact with even during child-initiated free play outside FL instruction hours.

Another qualitative study on the topic was conducted by García Esteban (2015), who examined pre-primary pre-service teachers' perceptions regarding soft-CLIL specifically. In this case, the main goal of the study was to examine how soft-CLIL could serve as a tool for teachers to develop appropriate CLIL lessons in pre-primary education. The participating pre-service teachers analysed, adapted, and designed CLIL materials and lessons, and reflected on them after microteaching practices. Two main conclusions can be drawn from the findings reported: (1) that CLIL can enhance not only FL and content learning in pre-primary learners, but that it can also promote cognitive development, foster real communication, and raise cultural awareness, and (2) that using different sources of input and diverse activities is an effective way to enhance students' participation, and vocabulary use in varied contexts.

Finally, Asensio Arjona (2020) designed a CLIL programme with English as a FL, and Music as the subject content. Such a programme was implemented with pre-primary education students (3- to 5-year-olds) in a school in the outskirts of Barcelona (Spain). The author highlighted the benefits of using music as a learning tool and, thus, songs were used in the CLIL programme to teach and learn English. Teachers' views were collected through teachers' diaries. Three main findings were highlighted in the results reported: (1) that students improved both their

FL skills (mostly lexical), and their musical competencies, (2) that there was an increase in the learners' motivation towards both the FL and the content, and (3) that an affective bond was created between the learners and the English teacher, in spite of her only speaking in EFL.

The four studies just described have all been conducted with in-service teachers. However, as mentioned in §2.6.4, teaching experience seems to play a crucial role in the evolution of teachers' perceptions (Cabezuelo Gutiérrez & Fernández, 2014; Infante, et al., 2009). Thus, it is also important to examine pre-service teachers' perceptions. There is a fifth study on pre-primary CLIL teachers' perceptions that was conducted by Cortina-Pérez & Pino (2021), in which pre-service teachers' views were examined. The authors concluded that pre-service teachers seem to have a rather low perceived linguistic competence, and that they feel they are more prepared in terms of CLIL didactics than regarding their communicative abilities. As such, there is a need to improve teacher training programmes to help future CLIL teachers increase their FL proficiency level (Pérez-Cañado, 2018), which may require some explicit instruction.

To sum up, §2.6 of the thesis has aimed to review the substantial body of research that has examined teachers' perceptions regarding the implementation of CLIL in primary, and secondary education levels. However, there is still a dearth of studies examining pre-primary teachers' perceptions on CLIL, most likely due to the limited number of CLIL programmes implemented to date at this educational stage. To our knowledge, only five studies (Asensio Arjona, 2020; Cortina-Pérez & Pino, 2021; Du Plessis & Louw, 2008; Garcia Esteban, 2015; Mair, 2018) have attempted it so far, and some relevant teaching (e.g., materials and unit design) and training (methodological and FL) needs have already been reported. Thus, there is a need for further research examining teachers' views and concerns regarding CLIL implementation in pre-primary, above all considering that the AOA of FL instruction in schools is being brought down, and that the implementation of integrated content and language teaching approaches is gaining ground at such early schooling stages. This is precisely the research gap to which the third study of the present dissertation aims to contribute by examining pre-primary pre-service and in-service teachers' views on the potential benefits and challenges of CLIL implementation with such young students. Ultimately, the findings reported by this type of research are relevant for the design of teacher training programmes, so that they are better shaped for the teachers' real needs, as well as for educational institutions to provide their teachers with the appropriate resources, materials, and training opportunities.

Chapter 3. Objectives and Hypotheses

After reviewing the previous literature relevant for this thesis, chapter 3 starts by identifying the research gap to which we aim to contribute. Next, the general objectives of the present dissertation are listed, followed by the specific goals of each of the three studies. Finally, the research questions and hypotheses for each of the articles that make up this thesis are presented.

3.1 Objectives of the Thesis

The present thesis contributes to the body of research that studies FL acquisition through the CLIL approach. More specifically its aim is twofold: (1) to examine the effects of soft-CLIL on 4- and 5-year-old-EFL learners' vocabulary acquisition over the course of 6 months, and (2) to investigate in-service and pre-service pre-primary teachers' level of knowledge of the CLIL approach, and identify the expected benefits, challenges and needs in CLIL implementation at such early education stages. In order to do so, three studies were designed and conducted. Studies one and two tackled the first objective, while study three focused on the second goal.

Most CLIL research conducted so far has focused on analysing the effects of a variety of CLIL programmes on numerous linguistic skills, personal competencies, and social abilities in learners of different ages, mostly in primary, and secondary education levels. Against this framework, the first two studies (chapters 5 and 6) that make up this dissertation contribute to this field of research by analysing the effects of a soft-CLIL programme in vocabulary acquisition by very young pre-primary education learners. More specifically, these two studies follow the same sample of pre-primary education students and analyse, respectively, their receptive and productive vocabulary acquisition by comparing the performance of a control group following conventional EFL instruction to the performance of the same-grade soft-CLIL experimental group. The specific objectives of these two studies are the following: first, to examine whether following a 6-month soft-CLIL programme in pre-primary education can yield greater receptive and productive vocabulary uptake in pre-primary education students than following conventional EFL instruction. Second, to study the vocabulary learning continuum, namely, to compare receptive and productive vocabulary acquisition. Third, to analyse whether there is a difference in the effects of CLIL on 4- and 5-year-old learners. That is, whether the older learners can reap greater benefits from CLIL than the younger ones. Finally, to study whether there is a word frequency effect on vocabulary acquisition by young learners who are at the very beginning stages of FL learning. Namely, to examine whether higher-frequency words are acquired faster and earlier than lower-frequency ones.

Study three (chapter 7 of this thesis) complements the previous two studies through a qualitative approach. Although the body of research on the effects of CLIL is quite large, there is far less research focusing on the CLIL stakeholders' perspectives, namely the views of the teachers, families, and students involved in such programmes. The perceptions of these stakeholders have been scarcely researched, even though they are of crucial importance in order to learn more about the true nature of CLIL programmes, how they are implemented, and what the main teaching and training needs for CLIL teachers are. Some researchers have already started to analyse teachers', parents', and students' perceptions, but have mostly focused on CLIL programmes implemented in primary, and secondary education levels. Thus, the third study of this dissertation aims to contribute to this research area by analysing the CLIL knowledge and perceptions of in-service and pre-service pre-primary teachers regarding the potential implementation of CLIL in pre-primary, to ultimately identify CLIL teachers' training and teaching needs. The specific objectives of this study are the following ones: first, to examine the level of knowledge, or lack thereof, that pre-primary teachers have of the CLIL approach. Second, to identify which potential benefits and challenges teachers expect CLIL will entail both for their pre-primary students, and for themselves as teachers. Third, to examine teachers' readiness to start implementing CLIL in pre-primary, as well as to investigate which teaching and training needs teachers expect CLIL to bring about.

As a whole, the present thesis aims to study CLIL in pre-primary education from two different angles: (1) by examining pre-primary students' EFL vocabulary acquisition through soft-CLIL, and (2) by analysing pre-service and in-service pre-primary teachers' perceptions. Looking into the results of the three studies together will allow researchers in the FL acquisition research domain to grasp an idea of the potential CLIL effects on very young learners, as well as the expectations and challenges that the teachers of such educational stage foresee.

3.2 Research Questions and Hypotheses

In the current section the research questions (RQ) established for each of the three articles are presented. For each research question, the corresponding hypothesis is given and briefly supported by the relevant previous studies presented in chapter 2. These research questions are also included in chapters 5 to 7 within the full text of the articles published. However, in this chapter more detailed hypotheses are provided than in the original published articles, where it was not possible due to word-count restrictions of the journals.

Study one focused on receptive vocabulary acquisition through soft-CLIL in pre-primary education. Additionally, age and word frequency effects on receptive vocabulary performance were studied. The following three research questions were proposed.

RQ1.1 **Will pre-school students be able to acquire a wider range of receptive vocabulary in their L2 following a soft-CLIL program?**

The literature reviewed in the previous chapter has shown evidence that CLIL provides a privileged context within schools to foster FL learning in children and teenagers (Dalton-Puffer, 2008; Lasagabaster, 2008; Pérez-Vidal, 2011). Several studies have reported CLIL having positive effects in vocabulary acquisition (Lasagabaster, 2008; Pérez Cañado, 2018), and more specifically in receptive vocabulary (Agustín-Llach & Canga Alonso, 2014). Considering such findings, it was hypothesised that pre-primary education learners, although they are younger than participants in previous research, would be able to acquire a greater range of receptive vocabulary in English as a FL through a soft-CLIL approach, as compared to their non-CLIL peers, who followed the school's traditional syllabus and conventional EFL instruction.

RQ1.2 **Will older students (5-year-olds) be able to recall a larger amount of vocabulary than their younger peers (4-year-olds) within the same time period?**

Previous studies focusing on CLIL effects on children of different ages have found that older students (late primary education and older) seem to benefit more from CLIL than younger learners (see Goris, et al., 2019 for an overview on the issue). Similarly, studies examining the rate of vocabulary acquisition in FL learners of different ages have reported higher rates in older students (e.g., Muñoz, 2006). Thus, we wanted to examine whether there were any differences in vocabulary learning by 4- and 5-year-old students. We expected older students (5-year-olds) to show greater vocabulary uptake than their younger peers (4-year-olds) and be able to recall a larger amount of vocabulary when tested after the same time period.

RQ1.3 **Does frequency of words affect vocabulary recalling?**

According to the literature previously reviewed, word frequency has a significant effect when learning vocabulary in any language. It has been found that higher-frequency words are learnt at a faster rate than lower-frequency ones (Alexiou, 2015; Miralpeix, 2007; Shaban, 2013). That is because high-frequency words are used in a wide range of basic conversations (Schmitt & Schmitt, 2020) and provide a wide coverage in general spoken and written texts (Nation, 2013; Vilkaité-Lozdiené & Schmitt, 2020). Thus, focusing on the former would allow beginner FL learners to start communicating in that FL from very early stages (Nation, 2020; Nation & Meara, 2020). As such, we wanted to examine word frequency effects on receptive vocabulary acquisition and hypothesised that higher-frequency words would be easier to recall than lower-frequency ones.

Study two aimed to examine productive vocabulary acquisition through soft-CLIL in pre-primary, to study word frequency effects, and to compare such productive vocabulary outcomes with the receptive vocabulary results reported in study one of this dissertation. Three research questions were asked in this study.

RQ2.1 **Will a soft-CLIL programme lead to greater productive vocabulary learning in pre-primary EFL learners, as compared with formal EFL instruction within the same time period?**

Previous research has found that CLIL enhances vocabulary acquisition in the FL (Agustín-Llach & Canga Alonso, 2014; Lasagabaster, 2008; Pérez Cañado, 2018). Therefore, in line with the hypothesis for RQ1.1, it was expected that pre-primary learners following the soft-CLIL programme would show higher results in productive EFL vocabulary than their same-age non-CLIL counterparts.

RQ2.2 **Does frequency of words have an effect on productive vocabulary learning?**

Similarly to RQ1.3 from the first study, and considering that the findings from previous studies state that higher-frequency words seem to be learnt faster and more easily than low-frequency ones (Alexiou, 2015; Miralpeix, 2007; Shaban, 2013), it was expected that high-frequency words would be easier to recall than low-frequency ones. Thus, it was hypothesised that productive vocabulary results for high-frequency words would be higher than those for low-frequency ones.

RQ2.3 **Will receptive vocabulary scores be higher than productive vocabulary ones?**

Previous researchers have pointed out the complexity of vocabulary learning (Nation, 1999, 2013; Richards, 1967). Consequently, the process of vocabulary acquisition has been seen as a continuum, which starts with receptive knowledge, namely with learners being able to understand written and oral texts in the TL, to later evolve to productive knowledge, that is the ability of producing written and oral texts in the TL (Meara & Miralpeix, 2021; Schmitt & Schmitt, 2020; Webb, 2020). Thus, it was hypothesised that receptive vocabulary acquisition would precede productive vocabulary acquisition and that results on the receptive tests would be higher than on the productive ones.

Finally, study three investigated pre-primary pre-service and in-service teachers' perception regarding CLIL implementation with such young learners. More specifically, it examined the teachers' level of knowledge of CLIL, as well as the expected potential benefits and

challenges both for CLIL teachers and students in pre-primary. Ultimately, teachers' readiness to teach through CLIL in pre-primary was studied, and the expected teaching and training needs were identified. In order to do so, the following five research questions were proposed.

RQ3.1   What is pre-primary teachers' level of knowledge of CLIL?

Considering what previous research has reported (McDougald, 2015; Savić, 2010; Tachaiyaphum & Sukying, 2017), we expected pre-primary teachers to have a limited knowledge of what CLIL consists of, and a rather small number of them to be acquainted with the approach. More specifically, we hypothesised that in-service pre-primary teachers' knowledge of CLIL would be more complete than pre-service teachers' knowledge, due to pre-service teachers' still ongoing training and limited teaching experience.

RQ3.2   Which benefits do pre-primary teachers expect CLIL will entail for pre-primary students and teachers?

On the one hand, CLIL teachers surveyed and interviewed in previous studies seem to believe that CLIL provides a wide variety of benefits for the students enrolled. More specifically, vocabulary and communication skills both in the FL and the L1 are perceived as the ones that benefit from CLIL the most (Alcazar-Mármol, 2018; San Isidro & Lasagabaster, 2019). As such, we expected our participants to believe that vocabulary and communication skills would be the most enhanced through CLIL in their students. On the other hand, studies exploring the potential CLIL benefits for the teachers themselves is very scarce. However, some researchers have reported teachers to see the teaching through CLIL as an opportunity for personal and professional development, as well as a chance to receive more training and practise the FL (e.g., Hunt, 2011). Thus, we hypothesised that, although some may be a bit sceptical, teachers would see CLIL implementation as a way to further develop professionally, receive training on other teaching approaches, and improve their FL level.

RQ3.3   Which challenges for students and teachers do pre-primary teachers expect to encounter when implementing CLIL in pre-primary?

Regarding the challenges for CLIL learners, findings in previous studies have raised concerns regarding three main aspects. First, concerning students' low FL levels, how this can prevent them from communicating (Infante et al., 2009; Johnson, 2012), and affect their learning of subject content in depth (e.g., Massler, 2012; Pavón, 2014; Pena & Porto, 2008). Second, whether the L1 may be impaired due to increased exposure to the FL at the expense of L1 hours (Pena & Porto, 2008). And third, how students' with pre-existing learning difficulties will cope

with the additional challenges that CLIL may entail, whether they will receive the adequate individualized support (Massler, 2012; Pena & Porto, 2008; Pladevall-Ballester, 2015). Consequently, it was hypothesised that teachers would mention in depth content learning, comprehension, and communication in the FL as the main challenges for their CLIL students. Regarding the challenges that CLIL teachers may face, the surveyed teachers in previous studies have mentioned the following: the lack of time and additional workload (McDougald, 2015; Lova, et al., 2013) to prepare didactic units and materials (Cammarata, 2009; Campillo et al., 2019; McDougald, 2015; Savić, 2010), as well as their own low FL level (Banegas, 2012; Massler, 2012), and lack of specific methodological training (Alcazar-Mármol, 2018; Campillo, et al., 2019; Pena & Porto, 2008). Thus, in the present study, it was expected that the participating pre-primary teachers would identify similar challenges to the ones abovementioned, namely the scarcity of materials, their limited time for programming, their low FL level, and their lack of methodological training.

RQ3.4 *Do pre-primary teachers feel ready to start implementing CLIL at such an early educational stage?*

Previous studies that have asked teachers about their readiness to start implementing CLIL with their training and teaching experience at the time have reported that, although they seem to be eager to do so (Savić, 2010), they are hesitant mostly because of the lack of training (Alcazar-Mármol, 2018; Campillo et al., 2019; Pavón et al., 2015; Pena & Porto, 2008). Furthermore, most pre-service teachers do not feel ready to teach through CLIL (Amat, et al., 2017; Cortina-Pérez & Pino, 2021). In the case of the present study, considering the findings previously reported, in addition to the fact that CLIL has not been widely implemented in pre-primary yet and that the majority of pre-primary teachers have not received any CLIL methodological training, we expected most teachers (with a greater percentage of pre-service teachers than in-service ones) not to feel confident enough to start teaching through CLIL in pre-primary yet.

RQ3.5 *What are pre-primary teachers' main perceived teaching and training needs to implement CLIL?*

Some previous studies analysing primary, and secondary education CLIL teachers' needs have reported that, when asked to start teaching through CLIL, teachers' main needs can be divided into three main topics: the additional workload (Lova, et al., 2013; McDougald, 2015) to create and adapt materials and didactic units (Cammarata, 2009; Campillo et al., 2019); the need for teacher cooperation (du Plessis & Louw, 2008; Massler, 2012; San Isidro & Lasagabaster,

2019; Savić, 2010), that is between content, L1 and FL teachers (Pavón, 2014; Pavón & Ellison, 2013); and the lack of training, to improve both their FL proficiency (Massler, 2012) and their methodological knowledge (Alcazar-Mármol, 2018; Campillo et al., 2019; Pena & Porto, 2008). As such, we expected the surveyed teachers in our study to mention teaching and training needs related to the lack of CLIL materials and scarcity of time to prepare them, the challenge of communicating and working together with other teachers, their low FL level, and the need for more methodological training, specifically focusing on CLIL implementation at such early stages of schooling. Additionally, we expected bigger a percentage of pre-service than in-service teachers to mention such challenges and needs, due to their unfinished training and their lack of teaching experience.

Chapter 4. Methodology

In this chapter, a general overview of the methodology followed in each of the three articles that comprise the present thesis is provided. First, the context of the studies and the participants for each study are described. Next, the data collection instruments and procedures are explained, as well as the data analysis process. The methodology presented in this chapter is also explained within the full text of each of the articles included in chapters 5 to 7, however, in the current chapter more detailed information is provided.

4.1 Studies 1 and 2: Vocabulary Acquisition through Soft-CLIL in Pre-Primary Education

The first two studies of this thesis share the same methodology, as such, the soft-CLIL programme and the participants were the same. However, the results and analysis are complementary to each other, since one focused on receptive vocabulary, while the other focused on productive vocabulary acquisition. Thus, considering that the participants and pedagogical intervention are shared, the methodology for both studies is presented together within the current section. In the case that specific parts of the methodology, such as certain testing instruments, are only applicable to one of the two studies, these differences are mentioned explicitly.

4.1.1 General Context: Pre-Primary Education in Catalonia

The studies here described were conducted in Catalonia (Spain) and the target participants were pre-primary education students. In Spain, pre-primary education is non-compulsory and consists of two stages with three grades each: the first stage is for children aged 0 to 3, and the second one is for children aged 3 to 6. In many schools, FL instruction is introduced as early as in the second stage of pre-primary education and, thus, this is the target age of our participants. For the purpose of the present dissertation, the term 'pre-primary education' is used to refer to the second stage, namely to children aged between 3 and 6.

Decree 181/2008 (Generalitat de Catalunya, 2008) establishes the ordinance of teaching in the second stage of pre-primary education in Catalonia. Accordingly, the expected learning outcomes of this specific schooling stage are organized in three transversal areas: (1) discovery of oneself and others, (2) discovery of one's surroundings, and (3) communication and languages.

In a nutshell, the first area, discovery of oneself and others, aims to encourage students to become aware of their own body and emotions, and allows them to use games and movement to develop motor skills, such as balance and coordination. It also aims to foster the development of

problem-solving skills, autonomy, self-confidence, and awareness of learning progress. In addition, students are expected to start interacting and playing with each other, which allows for the development of basic communication skills, respectful attitudes, and affective relationships.

The main goal of the second area, discovery of one's surroundings, is to encourage students to explore their surroundings by observing and identifying the main elements and agents that are part of their daily life environments. It also promotes the usage of daily routines to help develop temporal and spatial awareness.

The third area, and the most relevant one for the purpose of this dissertation, focuses on communication and languages. This area is quite broad, as it includes communication through verbal, musical, mathematical, audio-visual, and bodily language. Students are encouraged to experiment and try out different creative uses of these languages. Regarding the use of their L1(s) and FL(s), which is the topic of interest of the present thesis, pre-primary students are expected to develop the necessary skills to engage in communicative situations where they actively listen and speak. The former focuses on fostering understanding of basic spoken language, interpretation of non-verbal communication elements, and curiosity for audio-visual elements, while the latter aims to foster a progressive use of spoken language to communicate ideas, express feelings, and narrate events. Ultimately, the goal is that the students develop an interest in participating in conversations while experimenting with language and developing their linguistic skills.

In sum, pre-primary education in Catalonia, the context of the present thesis, aims to foster holistic and transversal learning. As such, the expected learning outcomes are organized around three broad areas that are complementary to each other. These areas, as well as the specific abilities and skills within each are detailed in Decree 181/2008, and serve as a guide for schools to develop their own syllabuses and choose the most appropriate teaching approaches, taking into consideration the profile and needs of their students.

Thus, schools have certain freedom when it comes to curriculum design, which at the same time becomes a big challenge. For example, within the area of communication and languages, there is not a specific list of expected vocabulary or structures that pre-primary learners are supposed to learn in each of their L1(s) and FL(s) while in this schooling stage. This means that schools are free to set up their own specific syllabuses for each of the languages taught, as long as they foster the development of the areas above described in a holistic way. This brings along both benefits and challenges for schools. On the one hand, they are free to design syllabuses that are appropriate for the specific population of students that attend that school and ensure that content is meaningful and relevant for them. On the other hand, having such freedom means that teachers, coordinators, and school principals have the additional workload of developing these

syllabuses, which is time consuming, above all because oftentimes teachers are not specifically trained to do so. Consequently, in many cases, the syllabus for the FL classes is quite basic, and repetitive, meaning that the students end up working on the same contents over the three grades in the second stage of pre-primary without expanding their FL knowledge as much as they could if the syllabus was gradually more complete.

That was precisely the case of the two schools that participated in studies one and two of this research project. The teaching staff had developed and implemented an EFL syllabus that was rather basic and repetitive for pre-primary students aged 3 to 5, and they felt that students were restricted by it. Additionally, they were following conventional EFL instruction within the FL classes and felt that they could update their teaching approach to one that provided a more meaningful and communicative learning context for their students. Within this context is where the present research project originated, to work together with the schoolteachers and develop a more progressive and complete EFL syllabus for the three grades in pre-primary, as well as to innovate in the FL teaching approach used by the teachers involved. Ultimately, students' EFL vocabulary acquisition was examined.

4.1.2 School Context and Participants

The two first articles that form this thesis were conducted in two schools in Catalonia, right outside of the metropolitan area of Barcelona. Both are semi-private and belong to the same congregation of schools, so they share the same overarching learning goals, teaching pedagogies, and approaches. Both schools have a wide educational offer, namely from the pre-primary stage to secondary education and preparation for university years. In pre-primary specifically, which is the stage of interest of the present thesis, communicative, interactive, and dynamic teaching approaches are used in the main schooling language (Catalan), such as gamification, guided free play, and learning corners. Regarding the schools' linguistic project, both schools are Catalan and Spanish bilingual, although Catalan is the main language of instruction, following the Catalan immersion model. English is introduced as early as in pre-primary as an obligatory first FL, and French is offered as an optional second FL starting in secondary education.

A total of 186 4- and 5-year-old children attended the last two grades of pre-primary in the two schools that participated in the project. All children took part in the activities related to the research project, although the data of 2 participants was not included in the analysis because their families did not sign the consent form (further details regarding ethics procedures are provided at the end of the present section). Out of the remaining 184, 29 were excluded from the data analysis because they had lived in English-speaking countries before, had parents who were native English speakers, or had too many hours of contact with English per week outside of the

school (e.g., through extracurricular classes, babysitters, TV viewing). Thus, our final sample included 155 children. 75 of them attended School A, and 80 attended School B. Including the children from both schools, out of the 155 participants, 69 were in grade P4[4], and had an average age of 4;6 (*min*=4;2, *max*=5;2, *SD*=0;4) at Time 2 (T2) of data collection in March 2020. The remaining 86 children attended P5, and had an average age of 5;6 (*min*=5;2, *max*=6;2, *SD*=0;4) at T2.

Regarding the participants' place of birth, 147 children (*N*=70 from School A, and *N*=77 from School B) were born in Catalonia, while 2 others (one from each school) were born in Madrid, Spain. One other student from School A was born in the Ukraine, and 4 other children (3 from School A, and 1 School B) were born in Central and South America (Colombia, Ecuador, Venezuela, and México). Finally, one student from School B was born in Japan. It is important to note that all of those students moved to Catalonia while they were still very young (aged 2 and under), and all of them had been living here for over 3 years before Testing time 1 (T1). In addition, none of the participants in the final sample had lived in an English-speaking country before the intervention.

In terms of the linguistic background of the families, the profiles of the families in both schools were quite similar. Most parents considered their children's L1 to be either Catalan, Spanish, or both, being the latter Catalan and Spanish bilinguals. School A had more Spanish monolingual, or Spanish dominant bilingual students, while the participants in School B showed higher Catalan dominance. The results of participants from both schools were analysed together, which helped balanced out the language dominance differences between schools. Table 4.1 presents in greater detail the linguistic profiles of the students and the languages they speak in the home.

Maternal and paternal education levels were used as a proxy for socioeconomic status. Parents' answers were transformed into number of years of education and results were compared between the schools. Our analysis revealed that there were no significant differences in terms of paternal and maternal education between the participants in both schools. Regarding the parents' L1(s), the majority of them identified themselves as Spanish monolinguals, some considered Catalan their L1, fewer identified themselves as bilinguals, and only 11 had other L1s. When asked about their English as a FL level, most parents mentioned having a rather low level (A1-B1), and most of them did not report using this language in their daily lives often. Further details

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[4] In Spain, the abbreviations P3, P4, and P5 are used to refer to the three grades in the second stage of pre-primary education. These abbreviations refer, respectively, to students aged 3, 4, and 5.

regarding those aspects can be found in Table 4.2, in which results for the maternal and paternal figures are presented separately.

Table 4.1

Profile of participants' families, divided by school

	Total participants *N* (out of 155)	School A *N* (out of 75)	School B *N* (out of 80)
L1			
Spanish	82	51	31
Catalan	26	5	21
Spanish and Catalan	42	16	26
Spanish and other language	3	2	1
Other language (e.g., Japanese)	2	1	1
Dominant L1 in bilingual children[1]			
Spanish	22	13	9
Catalan	19	2	17
Other L1 (Italian)	1	1	0
Frequency of use of Catalan in the home[2]			
Always	37	4	33
Often	36	15	21
Sometimes	62	43	19
Rarely	15	10	5
Never	5	3	2
Frequency of use of Spanish in the home[2]			
Always	93	48	45
Often	45	18	27
Sometimes	14	8	6
Rarely	1	0	1
Never	2	1	1
Frequency of use of English in the home[2][3]			
Always	0	0	0
Often	4	1	3
Sometimes	43	18	25
Rarely	56	32	24
Never	52	24	28

[1] Referring to those children whose parents stated are bilingual, namely indicated 'Spanish and Catalan' as their child's L1.

[2] The three categories are not mutually exclusive, that is, indicating that Spanish is used 'always' could be compatible with Catalan being used 'always' too.

[3] Mostly through watching television, listening to songs, reading in English, etc.

Table 4.2

Profile of participants' maternal and paternal figures

	N (out of 155) Maternal figure	*N* (out of 155) Paternal figure
Education level		
Primary	9	10
Secondary	31	42
Professional training	39	49
Undergraduate degree	54	30
Postgraduate degree or masters	14	19
Doctorate	1	0
NA[1]	7	5
L1		
Spanish	91	103
Catalan	36	30
Spanish and Catalan	16	11
Other (Arabic, Guarani, Japanese, Polish, Portuguese, Italian, Galician)	5	6
NA[1]	7	5
English FL level		
Native (equivalent to C2)	0	0
Advanced (equivalent to C1)	16	8
Upper-intermediate (equivalent to B2)	13	22
Intermediate (equivalent to B1)	42	35
Low (equivalent to A1/A2)	54	50
None	23	35
NA[1]	7	5
Frequency of use of English		
Every day	13	4
Several times a week	6	11
Once a week	8	6
Several times a month	25	12
Once a month	5	7
Several times a year	26	33
Never	65	77
NA[1]	7	5

[1] Participants who did not have regular contact with their maternal or paternal figures.

Finally, concerning the students' contact with English outside of the school, no significant differences were found within our final sample between the students in the two schools. Thus, results are presented together. The children included in the final sample of participants had a maximum of 1.5 h per week of English extracurricular classes, and a maximum of 3.5 h per week of English exposure in the home through other sources, such as watching television or YouTube videos, playing videogames, listening to songs, reading books, or being read to. Table 4.3 provides more detailed information about the average minutes per week that the participants spent on each of the abovementioned activities.

Table 4.3

Participants' out of school exposure to English in weekly hours

	M **(minutes/week)**	*SD*
Total	**146**	**130.76**
Watching TV	21	31.51
Watching videos on YouTube	30	38.07
Playing videogames	12	24.61
Reading books or being read to	6	14.27
Listening to songs	36	46.46
Participating in extracurricular activities in English	25	44.95
Interacting in English in the home	11	37.05

The participants' parents gave written consent regarding the participation of their child in the research project and data use. Such consent was collected through the first section of the sociolinguistic background questionnaire after the participants' parents had been informed about the purpose of the study and the data treatment policies (Appendix 3). In addition, children gave their consent orally at the beginning of each data collection session. All data were pseudo-anonymised by attributing an ID code to each participant, to prevent them from being identified. Ethical approval was granted by the Research Ethics Committee at the Universitat Internacional de Catalunya (reference code EDU-2019-01).

4.1.3 Pedagogical Intervention

Participants form both schools were divided into four groups according to the class and grade they attended, and whether they belonged to the control or the experimental group for that grade. Within each of the two grades, there was one experimental and one control group, which included students from both participating schools. The groups were made up of the schools' natural class-groups, which facilitated the logistics of the research project, namely the implementation of the pedagogical intervention, the classroom observations, and the data collection sessions. No significant differences were found between groups, nor schools, when starting EFL vocabulary levels of the participants (T1) and sociolinguistic backgrounds were compared. As such, the participants were distributed as shown in Table 4.4.

All four groups worked on the same target EFL units, which are part of the schools' pre-primary education learning outcomes. Such units were related to the seasons and their most relevant holidays: (1) Autumn and Halloween, and (2) Winter and Christmas. These units were selected because they are present in the children's daily lives, which makes the topics relevant and meaningful for the learners. Additionally, these topics are usually worked on in the main language of schooling (Catalan), with the class tutors, so students are already familiar with the content. Moreover, the topics of the seasons are taught through the three pre-primary grades,

which leaves room for progression across grades, and allows for gradual introduction of more complex vocabulary.

Table 4.4

Distribution of final sample of participants into groups

Grade	*M* age at T2	Group	Treatment	*N*
P4	4;6	Group 1 (G1)	Control group (conventional EFL instruction)	*N*=35
		Group 2 (G2)	Experimental group (soft-CLIL)	*N*=34
P5	5;6	Group 3 (G3)	Control group (conventional EFL instruction)	*N*=42
		Group 4 (G4)	Experimental group (soft-CLIL)	*N*=44

Note. Adapted from "Receptive vocabulary acquisition in pre-primary education through soft-content and language integrated learning", by M. Segura, H. Roquet, & J. Barón, 2021, *English Language Teaching. Canadian Center of Science and Education, 14*(10), p.5 (https://doi.org/10.5539/elt.v14n10p1). Adapted from "Productive vocabulary development in pre-primary through soft CLIL", by M. Segura, J. Barón, & H. Roquet, 2022, *Open Linguistics, 8*(1), p.302 (https://doi.org/10.1515/opli-2022-0194).

Even though the four groups worked on the same units, the implementation of the pedagogical intervention differed between the control and experimental groups regarding two main aspects: (1) the amount of vocabulary introduced, and (2) the teaching approach employed.

As for the former, at the beginning of the research project, a needs analysis was conducted with the schoolteachers, including the class tutors and the EFL teachers. They pointed out that the contents taught in the EFL sessions through the three grades in pre-primary were very basic and repetitive. Therefore, the first goal of this pedagogical intervention was to increase the amount of vocabulary taught in those grades while keeping the hours of EFL instruction the same, namely about 2-3 hours per week. In order to do so, the researchers and teachers involved in the project compiled a list of basic vocabulary for each unit of the seasons that students would ideally learn by the end of each grade. The control groups' content was limited to a more basic list of vocabulary, which contained between 50 and 60% of high frequency words (belonging to the first 3K bands of the BNC and NGSL corpora). The experimental groups were presented with the same basic vocabulary, as well as some additional words, of which between 65 and 75% were of low frequency (belonging to the fourth 1K band and onwards of the BNC and NGSL corpuses). Moreover, there was a progression in content: that is G1's content was the most basic and of highest frequency, G2's content included the same basic vocabulary and some additional low frequency words, G3's content included the same vocabulary as G2 with some additional basic high frequency words, and G4's content included G3's vocabulary as well as some more vocabular of even lower frequency. Therefore, there was a gradual increase in the amount of

vocabulary presented to the students from G1 to G4, and a decrease in frequency. More detailed information about the percentages of high- and low-frequency words presented in each of the grades and groups can be found in Table 6.2 in §6.2.3 of this dissertation. The full list of vocabulary taught can be found in Appendix 2. In sum, participants in the experimental groups were, on the one hand, exposed to a wider amount of vocabulary within the same EFL class time than their same-age control group peers and, on the other hand, presented with more challenging additional vocabulary of lower frequency.

In addition to the increased amount of vocabulary that experimental groups were presented with, the most notable differences between the intervention in both groups was in terms of the teaching approach employed by the teachers with the control (conventional EFL instruction) and the experimental (soft-CLIL) groups. The same English teacher taught all four groups in each of the schools, and, therefore, two English teachers were involved in the project, both of whom had a B2 level of English. With the control groups, a conventional EFL teaching approach[5] was followed, mostly using flashcards, worksheets, drills, and repetition games. In these groups, FL instruction was teacher-centred, the use of the FL by the students was very controlled, and activities did not have a communicative goal. On the contrary, with the experimental groups, it was decided to follow a CLIL approach, which was student-centred, involved group work, communicative tasks, and activities to work on higher order thinking skills. More specifically, a soft-CLIL approach was followed, since the English teachers were the ones in charge of doing cross-curricular work with the L1 teachers and bringing content traditionally taught in the main schooling language to the regular EFL sessions to contextualize the English content presented.

4.1.4 Instruments and Data Collection Procedure

Studies one and two followed a six-month longitudinal design, which was the length of the pedagogical intervention just described, and which included two testing times: Time 1 (T1) before the intervention, and Time 2 (T2) right at the end of the intervention. The tests administered, their design process (when relevant), and the testing procedures are explained next.

At T1, students were administered a general vocabulary test and their families were given a sociolinguistic background questionnaire to fill in. Thus, T1 data collection served a twofold

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[5] Following the terminological conventions of previous studies in this domain, in studies 1 and 2 of the present thesis, the term FI was used to refer to this type of conventional EFL instruction that students in the control groups received.

aim: (1) to examine the participants' general FL vocabulary level before the intervention, and (2) to gather background data on the participants' sociolinguistic and family profile.

The Peabody Picture Vocabulary Test, 4th Edition, Form A (PPVT-4; Dunn & Dunn, 2007) is a standardized test that measures general receptive vocabulary abilities in English. When administering the test, the examinee is presented with sets of four pictures and is asked to point to the picture that matches with the word given through a formula like 'Point to [*target word*]'. The items are grouped in sets of 12 elements, and the test is discontinued at the end of a full set once the examinee fails to identify correctly at least 8 elements out of the 12 within a set. The first 2 items of the test are used as training items for the participant to get used to the testing procedure. For the purpose of the studies here described, the PPVT-4 was used as a tool to measure general receptive vocabulary starting levels of the participants. Hence, it allowed to compare the scores of the control and experimental groups of each grade and school to make sure that they were comparable and that there were no significant differences between groups or schools before the intervention.

The sociolinguistic background questionnaire (Appendix 3) used in studies one and two was created by the doctoral candidate, and peer-reviewed by three other researchers involved in the project, two of which were the supervisors of this thesis. To elaborate the questionnaire a search on the IRIS digital repository was conducted, to retrieve sociolinguistic background questionnaires previously used within the field of FL acquisition. Many questionnaires were analysed, but four of them served as the main sources of inspiration to create the one used in this dissertation: on the one hand, the questionnaires used by Schmid & Dusseldorp (2010) and by Puimège & Peters (2019) were especially interesting to create the questions regarding the parents' background; on the other hand, the questionnaires used by Briggs (2015) and by Sun, et al. (2016) were of special interest regarding the questions enquiring onto the L1(s) and FL(s) use and exposure outside of the school. Additionally, two sociodemographic studies conducted by the Catalan government, the Generalitat de Catalunya, with 16-year-old students in Catalonia were also taken as reference. The reports summarizing the results of such studies and the questionnaires used focused on a wide variety of topics, namely the general characteristics of the student and their families, their sociolinguistic profiles, their knowledge of Catalan and Spanish as L1s, and English as a FL, and their use of each of those languages in their daily live (Generalitat de Catalunya, 2006, 2013).

Regarding the structure of the questionnaire that was created and used for the first two studies of this dissertation, it started by informing the students' families of the research project and data treatment policies. The questionnaire itself served to collect their participation consent form. If parents agreed to allow their child to participate in the research study, they were asked to

answer the 5-part-questionnaire, otherwise, they were directed straight to the end page. Part 1 of the questionnaire collected general information of the child, such as their gender, date of birth, and place of birth and residence. Part 2 gathered data about the students' linguistic context: their L1(s), their FL(s), and how often they use each of those languages. Next, part 3 asked about the participant's family: the L1(s) of the closest family members, and the languages used by each of them to talk to the child. Part 4 focused on the contact that the participant had with English outside of the school, including extracurricular classes and a variety of other activities, such as reading, watching television, listening to music, etc. Finally, part 5 collected general opinions of the parents regarding the learning of English as a FL. The questionnaire was delivered to the participants' parents by the schoolteachers and pre-primary coordinators in each school via a Google Forms. The families that were unable to fill in the questionnaire online were given a printed version of it and asked to return it to their child's teachers to be collected by the researchers later.

At T2, students were tested on the specific vocabulary of the two units worked on either through conventional EFL instruction in the control groups, or through soft-CLIL in the experimental groups. In order to do so, the participants were administered two target words tests: (1) a receptive vocabulary target words test, and (2) a productive vocabulary target words test. Each test included between 50 and 70% of the target words worked on in the two units. Thus, since the older students (P5) were presented with a bigger amount of target words, their tests were a bit longer than those administered to the younger groups (P4). In addition, within the same grade, students in the control groups were administered shorter versions of the test, which included only a percentage of the basic target words, while students in the experimental groups were administered the same basic test as their control group peers as well as some additional items targeting the additional target words of lower frequency. As such, the tests for the students in the control group in P4 included 11 target items, while the tests for the P4 experimental group learners included the same 11 basic items, as well as 9 additional ones, having a total of 20 target words. In the case of the students in P5, the tests for the control group had 17 target items, while the tests for the experimental group students included those same 17 basic items, as well as 10 additional ones, that is a total of 27 target words. Frequency of words also decreased from control to experimental group's tests, and from younger to older students' tests, following the same pattern as in the target word frequency percentages, mentioned in §4.1.3 and presented in further detail in Table 6.2 in §6.2.3 of this dissertation.

In contrast with the PPVT-4, the target words tests were not discontinued, but they were administered in their entirety. Both the receptive and the productive target words tests were administered within one testing session per participant, starting with the productive one, in which

positive reinforcement was given, but answers were not corrected to avoid transference into the receptive test that was administered subsequently. In this case, both tests were created by the doctoral candidate with feedback from the two supervisors. Further details regarding the creation and administration of both target words tests can be found in the following paragraphs.

The receptive vocabulary target words test (Appendix 4 and Appendix 5) followed the same format as the PPVT-4, namely participants are presented with an array of four pictures and asked to point to the one matching the word spoken by the examiner. To elaborate this test, the guidelines for the PPVT-4 explained in its manual were followed. The manual provided information about the format in terms of individual picture selection (e.g., clarity of the concept illustrated, black contour line, style of picture), and composition within the page (e.g., colour palette, selection of distractors). Within each set of four pictures, one illustrated the correct target word, and the other three were distractors, which were similar to the target word in topic, shape, and colour. Out of the three distractors in each page, at least two had been used in the FL classroom by the teacher within the 6-month intervention.

The productive vocabulary target words test (Appendix 6 and Appendix 7) followed the same format as the Expressive Vocabulary Test, 3rd edition (EVT-3; Williams, 2018). Participants are shown a flashcard with a picture and asked to name what they see in the picture using the target language, namely English. In the case of the present studies, due to the participant's very young age, and to avoid frustration, they were encouraged to name the picture in the flashcard in their L1 (Spanish or Catalan) if they did not know it in English, and positive feedback was given after each answer, regardless of the language used by the children. To design this test, the guidelines for the EVT-3 presented in its manual were followed. Such guidelines focused mainly on the picture characteristics, which were similar to those from the PPVT-4 (e.g., clarity of the concept illustrated, black contour line, style of picture).

Since both target words tests were created by the researchers and were not standardized, they were piloted prior to the administration with our target participants. The tests were piloted with a sample of 6-year-old-students from the same schools as our participants. This target group of students was chosen for the piloting, because they were only a few months older than our target participants, and because they were already familiar with the target vocabulary included in the tests, which allowed us to test for picture intelligibility and test administration procedures.

4.1.5 Data Analysis

During the data collection sessions, answers for each test (the PPVT-4, the receptive and the productive target words tests) were recorded in a scoring sheet. In the case of the PPVT-4 and the receptive vocabulary target words test, the scoring sheet included a space to write the name and

code of the participant, as well as the testing date, followed by the list of target items and a space next to each one to write down the picture that the participants pointed to. The pictures were numbered within the page, so the number of the picture selected by the participant was recorded. In the case of the productive vocabulary target words test, the scoring sheet included the same initial section to record the participants' name, code, and testing date. Next, it had a list of the target vocabulary and space to write the words that the participants said after seeing each flashcard. Such words were written in the language in which they were uttered by the examinee, which was either English, Spanish, or Catalan.

To begin with the data analysis process, all answers recorded in the scoring sheets abovementioned were digitalised and transformed into numeric factors, in which *1* indicated a correct answer and *0* an incorrect one. Final raw scores were obtained by adding the results of each participant in each of the tests separately. It is worth mentioning that, following the guidelines of the standardized PPVT-4 and EVT-3 tests, incorrect answers did not deduct points. It is also important to note that zero knowledge on the productive test was a score of *0*, while zero knowledge on the receptive test was a 25% chance, due to the multiple choice format of the test.

After cleaning the data, statistical analyses were conducted with IBM SPSS (v.26) and R (v.5.2, and v.4.1.2). Some of the first tests were run with SPSS, which was the software that the doctoral candidate was familiar with at the beginning of the thesis. The subsequent tests were run with R, after having learnt more about statistics and how to use this software. The tests that were run to answer each of the research questions in studies one and two are presented next. Significance levels were set at $p=.05$ in all cases described below, and Cohen's *d* was used to measure effect sizes, when necessary.

First, participant's sociolinguistic background questionnaires were analysed. To do so, categorical answers were transformed into numerical values. That was the case, for example, of maternal and paternal education, level of English, participants' L1(s), and frequency of use of each of the languages. Data that were already numerical when collected were cleaned: for example, time of out-of-school exposure to English was transformed into minutes, and participants' chronological ages were calculated in months. The analysis of the questionnaire served to detect outliers to be left out of our final sample, as well as to determine group characteristics through descriptive statistics, like mean scores and standard deviations. Such analyses were run with SPSS, and R (*R Base*, *tidyr*, *dplyr, psych*, and *lubridate* packages).

The PPVT-4 raw scores were used as a measure to make sure groups were comparable and that there were no significant differences between groups prior to the intervention. To analyse the PPVT-4 results, two independent samples two-tailed *t*-tests with Welch's corrections were

run, one per each grade tested. The same test was also run to compare the starting levels of the students in the two schools. Such tests were run using SPSS.

RQ1.1 and RQ2.1 examined the students' outcomes in the basic words tests, that is the shorter version of the target words tests that participants in the control and experimental groups were administered. To compare the results of the control and experimental groups of each grade, group statistics were obtained and two independent samples two-tailed *t*-tests with Welch's corrections were run. Additionally, descriptive statistics were obtained for the results of the experimental groups in the complete versions of the target words test. In this case, within group comparison tests were not an option because the shorter basic test was embedded within the complete one, and descriptive statistics already showed the differences between the results in each. Statistical analyses for RQ1.1 were run with SPSS, while R (*R Base*, and *psych* package) was used for RQ2.1.

To study the age differences explored in RQ1.2, as well as the word frequency effects analysed in RQ1.3 and RQ2.2, absolute frequencies and percentages were described first. Next, a Chi square test and a generalized linear mixed model (*glmm*) were run including the following variables: test, target word, word frequency, participant, age, class/group, and school. Prevalence ratios were obtained from the models. Such tests were run with R (*R Base*, and *lme4* package).

Finally, receptive, and productive vocabulary scores were analysed in RQ2.3 through paired samples *t*-tests to compare group means in each test. In this case, the tests were also run using R (*R Base*, *tidyverse*, *ggpubr*, *rstatix,* and *dplyr* packages).

4.2 Study 3: Teachers' Perceptions of CLIL in Pre-primary

The third study of the present dissertation followed a qualitative approach to complement the previous two. As such, it studied the perceptions of pre-primary pre-service and in-service teachers regarding the potential effects of CLIL in pre-primary education. Teachers' level of knowledge of the CLIL approach was analysed, as well as the expected benefits and challenges of CLIL for pre-primary teachers and students. Ultimately, it examined teachers' readiness to start teaching through CLIL and identified their potential teaching and training needs.

4.2.1 Participants

A total of 134 pre-primary teachers answered an online survey, but the answers of 5 teachers had to be discarded in our final sample of participants because no answers or incomplete responses were given in the open-ended questions, which were the main focus of study three. Therefore, the final sample of participants included 129 pre-primary education teachers (*N*=76 in-service teachers, and *N*=53 pre-service teachers).

In the following paragraphs, a general overview of the participants' profiles and their background is provided. More detailed information can be found in the original article text, in §7.2.1 of this thesis, and more specifically in Table 7.1.

School principals and/or pre-primary coordinators in 32 schools in Catalonia were contacted and asked to share the survey with their pre-primary in-service teachers, including the tutors, the FL specialists, and any other support teachers. The in-service teachers that filled in the questionnaire that were included in our final sample of participants were, at the time, working at 29 different schools, out of which 10 were public, 17 were semi-private, and 2 were private. 17 of the schools were located in the city of Barcelona, while the remaining 12 were located in other cities in Catalonia. Regarding the profile of in-service teachers, their ages ranged from 23 to 62 years, and they had an accumulated teaching experience of between 1 and 41 years. Most of them had a level of English of between A1 and B1, while only about a third reported having a B2 or C1 level. Only 30% of in-service teachers were FL specialists, and approximately the same percentage of participants had received CLIL training or taught through such an approach.

The coordinators of the Pre-Primary Education undergraduate degree in 8 different universities in Catalonia were contacted and asked to share the survey with the pre-service teachers enrolled. Only coordinators from 5 of the 8 universities were able to share the survey link with their professors for them to make it available to their students. Thus, pre-service teachers that filled in the questionnaire were from 5 universities, out of which 3 were public, and 2 were private. These universities were located in 5 different cities in Catalonia. Regarding the profile of pre-service teachers, their ages ranged between 18 and 25 years. About half of them had some previous internship teaching experience, very few had worked in schools, and around 40% had no prior teaching experience. The majority had a B1 or B2 level of English, and only a third were studying to become FL specialists. Only three pre-service teachers had received CLIL training, and none had any experience teaching through CLIL.

With the sample of participants just described, we aimed at having as much variation in the teachers' profiles as possible, for example, regarding their ages, accumulated teaching experience, CLIL training and experience, English level, type of school, and type of university. Such variation would provide more diversity in the participants' answers, which would be more representative of the teacher population in the context of the study. Nonetheless, generalization of the findings would still require a bigger and more varied sample of participants.

All participants gave written consent regarding their participation in the research project and data use. Such consent was collected through the first section of the surveys after the participants had been informed about the purpose of the study and the data treatment policies (Appendix 8 and Appendix 9). All data were pseudo-anonymised by attributing an ID code to

each participant, to prevent them from being identified. Ethical approval was granted by the Research Ethics Committee at the Universitat Internacional de Catalunya (reference code EDU-2019-01).

4.2.2 Instruments and Data Collection Procedure

Article three was a survey-based research study, in which data were collected through two online questionnaires. Both questionnaires differed only in the first section, where the participants' biodata and background information were collected through different angles, focusing on current and prior teaching experience in the case of in-service teachers (Appendix 8), and focusing on academic training and internship experience in the case of pre-service teachers (Appendix 9). The rest of the questionnaire parts were the same in both cases. The specific content of the surveys, as well as the creation, piloting, and data collection process are detailed next.

Prior to the creation of the questionnaires, extensive reading of similar research papers was conducted. Surveys used in previous studies were analysed and served as inspiration for the creation of the questionnaire used in the study here described. Pérez-Cañado's (2016) questionnaire for in-service teachers provided some ideas for questions enquiring on both the participants' FL teaching background, and their perceptions regarding CLIL. Additionally, the questionnaires used in Hunt (2011), McDougald (2015), Pena & Porto (2008), and San Isidro (2021) served as inspiration for the items and questions related to CLIL implementation itself, namely the expected benefits, challenges, and teaching and training needs. A first draft of the survey was created by the doctoral candidate and reviewed by the two thesis supervisors. After several rounds of discussion, a semi-final version of the questionnaire was produced and piloted.

The piloting phase was conducted with early primary education teachers. The target participants in the pilot phase were, on the one hand, 15 in-service teachers from different schools and with varying ages (range: 26 to 60 years old) and years of teaching experience (range: 5 months to 27 years); and, on the other hand, 10 pre-service teachers from four different universities (two public and two private) enrolled in different years of their undergraduate programme (second to fourth year), and with different internship experience (range: 0 to 13 months). After the analysis of the answers provided by the teachers in the piloting phase, the wording of a couple of questions was modified, and the format of two more questions changed from open-ended question to multiple choice. The questions altered were then piloted with a smaller sample of teachers.

The final versions of the questionnaires (Appendix 8 for in-service teachers, and Appendix 9 for pre-service teachers) were structured in 4 parts following an introduction page. The introduction provided information regarding the objectives of the research project, as well as

the data treatment policies. It also collected teachers' consent to participate in the research. Part 1 was where the two surveys differed, since they were tailored to the target participants. In-service teachers' questions enquired onto the participant's general teaching experience (e.g., schools, grades, accumulated teaching years), while pre-service teachers' questions focused on their ongoing undergraduate training (e.g., year within the degree, internship experiences). In both cases the participants were also asked about their FL level, their FL teaching experience, CLIL training, and CLIL teaching experience. Following that, the questions on both surveys were the same. At the end of part 1, participants were asked to provide a definition of the CLIL approach, or write an example of a CLIL situation, in case they were not able to give such a definition. Part 2 started off by providing a definition of CLIL, to ensure that from that point onwards all participants had the same understanding of the CLIL framework. Following that, the surveyed teachers were asked to rate on a 4-point Likert scale their agreement with five statements about CLIL effects on content, L1, and FL learning. They were also asked to tick the linguistic, personal, and interpersonal competencies that they thought CLIL would enhance in students of any age and FL level. In part 3, they were asked whether they though CLIL implementation was possible with students of any age and FL level, and why. Next, they were presented with a list of 14 statements related to general CLIL implementation needs and requirements, for which they had to rate their agreement on a 4-point Likert scale. Part 4 of the survey collected teachers' perceptions on the potential effects of CLIL when implemented in pre-primary specifically. As such, it included five open-ended questions asking about the potential CLIL benefits and challenges both for their pre-primary students and the teachers themselves. The last part of this section enquired onto whether the teachers felt ready to start implementing CLIL in pre-primary, and their specific teaching and training needs. Data collected in parts 2 and 3 of the survey were, in the end, not included in study three due to the word limit of the journal. However, these data were still collected and analysed. Results from part 1 and 4 were the ones presented in the study.

At the onset of the research project, school principals and university coordinators were contacted by the doctoral candidate regarding the distribution of the questionnaire with the potential participants, as detailed in §4.2.1. When contacted, they were provided with a description of the research project, the ethics committee's approval document, and the links to the questionnaire. The school principals and university teachers or coordinators oversaw the distribution of the survey links to in-service and pre-service teachers respectively. It took the participants an average of 25 minutes (M=25.46; SD=15.95) to answer the questionnaire.

4.2.3 Data Analysis

The data collected through the questionnaires were processed and analysed following two different procedures, according to whether the questions were single- and multiple-choice, or whether they were open-ended. The data analysis procedures followed are detailed next.

First, data collected through the two surveys were exported into two separate excel files, and merged into one single dataset, which was cleaned. The answers to single- and multiple-choice questions were turned into numeric data. That was the case of most of the items in part 1, namely the background and biodata questions. Such data were used to analyse the profiles of the participating teachers, as well as the characteristics of two groups, namely in-service and pre-service teachers. Descriptive statistics were run in R (v.4.2.0; *R Base*, and *tidyr* package), and used to characterize the participants, as described in §4.2.1, and §7.2.1 of the present dissertation.

Next, the answers to open-ended questions were cleaned and analysed qualitatively using Atlas.ti (v.22). For this analysis, a blend of the thematic analysis procedure described by Braun & Clarke (2006), and Neuendorf (2019), and the quantitative content analysis procedure proposed by Schreier (2012), and Saldaña (2021) was followed. Quantitative content analysis, instead of qualitative content analysis (QCA), was followed due to the nature of our data and research objectives. As illustrated in Table 4.5, quantitative content analysis examines manifest meaning with little context rather than latent meaning (e.g., short answers, instead of paragraphs, or full texts, or interviews). In addition, in quantitative content analysis reliability is crucial and, therefore piloting, and high inter-rater agreement play an important role. Consequently, the data analysis procedure follows a very strict step sequence (Schreier, 2012), which is detailed below.

Table 4.5

Differences between quantitative content analysis and QCA

Quantitative content analysis	QCA
Focus on manifest meaning	Focus on latent meaning
Little context needed	Much more context needed
Strict handling of reliability	Variable handling of reliability
Reliability checks more important than validity checks	Validity checks just as important as reliability checks
At least partly concept-driven	At least partly data-driven
Fewer inferences to context, author, recipient	More inferences to context, author, recipients
Strict sequence steps	More variability in carrying out the steps

Note. From *Qualitative Content Analysis in Practice* (p.16), by M. Schreier, 2012, SAGE Publications Ltd.

The data analysis process consisted of the following steps. First, the entire dataset was read and imported into Atlas.ti, while starting to compile a list of potential topics that would be interesting to analyse considering the objectives and research questions of this study. After that, a first version of the codebook was created. The initial version of the codebook included around 140 codes that were categorized within seven main categories, to facilitate addressing the RQ proposed in this study: (1) CLIL knowledge (RQ3.1), (2) CLIL benefits for pre-primary students (RQ3.2), (3) CLIL challenges for pre-primary students (RQ3.3), (4) CLIL benefits for pre-primary teachers (RQ3.2), (5) CLIL challenges for pre-primary teachers (RQ3.3), (6) teachers' readiness to implement CLIL in pre-primary (RQ3.4), and (7) pre-primary CLIL teaching and training needs (RQ3.5). Next, this version of the codebook was piloted by the doctoral candidate and two external raters, who coded data from 20% of the participants randomly selected. Following that, the doctoral candidate reviewed the coding analysis done by the two external raters, and the quotations where different codes had been applied were discussed. In most cases, the raters had interpreted the naming or definition of certain codes differently and, after discussing them, an agreement was reached. Next, the codebook was reviewed once again, and another round of codebook piloting and code discussion took place. After that, inter-rater reliability was calculated in Atlas.ti through the Krippendorff's c-Alpha-binary measure, which showed high agreement ($\alpha=0.967$). Finally, the doctoral candidate proceeded with the coding of the entirety of the dataset with the final version of the codebook, which had a total of 137 codes.

The results of the coding process were normalised into percentages from code counts. It was decided to use percentages, instead of absolute frequencies, which are often used in qualitative data analysis, to account for the fact that there were different number of participants in the two groups that we wanted to compare, namely in-service and pre-service teachers.

As for how results were presented after the analysis was conducted, examples and visualizations were the preferred methods. More specifically, RQ3.1 aimed at examining teachers' level of knowledge of CLIL. In this case, percentages and citations from the teachers' answers were included to illustrate the results. In order answer RQ3.2 to RQ3.5 and to compare the results of the two groups of teachers, inferential statistics were discarded due to the large number of codes in the final version of the codebook, and instead data visualizations were used. Data were plotted with R (v.4.2.0; *R Base*, *ggplot2*, and *dplyr* packages). Each of the plots created presented the results from the coding, namely the percentage of teachers in each of the two groups that mentioned each code when answering the open-ended question of the surveys that were relevant to answer each RQ. Additional interpretation of the plots is provided in the results section of the original article, that is in §7.3 of the present dissertation.

Chapter 5. Receptive Vocabulary Acquisition in Pre-Primary Education through Soft-Content and Language Integrated Learning[6]

Original Publication

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Doctoral candidate's contribution:

As the doctoral candidate, I was the lead investigator in this study. With the help of my two supervisors Dr Roquet, and Dr Barón, I designed the pedagogical intervention, prepared the materials, and participated in the meetings with the schoolteachers. Then, I designed, created, and piloted the data collection instruments. I was also the main researchers collecting the data in the schools, as well as conducting the data analysis. Finally, I was the first author of this publication and, as such, I took the lead in the writing and revisions, always turning to my supervisors for feedback.

The full text of the published article can be found in the following pages.

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[6] The original article was published following the spelling and punctuation rules of American English, in accordance with the journals' guidelines. Thus, this chapter has been kept in American English. Similarly, the journal's conventions for in-text citations have been kept as in the original published article.

5.1 Introduction

Foreign language (FL) learning research has gained ground in the latest decades, during which age of onset of FL learning in schools has been brought down (Pérez-Vidal, Escobar & Roquet, 2013) and new FL teaching methodologies have been explored and implemented. That is the case of integrated teaching approaches, such as Content and Language Integrated Learning (CLIL), in which a curricular subject is taught in the FL (Lasagabaster, 2008), providing a more meaningful and natural FL learning context (Artieda, Roquet, & Nicolás-Conesa, 2020; Lasagabaster & Sierra, 2009; Pérez-Vidal, Lorenzo, & Trenchs, 2015).

Immersion has been claimed to be an ideal FL learning context, as it provides a natural learning environment with high input exposure and interaction opportunities (Pérez-Vidal, 2011). However, immersion is not always possible and FL teaching approaches such as CLIL have developed to attempt to bring to the classroom a more naturalistic and meaningful context. Research has already been conducted to analyze the effects of CLIL programs and benefits have been found in many linguistic and non-linguistic areas (Dalton-Puffer, 2008; Lasagabaster, 2008; Lorenzo, Casal & Moore, 2010; Pérez-Vidal, 2011; Roquet & Pérez-Vidal, 2017).

Although there have been many studies researching the effects of CLIL in different skills and settings, most of such research has been conducted with primary and secondary level students. Very few studies (Asensio Arjona, 2020; García Esteban, 2015) have focused on the analysis of CLIL programs in pre-primary education. Therefore, the present research aims to shed some light into receptive vocabulary acquisition in pre-primary EFL students following a CLIL program.

5.1.1 Content and Language Integrated Learning (CLIL)

In light of the recent increasing interest to promote FL learning since an early age, many countries and schools have increased the quantity and quality of exposure students have to the FL within the school, by implementing CLIL programs in which 'a foreign language is used as the medium of instruction to teach content subjects' (Artieda, Roquet & Nicolás-Conesa, 2020: 1). When CLIL programs are correctly implemented, both the content and the FL share the focus of attention (Dale & Tanner, 2012; Ortega, 2015), which reduces the pressure students may have to learn the target language and provides more interaction opportunities, as well as contextualized learning (Lasagabaster & Sierra, 2009; Pérez-Vidal, 2011).

While all CLIL programs share the main feature of the FL and the content being taught integrated, there are some variable characteristics that change in each program, such as their timing, the institutional support and resources, their continuation (Pérez-Vidal, 2013) and their intensity (Dale & Tanner, 2012; Pérez-Vidal, 2013). Two subtypes of CLIL can be distinguished, depending on their intensity: hard-CLIL and soft-CLIL (Garcia Esteban, 2015). While in hard-

CLIL almost half or more of the curriculum is taught in a FL, in soft-CLIL 'language teachers do cross-curricular work or teach topics from the curriculum as part of a language course' (García Esteban, 2015: 30). Therefore, a soft version of CLIL provides the opportunity to language teachers to teach the FL using other curriculum contents and to bring to the classroom meaningful exposure to the target language. The fact that language teachers are in charge of the teaching helps mitigate one of the main problems that CLIL content teachers may have to face when teaching by the means of a FL, which is the lack of high FL proficiency (Mair, 2018; Pavón, 2014).

Regardless of their intensity and other variable characteristics, in all CLIL programs the curricular content and the FL should be taught in an integrated way (Lasagabaster, 2008), bringing into the classroom higher quality input and communication opportunities. Additionally, CLIL hours are usually added hours to the regular FL classes, thus increasing the time of exposure students have to the target language, which is key in many contexts where contact with the FL is very limited outside the classroom (Muñoz, 2008) and where immersion is not possible. Therefore, CLIL programs bring to the classroom an environment more similar to the immersion context, in which there is a higher quantity and quality of contextualized input, as well as more opportunities for natural interaction (Dalton-Puffer, 2008; Lasagabaster & Sierra, 2009).

According to previous research, the FL learning context that CLIL provides brings many benefits to the students, due to the increased contact with the language and the naturalistic learning environment. Higher results have been found in CLIL learners, as compared to their same age peers following Formal Instruction (FI), in some linguistic skills, such as vocabulary, morphology, and receptive skills (Dalton-Puffer, 2008; Lasagabaster, 2008; Lorenzo, Casal, & Moore, 2010; Pérez-Vidal, 2011). Some other personal skills have also been found to be enhanced through CLIL, namely, motivation, risk-taking, and self-confidence towards FL learning (Dalton-Puffer, 2008). Nevertheless, there are some other areas in which contradictory results have been found, that is the case of productive skills, syntax, pronunciation, and pragmatics (Dalton-Puffer, 2008; Pérez-Vidal, 2011).

In terms of vocabulary, several researchers have reported an advantage for students following CLIL programs. Lasagabaster (2008) found that bilingual secondary education CLIL students outperformed their non-CLIL peers in all tests, including the four main linguistic skills, grammar, and vocabulary. Those results are in line with the findings reported in Artieda, Roquet & Nicolás-Conesa (2020) in which bilingual secondary education students following FI+CLIL showed an advantage over the FI group in reading comprehension, which is closely correlated with vocabulary knowledge. Similar results were also found by Jiménez-Catalán, Ruiz de Zarobe & Cenoz (2006), who analyzed primary education students' performance in reading and writing measured through vocabulary use, and reported higher results by the CLIL group in both skills.

In a longitudinal study, Pérez Cañado (2018) also found an advantage in primary and secondary education CLIL students over their non-CLIL peers in all linguistic aspects, including vocabulary.

When analyzing receptive vocabulary development in primary and secondary education CLIL students, Agustín-Llach & Canga Alonso (2014) concluded that CLIL seemed to enhance receptive vocabulary acquisition. However, they pointed out that such advantage in CLIL learners may be attributed, not only to the CLIL program, but also to the increased amount of exposure to the language. In a posterior study, Canga Alsonso (2015) compared CLIL primary education students with non-CLIL secondary education students with higher amount of exposure to the FL and found that the older non-CLIL students did not show a significant difference in receptive vocabulary knowledge, even after a larger exposure to the FL. Such results led the author to state that the CLIL context provides enough meaningful input to enhance vocabulary acquisition.

There is, thus, a significant number of studies that have found that CLIL gives an advantage to learners, in terms of vocabulary acquisition, which seem to be accentuated even more in the long term and with increased language exposure. Nevertheless, such results are contradictory with the ones reported in Admiraal, Westhoff & de Bot (2006), who did not find any differences in receptive vocabulary development between the secondary education CLIL and FI groups after four years of instruction.

Most research tapping onto the effects of CLIL programs has focused on FL learning in primary and secondary school students. To our knowledge, very few studies (Asensio Arjona, 2020; García Esteban, 2015; Mair, 2018) have analyzed how CLIL may enhance FL acquisition in very younger learners, namely pre-primary education students.

5.1.2 Age and Learning Context in FL Learning

In our current globalized and multilingual society, learning a FL has become an essential element of education, and schools have started to design strong FL teaching programs. Two of the main measures that have been promoted by the European Union to enhance multilingualism are the implementation of new integrated FL teaching methodologies (Pérez-Vidal, 2011), such as CLIL, and the promotion of an earlier start of FL learning in schools (Muñoz, Tragant, & Torras, 2010).

It has traditionally been believed that the sooner children start to learn a language, the better the chances are for them to reach native-like proficiency. Such believe was supported by the Critical Period Hypothesis, first formulated by Penfield (Penfield & Roberts, 1959) and later popularized by Lenneberg (1967), according to which there is a certain age after which attaining native-like proficiency in a FL becomes more difficult. This, however, is not to be generalized, since the context of acquisition plays a crucial role (Miralpeix, 2006; Muñoz, Tragant, & Torras, 2010) both in children and adults when learning a FL: while children may benefit more from

naturalistic environments where they can learn implicitly, older learners seem to benefit more from FI contexts where they can profit from explicit and analytic learning, since they have developed greater problem solving skills and analytic mechanisms (DeKeyser, 2000), as well as a higher cognitive development. That is in accordance with the results reported in Artieda, Roquet, & Nicolás-Conesa (2020), which showed that biological age did indeed have an impact on language learning, since older learners following FI outperformed their younger peers following FI+CLIL after receiving the same number of hours of instruction. In a previous study, Muñoz (2006) found that older learners had a higher rate of FL acquisition at initial stages, thanks to their explicit learning mechanisms; while younger students acquired the language at a slower rate, since they mostly had to draw from their implicit learning mechanisms, which explains why younger learners seem to outperform their older peers in a natural context.

Therefore, the context of FL acquisition is an essential factor to consider when analyzing the effects of early age of onset (Miralpeix, 2006; Miralpeix, 2007; Muñoz, 2008; Muñoz, Tragant, & Torras, 2010). In a study conducted by Krashen, Long, & Scarcella (1979) it was reported that in a natural immersion context, children learning the FL ended with a higher proficiency than learners that began learning the language as adults. Nevertheless, it cannot be claimed that there is a significant advantage of an early age of onset when learning the language in a FL setting, where input time and exposure are limited (Muñoz, 2008). Thus, it cannot be stated that an early age of onset will result in higher level of attainment in any context, since there are some differences between contexts that have to be accounted for (Muñoz, 2006; Muñoz & Singleton, 2011), such as intensity of FL contact, and quality of input. As Muñoz (2008) states, 'an early starting produces long-term benefits when associated with greater time and massive exposure, as in immersion programs, but not when associated with limited time and exposure, as in typical FL learning classrooms' (p. 582).

According to the findings previously reported, starting to learn a FL at a young age seems to give an advantage to students when they are in an immersion context, with large amounts of exposure to the FL (Miralpeix, 2007). Nevertheless, in most cases the advancement of age of onset has not come in hand with a change in the context and, in many schools, learners are starting FL classes earlier, but still following FI in a FL context where the contact with English is of 2-3 hours per week at most. Therefore, the present research provides a potentially more beneficial context, since pre-primary level students are involved in a soft-CLIL program, which, although in a FL context, brings to the classroom a more meaningful and natural-like context for FL learning, from which younger learners can learn implicitly.

5.1.3 FL Vocabulary Acquisition

FL vocabulary acquisition has been largely studied in the last decades, as vocabulary knowledge has been seen as crucial to be able to communicate in the FL (Albaladejo, Coyle, & de Larios, 2018; Meara, 1996; Schmitt, 2008). It has been found that learners need about 8000 to 9000 words families for fluent reading, while 6000 to 7000 words families seem to be necessary for oral comprehension (Schmitt, 2008; Schmitt & Schmitt, 2020). Therefore, FL learners need to acquire a very large amount of vocabulary to be proficient in all linguistic skills. But learning a word is not an easy task, because, as pointed out by Nation (2020) it entails mastering many aspects, such as the spoken and written form, the word parts, its form and meaning, its concept and referents, its associations, its grammatical functions, collocations and uses.

Therefore, considering the large amount of vocabulary that is required to function in a language and the complexity of learning it, two of the main criteria that have been traditionally used to select the vocabulary to teach in the FL classroom are the usefulness and the frequency (Nation, 2020; Nation & Meara, 2020; Schmitt & Schmitt, 2020). By conducting a needs analysis, the teacher should be able to detect which vocabulary will be useful and engaging for the learners. Furthermore, after analyzing frequency lists, it has been seen that 'a relatively small number of high-frequency items are extremely frequent' (Schmitt & Schmitt, 2020, p. 6). Thus, prioritizing the learning of high-frequency words, namely from the first three 1000 words bands from frequency lists, will enable FL learners to cover a wide range of texts and function in basic conversations (Nation, 2020; Nation & Meara, 2020).

Previous research related to word frequency and acquisition have supported such idea. In a study conducted by Alexiou (2015) on FL vocabulary acquisition with 8 and 9-year-old children, results showed that high frequency words were learnt faster and were recalled more frequently than lower-frequency words. The author claimed that this was possibly due to the fact that higher-frequency words usually refer to concepts that are more common in our daily lives and, therefore, children will probably already have a conceptual representation for such words. Similar results were reported by Shaban (2013), in a study where children aged 3 to 5 learning English as a FL seemed to acquire more 'frequent, concrete, typical and basic level words faster' (p. 722). Miralpeix's (2007) study on the effects of age and exposure on productive vocabulary knowledge in high school students also found a much higher usage of words belonging in the first 1000 band of frequency, than words belonging in less frequent bands, both in written and oral tasks.

Research in the vocabulary acquisition field has also focused on the analysis of receptive and productive vocabulary learning, and two main relevant findings are worth mentioning. Firstly, receptive vocabulary size in high level learners has been found to be a good indicator of FL proficiency (Miralpeix & Muñoz, 2018). Secondly, receptive and productive vocabulary

knowledge is seen as within a continuum: while knowing a word receptively means being able to identify and understand the word in listening or reading, knowing it productively is the next step and entails knowing how to use the word in speech or writing (Meara & Miralpeix, 2021; Schmitt & Schmitt, 2020; Webb, 2020). Receptive vocabulary has been found to be acquired faster and earlier than productive vocabulary (Schmitt & Schmitt, 2020; Yongqui Gu, 2020). This may be due to, as pointed out by Nation (2020), the complexity of both kinds of knowledge: for productive vocabulary, learners need to have mastered more aspects of a word, while for receptive vocabulary, word knowledge may be partial. Thus, it is natural for receptive vocabularies to precede (Meara & Miralpeix, 2021) and to be bigger than productive vocabularies (Miralpeix, 2020), especially in early EFL stages.

Within the framework just presented in the current section, a need for more research in FL acquisition with very young learners, namely pre-primary students, has been identified. More specifically, there is a need for more studies analyzing FL learning in students at an early age and in a context with limited exposure to the FL. That is precisely the niche that the present article aims to fill, by the means of analyzing receptive vocabulary development in pre-primary students following a soft-CLIL program in a FL context.

The present study seeks to analyze whether a soft-CLIL program enhances vocabulary learning in very young pre-primary learners of English as a FL and provides new data in the FL vocabulary learning domain. Thus, the effects of said soft-CLIL program will be examined in terms of the students' ability to remember and identify the target vocabulary. Age effects will also be analyzed, by comparing the results of students in the last two grades of pre-primary education, namely 4- and 5-year-olds. Additionally, the effects of word frequency will be studied, in order to examine whether higher-frequency words are recalled easier than lower-frequency words. Therefore, the following research questions, and respective hypotheses, have been set:

RQ1 Will pre-school students be able to acquire a wider range of receptive vocabulary in their L2 following a soft-CLIL program?

H1 According to the literature reviewed, pre-primary students will be able to acquire a greater range of receptive vocabulary in the L2 through a soft-CLIL methodology, as compared to their non-CLIL peers.

RQ2 Will older students (5-year-olds) be able to recall a larger amount of vocabulary than their younger peers (4-year-olds) within the same time period?

H2 Older students (5-year-olds) will be able to recall a larger amount of vocabulary, compared to their younger peers (4-years-olds) within the same time period.

RQ3 Does frequency of words affect vocabulary recalling?

H3 High-frequency words will be easier to recall than low-frequency words.

5.2 Method

5.2.1 Participants

A total of *N*=155 Catalan and Spanish bilingual pre-primary students (aged 4 and 5 years old) from two semi-private schools in Catalonia participated in the study. Students in both schools had a similar socioeconomic background and students' families were given a sociolinguistic background questionnaire, tapping onto the family languages and the exposure to English that children had inside and outside of the school.

Participants were 4- and 5- year-old students, enrolled the last two years of pre-primary education[7]. In each of the schools, students in each grade were divided into two classes of between 17 and 25 students each. Those groups were kept the same and used as control and experimental, thus having two groups (one control and one experimental) per grade and school. Nevertheless, in the final grouping distribution students from the same groups in each school were mixed and analyzed as part of the same group, therefore, having 4 groups, as seen in Table 5.1.

Table 5.1

Participants distribution

Participant's age & grade	Group	Treatment	Participants
4-year-old learners (P4)	Group 1	Control group (FI / non-CLIL)	*N*=35
	Group 2	Experimental group (soft-CLIL)	*N*=34
5-year-old learners (P5)	Group 3	Control group (FI / non-CLIL)	*N*=42
	Group 4	Experimental group (soft-CLIL)	*N*=44

5.2.2 Pedagogical Intervention and Treatment

The present research was born from a needs analysis conducted with the pre-primary teachers in the schools. As it was observed, there is no established curriculum for English in pre-primary grades and teachers in those schools felt that the English content presented in each of the three grades of pre-primary was repetitive and very basic, not allowing students to learn as much as they potentially could. Therefore, a pedagogical intervention was designed by the researchers and the schoolteachers, to develop an age-appropriate curriculum that favored EFL vocabulary acquisition and that increased the amount of vocabulary that students were exposed to. As a result, a soft-CLIL methodology was adopted by the English teachers, with the aim of providing

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[7] In the Spanish education system pre-primary education is made up by three levels: P3 (3 years old), P4 (4 years old) and P5 (5 years old), which are equivalent to Foundation 3, 4 and 5.

contextualized and meaningful learning. Considering that there are no separate curricular subjects in pre-primary, but that units and curricular content are worked on through topic-based projects, two main units that students learn about in their mother tongue (L1) and that are part of the general pre-primary curriculum were selected to be adapted as the soft-CLIL units: the first two units related to the seasons, namely Autumn and Halloween, and Winter and Christmas.

Control groups received instruction of English as a FL, following the basic vocabulary school curriculum; while experimental groups received the same basic instruction with the addition of more topic-related vocabulary, which was introduced through a soft-CLIL methodology. Students of both groups received the same number of hours of instruction and were exposed to English within the school the same amount of time, since CLIL hours were not extra hours, but embedded within the regular EFL classes. Thus, students were exposed to the same amount of English hours within the school: the 20-minute morning routines done in English two or three days a week since the first grade of pre-primary (P3) and 2 hours per week of EFL lessons. In addition, another subject was taught in English starting from P3: Arts and Crafts in one of the schools, and Music in the other. Therefore, although participants were from two different schools, they had the same contact with English within the school, namely, around 3 hours per week.

During the development of the intervention and its implementation, there were regular meetings with the classroom teachers, as well as with the EFL teachers in both schools to select the appropriate vocabulary and to develop the materials, in the shape of flashcards, worksheets and a list of activities and games as a resource for the English teachers. It is also important to note that in each of the schools, there was one single English teacher in charge of teaching all grades and classes in pre-primary. Therefore, the experimental and the control groups were taught by the same teacher, who followed the same teaching strategies in both classes, changing only the amount of vocabulary introduced in each group.

5.2.3 Design

The study followed a longitudinal design, with two testing times and a pedagogical intervention in between. The first testing time (T1) took place in October 2019, at the beginning of the school year, before beginning the CLIL pedagogical intervention in the EFL lessons, which consisted of two themed vocabulary units. T1 served as a diagnostics tool to ensure group comparability and analyze starting levels.

Each of the intervention units was worked on in the EFL sessions for two months. In each of the grades, the control groups were presented with the English basic vocabulary included in the school curriculum about those units, while the experimental groups were exposed to an increased amount of vocabulary, including not only the basic vocabulary, but also some more

complex and less frequent words and expressions. Furthermore, to guarantee that there was a progression in terms of content between the two grades (P4 and P5), older students (P5) were presented with the same vocabulary as their younger peers (P4 experimental groups), as well as some more advanced vocabulary (see Appendix 2). Around 60% of words in each unit were high-frequency words from the first three 1000 bands, while the other 40% of words were of lower-frequency. After the intervention, in March 2020 (T2), students took the receptive vocabulary post-tests, which included words from the two units worked on in the pedagogical interventions in the EFL and CLIL lessons.

5.2.4 Instruments

The standardized Peabody Picture Vocabulary Test (PPVT 4th Edition, Form A) was used as a pre-test for all students, to compare the starting levels of both schools and of the classes in each grade. Thus, the PPVT-4 test was a diagnostic tool to guarantee that there were no statistically significant differences neither between schools, nor between control and experimental groups within each grade.

A sociolinguistic background questionnaire (see Appendix 3) was sent out to the families of the students to gather information about the students' contact and exposure to the language outside of the school. The questionnaire inquired on the family background and languages used at home, any extracurricular activities in English that the students took part in and any other contact with the language that the students may have, such as through a native speaker family member, babysitter, watching videos in English or listening to songs, amongst others.

As for the specific tests related to the vocabulary of the two units that the intervention focused on, two tests were developed by the researchers: a curriculum words receptive test (see Appendix 4) including only the basic curriculum words, which was administered to all control and experimental groups; and a target words receptive test (see Appendix 5), including the additional words for the experimental groups only. Different versions of each of the tests were developed, for each grade (P4 and P5), to include between a 50% and a 70% of the vocabulary that was presented in each grade. To select the vocabulary included in the tests, frequency (according to the British National Corpus (BNC) and New General Service List (NGSL) databases) was considered, as well as the unit that words belonged to. As regards to the format of both the curriculum and the target words receptive tests, the same format, and guidelines as in the

PPVT-4[8] and the Expressive Vocabulary Test (EVT)[9] were followed, in terms of picture characteristics and combination within the page.

5.2.5 Data Collection and Procedure

Data collection for both testing times (T1: PPVT-4 pre-test, and T2: basic curriculum and additional target words tests) was done within two weeks. For all tests, students were tested individually in a separate classroom. Instructions were given in Catalan or Spanish, the students' mother tongue, and the first four items of each test were used as training items, for the students to familiarize themselves with the test and for the researchers to make sure that participants understood the testing procedure. The curriculum and target words tests that were created by the researchers were piloted with a group of 6-year-old students in the same schools, prior to the testing time with the pre-primary students.

5.2.6 Data Analysis

During data collection, a record was kept with the students' answers for each of the items tested. Correct answers added a point and incorrect answers did not count. Raw scores were used in the first research question. Data were also normalized assigning standard scores, in order for raw scores to be compared.

For the first research question, IBM SPSS Statistics 26 was used to analyze the data. Group means were compared, and independent samples T-tests were carried out to compare the results of the control and the experimental groups in each test. P value was set at ($p= 0.05$).

For the second and third research questions, the program R 3.5.2 was used. To describe the absolute frequencies and percentages, and analyze the relation between the categorical variables, X2 contrast was used. Additionally, two mixed generalized linear models of Poisson were adjusted, including the following variables: target word, frequency, class, school, student, age and test; from which prevalence ratios of the models were obtained. Significance levels were set at ($p= 0.05$).

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[8] Dunn, L. M. & Dunn, M. (2007). PPVT4 Peabody Picture Vocabulary Test, Fourth Edition. Manual. Pearson: United States of America.

[9] Williams, K. T. (1997). Expressive Vocabulary Test. Circle Pines, MN: American Guidance Service.

5.3 Results

5.3.1 Receptive Vocabulary Acquisition through Soft-CLIL

The first research question aimed at analyzing receptive vocabulary development in 4- and 5-year-old pre-primary EFL learners. Half of the participants, namely those in the control groups, followed the regular preschool EFL classes, while experimental groups were presented with a larger amount of vocabulary through a soft-CLIL program, keeping exposure time the same. It was expected for learners in the experimental groups to show higher results in their receptive vocabulary, due to their participation in the soft-CLIL program, when compared to their same grade non-CLIL peers.

Table 5.2, Table 5.3, and Table 5.4 show the raw results that each of the groups got when tested in the basic curriculum words receptively. In both grades slightly higher results were reported in the experimental CLIL groups (G2 and G4), when compared to their same grade non-CLIL peers. In the case of the younger groups, namely 4-year-olds, the control group's (G1) mean score in the basic words receptive test was 7.11, while the mean score for the experimental group (G2) was 7.26, a difference that was not statistically significant ($p=.313$). In the older groups, namely 5-year-olds, the mean score reported in the control group (G3) was 11.79, while for the experimental group (G4) it was 12.55, such difference being not statistically significant either ($p=.166$).

Therefore, slightly higher results were seen in the CLIL groups in both grades in comparison with their non-CLIL same age peers, in the basic curriculum words test, although the differences were not statistically significant in either grade. It is also important to note that the CLIL groups were exposed to a higher amount of vocabulary than their non-CLIL peers, within the same time period. Therefore, it can be concluded, that increasing the amount of vocabulary introduced in the EFL curriculum through soft-CLIL does not hinder the learning, nor causes the children to be overwhelmed, since results showed positive tendencies in favor of the CLIL groups, although not statistically significant.

Table 5.2

Group statistics for basic curriculum receptive test (G1 - G2 - G3 - G4)

Group	*N*	Mean	Std. Deviation	Std. Error Mean
G1	35	7.11	2.259	.382
G2	34	7.62	1.826	.313
G3	42	11.79	2.637	.407
G4	44	12.55	2.406	.363

Table 5.3

Independent samples test (G1 - G2)

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
	F	Sig.	t	df.	Sig. (2-tailed) *P*-value	Mean Difference	Std. Error Difference	95% CI of the Difference Lower	Upper
Equal variances assumed	.981	.326	1.016	67	*p*= .313	-.503	.495	-1.492	.485
Equal var. not assumed			-1.019	64.876	*p*= .312	-.503	.494	-1.490	.483

Table 5.4

Independent samples test (G3 - G4)

| | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
	F	Sig.	t	df.	Sig. (2-tailed) *P*-value	Mean Difference	Std. Error Difference	95% CI of the Difference Lower	Upper
Equal variances assumed	.508	.478	-1.397	84	*p*= .166	-.760	.544	-1.841	.322
Equal var. not assumed			-1.394	82.425	*p*= .157	-.760	.545	-1.844	.325

Additionally, it is worth mentioning that both CLIL groups (G2 and G4), were able to acquire not only the same amount of basic curriculum words as their non-CLIL peers, but also a similar percentage of the additional less frequent words presented though soft-CLIL, as can be seen in Table 5.5 and Table 5.6. The younger learners following the soft-CLIL intervention (G2) showed a mean raw score of 5.32 points higher when tested in the complete test, being their mean score for the basic test a 7.62, and their mean score for the complete test a 12.94. In terms of the older experimental group's results (G4), their mean raw scores were 5.63 points higher when tested in the complete test, as they obtained a mean score of 12.55 in the basic test, while in the complete test their mean score was of 18.18.

Table 5.6 shows the percentage of correct answers of the learners in the experimental groups both in the basic curriculum words test, and in the complete test, which included the basic curriculum target words and the less frequent ones introduced though soft-CLIL. Percentages of receptive vocabulary acquisition are very similar in both tests within each grade, although slightly

higher in the basic test, which may be due to the fact that the additional words in the complete test were more difficult and less frequent.

Table 5.5

Group statistics in raw scores for experimental groups (G2 - G4) in basic curriculum and complete (basic + extra) receptive tests

Group	N	Test	Mean	Std. Deviation	Std. Error Mean	Gains
G2	34	Basic Test	7.62	1.826	.313	+ 5.32
		Complete Test	12.94	2.741	.470	
G4	44	Basic Test	12.55	2.406	.363	+5.63
		Complete Test	18.18	3.178	.561	

Table 5.6

Group statistics in percentages for experimental groups (G2 - G4) in basic curriculum and complete (basic + extra) receptive tests

Group	N	Test	Mean	Std. Deviation	Std. Error Mean
G2	34	Basic Test	69.2524 %	16.60125	2.84709
		Complete Test	62.7059 %	13.70364	2.35015
G4	44	Basic Test	73.7973 %	14.15306	2.13365
		Complete Test	67.3398 %	13.77243	2.07627

5.3.2 Age Effects

The second research question inquired into the age effects, and it was expected that older learners (5-year-olds) would benefit more from the soft-CLIL program, when compared to their younger peers (4-year-olds). In order to analyze these differences, the results corresponding only to the basic words that were presented to all groups of both grades were analyzed.

As reported in Table 5.7, when considering the number of words that learners of each grade were able to identify correctly from the basic words that were worked on in all grades and groups, older students (G3 and G4) could correctly identify 777 words out of 1045, while their younger peers (G1 and G2) could identify 606 out of 880 words correctly. When analyzing the percentage of correctly identified words, younger learners' results were 68.86%, while older learners' results were 74.43%, a difference that was not statistically significant ($p= .101$). Nevertheless, it is important to notice that there is a prevalence ratio of 1.093, indicating that there was some effect of age, although not statistically significant.

Table 5.7

Poisson regression for age effects

Receptive Test – Grade	% Correct answers	Prevalence ratio	CI 95%	*P*-value
P4 (4 years old / G1 & G2)	606/880 (68.86%)			
P5 (5 years old / G3 & G4)	777/1045(74.43%)	1.093	(0.98; 1.22)	*p*= .101

5.3.3 Word Frequency Effects

The last research question focused on analyzing the effects of word frequency in receptive vocabulary acquisition. It was hypothesized that high-frequency words would be recalled more easily, and, thus, a higher amount of high-frequency words would be identified correctly in the receptive test, when compared to the low-frequency ones.

As shown in Table 5.8, a higher amount of high-frequency words was correctly identified in the receptive vocabulary test, that is 1195 out of 1680 high-frequency words were identified correctly, while results were lower for the low-frequency words, of which 996 out of 1636 were identified correctly. Results in the same line were observed after data were normalized into percentages: 71.17% of high-frequency words were identified correctly, a higher result than the one obtained in the low-frequency words, 60.88%. Such difference is statistically significant (*p*=.0001), indicating a frequency effect. These results are in accordance with the Poisson Regression, in Table 5.9, which shows a 1.519 prevalence ratio in favor of the high-frequency words, being such difference statistically significant as well (*p*=.036).

In sum, it can be concluded that frequency appears to have an effect on FL receptive vocabulary learning, as chances to correctly recall and identify a word are significantly higher if that word is of high-frequency. Nevertheless, opposite results were seen in terms of age effects, in which no statistically significant differences were found when comparing the results of 4- and 5-year-olds.

Table 5.8

Descriptive statistics (high- and low-frequency)

Test	Frequency	Words identified	Percentage	*P*-value
Receptive	High	1195 / 1680	71.17 %	*p*= .0001
	Low	996 / 1636	60.88 %	

Table 5.9

Poisson regression for frequency effects

Receptive Test – Frequency	Prevalence ratio	CI 95%	*P*-value
High- vs Low-Frequency	1.235	(1,01; 1,50)	*p*= .036

5.4 Discussion

The present research sought to study whether a soft-CLIL program enhances vocabulary learning in very young pre-primary learners of English as a FL. With this objective in mind, receptive vocabulary acquisition of target words in very young EFL learners, age differences and word frequency effects have been analyzed.

The first research question inquired on the effects of such soft-CLIL program on the acquisition of basic curriculum target words, focusing on receptive vocabulary knowledge. It was expected that students in the groups following the soft-CLIL program, as compared to their same age non-CLIL peers, would be able to acquire a greater range of vocabulary, benefiting from a more contextualized learning (Lasagabaster & Sierra, 2009; Pérez-Vidal, 2011), with higher input quality, quantity, and more opportunities for interaction (Dalton-Puffer, 2008; Lasagabaster & Sierra, 2009).

Results in the present study showed that, when tested on the basic curriculum words taught over the same period of time, students in the CLIL groups had slightly higher results than their same grade non-CLIL peers, although differences were not statistically significant. Therefore, such positive tendencies in the CLIL groups, which could result in significant results over a longer treatment period, may be attributed to the increased quality and quantity of vocabulary and input that very young EFL learners are exposed to in EFL classes and to the nature of the soft-CLIL context. It is also important to note that the CLIL groups that showed positive tendencies in the basic vocabulary test results, when tested in the complete test, which included some additional words of lower-frequency that were introduced through soft-CLIL in the classroom, showed even higher results. Thus, learners following the soft-CLIL program were not overwhelmed by the introduction of a greater amount of vocabulary in the EFL classroom within the same time period. On the contrary, they managed to acquire not only a similar amount of basic curriculum words as their non-CLIL peers, but also a similar number of the additional CLIL words. Such results lead to think that when young learners in a FL context are presented with a higher amount of target vocabulary through a natural-like approach such as soft-CLIL, they are able to reap greater benefits and acquire a larger amount of vocabulary, without being overwhelmed.

These results are in line with previous research conducted with older students, namely secondary (Artieda, Roquet, & Nicolás-Conesa, 2020; Lasagabaster, 2008), and primary education students (Jiménez-Catalán, Ruiz de Zarobe & Cenoz, 2006) following CLIL programs, in which higher results were reported in terms of vocabulary acquisition in the FI+CLIL groups, than in the FI only groups. Pérez Cañado (2018), and Agustín-Llach & Canga Alonso (2014) also reported an advantage both in primary and secondary school students' vocabulary learning through CLIL.

Therefore, CLIL has been found to provide a beneficial learning context that favors a greater development of many skills, such as vocabulary amongst others (Dalton-Puffer, 2008; Lasagabaster, 2008; Lorenzo, Casal & Moore, 2010; Pérez-Vidal, 2011). The higher results reported in FI+CLIL groups in many studies have been attributed to this context that allows for more quality and quantity of input, as well as more interaction opportunities (Dalton-Puffer, 2008; Lasagabaster & Sierra, 2009). Nevertheless, it has to be kept in mind that in many CLIL studies, the groups following the FI+CLIL program received a higher amount of hours of English instruction, since in most cases the CLIL hours were added to the FI hours. Thus, as pointed out by Agustín-Llach & Canga Alonso (2014), higher results in the FI+CLIL groups may not only be due to the rich environment that CLIL provides, but also to the increased exposure to the FL. That is however not the case in the present study, in which hours of FL instruction were kept the same in all groups, since soft-CLIL was embedded within the regular FL sessions.

The second research question aimed at analyzing whether older students, namely 5-year-olds, were able to benefit more from the soft-CLIL program than their younger peers, 4-year-olds, and thus, it was hypothesized that older students would be able to recall a higher number of words than the younger group. Nevertheless, such hypothesis cannot be fully confirmed, since there were no significant differences between the percentage of words that students in P4 and in P5 were able to identify correctly. However, some tendencies of higher results can be seen in the older learners' results when it comes to the basic words, which over a longer treatment period could eventually lead to more significant results. This is an aspect to be investigated in further research.

It has traditionally been believed that the earlier a FL is learnt, the better the chances are to reach native-like level, and, as a result, age of onset of FL learning in schools has been brought down. Nevertheless, it has been claimed that an earlier age of onset should be accompanied by an immersion-like context and great amounts of FL exposure (Miralpeix, 2007; Muñoz, 2008), in which younger learners can learn the FL implicitly through language use (Muñoz, 2006). In the present study a pedagogical intervention was designed through a soft-CLIL program to bring to the FL classroom more meaningful and contextualized input and interaction opportunities. As

reported in the results, young learners were able to acquire a great amount of target words through the soft-CLIL approach, as compared to their FI peers. Slightly higher results, although not statistically significant, were reported in the older learners' groups, as compared to their one-year younger peers. However, the lack of significant results here may indicate that at such young ages, a one-year difference may not result in significant cognitive differences without a real immersion context or massive FL contact. Therefore, this is also an issue that should be further investigated within the FL context.

The third research question examined the effects of word frequency, expecting high-frequency words to be easier to recall that low-frequency ones. Target words belonging to the first three 1000 bands of the BNC and NGSL frequency lists were considered high-frequency, while words below the third band were considered low-frequency.

An effect of word frequency was found in the present research, since a bigger percentage of high-frequency words was recalled by students, with a statistically significant difference and a significant prevalence ratio. Such results are in line with previous research, in which pre-school students (Shaban, 2013), primary school students (Alexiou, 2015) and high school students (Miralpeix, 2007) were also able to learn faster and recall a larger amount of high-frequency words. Therefore, it can be claimed that there is a significant effect of word frequency, in which higher-frequency words are recalled easier than lower-frequency words. This may be due to the fact that high-frequency words are more concrete (Shaban, 2013), more present in our daily lives (Alexiou, 2015), and cover most of the basic interactions (Nation, 2020; Nation & Meara, 2020).

5.5 Conclusion

The present study has examined the effects of a soft-CLIL program in receptive vocabulary learning by pre-primary students of English as a FL. In light of the results abovementioned, which showed positive tendencies in the CLIL groups, although no statistically significant differences, it could be stated that such a soft-CLIL program provides a richer context for FL vocabulary learning, with higher quality and quantity input, as well as more interaction opportunities, which could lead to significant results with a longer treatment period. This is the reason why, as stated in the previous section, we firmly believe that further research is needed to study the evolution of the tendencies reported in the current research, with longer soft-CLIL programs, since CLIL research focusing on very young EFL learners is still very scarce.

Additionally, no significant differences were found between 4- and 5-year-olds when analyzing vocabulary acquisition. The lack of significant results may be attributed to the small difference in age between the two grades, indicating that a one-year age gap may not be relevant at such young ages in a FL context with very limited FL exposure. Nevertheless, it is unknown

whether some differences in favor of the group that started CLIL one year earlier would be found if those same students were followed over a longer period of time. Therefore, more longitudinal studies with very young EFL learners are needed to see if a one-year difference in the age of onset of CLIL programs is significant in the long term.

The current research has designed and implemented a soft-CLIL program for very young EFL learners and has found positive tendencies in pre-primary students' receptive vocabulary development in English as a FL. Nevertheless, early childhood CLIL programs are to date still very under researched, and more longitudinal research is needed to shed light on the possible benefits of CLIL at very young ages.

Chapter 6. Productive Vocabulary Learning in Pre-Primary Education Through Soft CLIL[10]

Original Publication

Full reference:

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Doctoral candidate's contribution:

As the doctoral candidate, I was the lead investigator in this study. With the help of my two supervisors Dr Roquet, and Dr Barón, I designed the pedagogical intervention, prepared the materials, and participated in the meetings with the schoolteachers. Then, I designed, created, and piloted the data collection instruments. I was also the main researchers collecting the data in the schools, as well as conducting the data analysis. Finally, I was the first author of this publication and, as such, I took the lead in the writing and revisions, always turning to my supervisors for feedback.

The full text of the published article can be found in the following pages.

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[10] In the original study, the terms 'soft CLIL' and 'hard CLIL' were employed, instead of 'soft-CLIL' and 'hard-CLIL', following the journal's guidelines and the reviewers' comments. To maintain the spelling of the original article, the hyphen has been removed in this chapter. Similarly, the journal's conventions for in-text citations have been kept as in the original published article.

6.1 Introduction

Within the last few decades promoting a plurilingual education has become a priority and, thus, the European Union has promoted an early start of Foreign Language (FL) teaching in schools (Pérez-Vidal et al. 2013), as well as the introduction of teaching approaches that provide a more contextualized learning environment, such as Content and Language Integrated Learning (CLIL) (Artieda et al. 2020, Lasagabaster and Sierra 2009). Some research has already been conducted to analyse the effects of CLIL programmes of various characteristics on different personal and linguistic skills, but most of the studies conducted so far have focused on CLIL in primary and secondary levels, while research with younger pre-primary students is still very scarce (Albaladejo et al. 2018, Asensio Arjona 2020, García Esteban 2015, Mair 2018, Segura et al. 2021). Thus, the present article aims to contribute to this line of research, by analysing the effects of a soft CLIL programme on pre-primary students' learning of vocabulary.

6.1.1 Learning Contexts and Onset Age of FL Learning

One of the educational changes that has been promoted by the European Union within the last few years has been to bring down the age of onset of FL teaching in schools (Muñoz et al. 2010). Such a measure has been based on the traditional belief that the earlier a FL is learnt, the better the chances are of reaching nativelike competence. Although the Critical Period Hypothesis, first proposed by Penfield (Penfield and Roberts 1959) and later popularized by Lenneberg (Lenneberg 1967), seems to support such a statement, this cannot be generalized to all language learning contexts (Miralpeix 2006, Muñoz et al. 2010).

It has been found that younger learners who have been exposed to a naturalistic Second Language (L2) learning environment perform better than those who start later (Krashen et al. 1979), since young children learn implicitly from the big quantity of input they are surrounded with (DeKeyser 2000). However, that seems to be true only in L2 immersion contexts, with high quality and quantity of input, as well as plenty of interaction opportunities outside of the school. On the contrary, other studies have reported that in instructional FL contexts older learners have an advantage over the younger ones (Artieda et al. 2020, Cenoz 2002, Muñoz et al. 2010), since their greater cognitive development allows them to make a more effective use of explicit learning mechanisms (Muñoz 2006).

Thus, bringing down the onset age of FL teaching in schools does not seem to be a guarantee for a higher level of attainment, unless it is combined with massive contact with the FL, such as in immersion contexts (Muñoz 2008). However, immersion is not always an option, and it is within this framework that new teaching approaches have gained ground. That is the case

of CLIL, which has aimed not only to increase the hours of contact with the FL within schools, but also to provide a more meaningful and contextualized FL learning environment.

6.1.2 CLIL

CLIL is 'a dual-focused educational approach in which an additional language is used for the learning and teaching of both content and language' (Coyle et al. 2010, 1). It can take place at any educational level, although it is usually more commonly implemented in primary and secondary levels, and it can be of any intensity, namely it can involve any number of subjects (Cenoz 2015). In high-intensity CLIL programmes, often referred to as hard CLIL, around half or more of the subjects are taught through the target language, and content teachers are usually in charge of the CLIL sessions, while in lower-intensity programmes, namely soft CLIL, the language teachers do cross-curricular work by teaching both the FL and the content from other subjects within the FL sessions (Dale and Tanner 2012, García Esteban 2015). Despite the intensity of the programme, CLIL provides a contextualization for FL learning through the curricular content (Lasagabaster and Sierra 2009, Pérez-Vidal 2011), allowing students to 'speak and think in an authentic, significant and relevant way in a L2' (Vallbona 2011, 152). Consequently, CLIL sessions enhance a multilingual and multicultural context, where both the language and the curricular content share the focus of attention (Dale and Tanner 2012, Ortega 2015), which in turn reduces learners' anxiety towards FL learning (Pérez-Vidal 2011).

When compared with their same-age non-CLIL peers, FL learners who enrolled in CLIL programmes have shown higher results in some linguistic skills, such as listening, reading, vocabulary, morphology (Dalton-Puffer 2008), and fluency (Pérez-Vidal 2011), as well as in some personal skills, such as creativity (Dalton-Puffer 2008, Lasagabaster 2008), and motivation (Lasagabaster and Sierra 2009). Nevertheless, some contradictory results have been reported in the areas of speaking, writing, syntax, informal language, pronunciation, and pragmatics (Dalton-Puffer 2008, Pérez-Vidal 2011).

Vocabulary acquisition has been a topic of interest within CLIL research, and some studies have reported higher results in CLIL learners' vocabulary development than in their non-CLIL peers. That is the case of Pérez Cañado (2018), who reported higher results in all linguistic skills, including vocabulary, in both primary and secondary education CLIL learners than in non-CLIL students. In a previous study, Jiménez-Catalán et al. (2006) used vocabulary as a measuring tool to analyse reading and writing development in primary students, and higher results were found in the CLIL groups than in the Formal Instruction (FI) groups in both cases. Such findings are in line with those reported in Lasagabaster (2008), where an advantage was found in bilingual

CLIL students in secondary education, when compared with their non- CLIL peers, in all linguistic skills, as well as in grammar and vocabulary.

In another study, Merikivi and Pietila (2014) analysed receptive and productive vocabulary sizes of sixth grade (11- and 12-year-olds) CLIL and FI learners, and reported two relevant findings: the first, that CLIL students had bigger receptive and productive vocabularies than their same-age non-CLIL peers; the second, that regardless of the type of the instruction received, receptive vocabularies were larger. Two other studies (Agustín-Llach and Canga Alonso 2014, Canga Alonso 2015) focused specifically on receptive vocabulary acquisition in primary and secondary education students and concluded that CLIL did enhance receptive vocabulary learning, compared with the traditional FI settings. Nevertheless, contradictory results were found in a 4-year longitudinal study by Admiraal et al. (2006), who analysed receptive vocabulary learning in secondary education students, and no significant differences were found between the groups following FI and the bilingual education programme. In terms of productive vocabulary learning through CLIL, research is still scarce, although Canga Alonso and Arribas Garcia (2015) reported that tenth grade (15- and 16-year-olds) CLIL learners obtained significantly better results than their same-age non-CLIL peers in the Productive Vocabulary Levels Test. In a more recent study conducted with secondary education students, Reynaert (2019) pointed out that differences between the CLIL and non-CLIL groups in productive vocabulary learning did not appear until the second year of CLIL instruction, when the experimental group showed higher productive vocabulary levels. The author attributed such results to the fact that students following CLIL may have needed more time to adapt to the new classroom dynamics and that 1 year may not be enough for positive trends to become significant differences.

CLIL programmes seem to bring to the classrooms an immersion-like setting, by increasing the quality and quantity of FL contact and by generating a more natural learning context. Previous research has attributed the positive results found in CLIL students, when compared with their non-CLIL peers, to the rich environment that CLIL provides. Nevertheless, most of the abovementioned previous research has focused on primary and secondary level students, while there is still a research gap in terms of CLIL effects on younger FL learners, namely pre-primary education children, who are still acquiring their L1, and L2 in bilingual contexts.

It is also important to note that most of the studies have not taken into account the fact that CLIL programmes usually increase the time that the children are exposed to the FL within the school (Agustín- Llach and Canga Alonso 2014, Vallbona 2011), since CLIL hours are usually additional hours, which could also be another contributing factor enhancing language acquisition, besides the context provided. Therefore, further research is needed where time in contact with the

FL is accounted for or where CLIL programmes are embedded within the regular FL classroom without increasing time of contact with the language.

6.1.3 FL Vocabulary Learning: Word Dimensions, Vocabulary Size, and Frequency

When learning any language, vocabulary acquisition is essential (Meara 1996, Schmitt 2008), although complex. Full knowledge of a lexical item involves mastery of all of its dimensions – first listed by Richards (1976), later completed and popularized by Nation (1990, 2013) – namely its spoken and written forms, word parts, meaning, concepts and referents, word associations, grammatical functions, collocations, and constraints on use (Nation 2013). Due to the complexity of having full command of a lexical item, it is possible that not even native speakers have completely internalized all aspects of all words, and partial word knowledge may be 'the normal state for many words' (Schmitt and Schmitt 2020, 33).

Considering that to have a fully acquired lexical item a learner should know its dimensions, it is natural to see vocabulary learning as a process or a continuum, which usually starts with the receptive knowledge to then grow into the productive one (Meara and Miralpeix 2021). Essentially receptive vocabulary involves meaning recognition and meaning recall, while productive vocabulary goes one step further and involves form recognition and form recall (Schmitt 2010). Thus, vocabulary knowledge may be partial during the FL learning process, as a language learner may be able to understand a word when heard or read but may need more time to be able to produce its oral and written forms (Meara and Miralpeix 2021, Schmitt and Schmitt 2020, Webb 2020). Consequently, it is expected for receptive knowledge to be larger than productive knowledge (Webb 2009), since the former seems to take less time (Waring 1997) and be easier to acquire (Griffin 1992). Such learning continuum has been reported in several studies (Ellis and Beaton 1993, Laufer 2005, Shintani 2011, Waring 1997), where language learners were tested on the same vocabulary receptively and productively, and higher results were found in receptive vocabulary tests, indicating that learners had at least partial knowledge of the words at the early stages of FL learning.

According to previous research (Laufer and Ravenhorst-Kalovski 2010, Schmitt and Schmitt 2020, Van Zeeland and Schmitt 2013), language users need to know a very large amount of lexical items to be able to fully and independently communicate in a wide variety of situations in the target language. Nevertheless, previous studies (Milton 2009, Nation and Waring 1997) have also reported that learning the most frequent 2,000–3,000 word families allows learners to communicate from early FL learning stages. It has been found that there is a relatively small amount of high-frequency lexical items, namely from the first three 1,000 bands in corpus frequency lists, such as the British National Corpus (BNC) and New General Service List

(NGSL), which are extremely common, and which would allow language learners to function in basic conversations (Nation 2013, Nation and Meara 2020). Some studies have found that higher-frequency words are usually learnt faster and more easily than lower-frequency ones (Alexiou 2015). Such findings have been attributed to the fact that higher-frequency items are more concrete and typical (Shaban 2013), have more common referents, and are more present in our daily lives (Alexiou 2015). In another study, Albaladejo et al. (2018) also highlighted the importance of the number of encounters that one has with a word to increase the chances to recall it and eventually produce it. Such results support the fact that the vocabulary presented in the FL classes should be carefully chosen, to ensure its relevance for FL learners (Wong Kwok Shing 2006) and to maximize the opportunities of interaction. Therefore, frequency of lexical items may be a good indicator when selecting which vocabulary to start teaching in FL classes, to provide students with higher-frequency items that can allow them to communicate in basic situations, even when their vocabulary size is still very limited. Although FL vocabulary learning has been a largely studied area, more classroom-based research is needed, to identify the strengths and shortcomings of different teaching approaches. More specifically, a need for more studies with pre-primary education level students has been identified. It is not enough for schools to bring down the onset age of FL teaching, but special attention should be paid to the teaching approaches (Muñoz 2008), to bring to the classrooms of young English as a Foreign Language (EFL) learners a more contextualized and meaningful learning (Lasagabaster and Sierra 2009, Vallbona 2011).

Thus, the current article's goal is to contribute to this field of research, focusing on the learning of vocabulary in very young EFL learners, by analysing productive vocabulary acquisition after the implementation of a soft CLIL programme, as well as word frequency effects. Additionally, the results provided will be contrasted to those reported in Segura et al. 2021[11]. In their study, Segura et al. (2021) looked into receptive vocabulary learning in the same students, who were enrolled in the same programme. The following research questions (RQ) and hypotheses (H) have been set:

RQ1 Will a soft CLIL programme lead to a greater productive vocabulary learning in pre-primary EFL learners, as compared with formal EFL instruction within the same time period?

H1 Pre-primary learners following the soft CLIL programme will show higher results in terms of productive EFL vocabulary learning when compared with their non-CLIL counterparts.

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[11] Receptive vocabulary data reported in the present study are secondary data reanalysed from Segura et al. 2021, and used to contrast them with the productive vocabulary data reported here.

RQ2   Does frequency of words have an effect on productive vocabulary learning?

H2   High-frequency words will be easier to recall than low-frequency ones and, thus, results for high- frequency words will be higher than those for low-frequency ones.

RQ3   Will receptive vocabulary scores be higher than productive vocabulary ones?

H3   Receptive vocabulary acquisition will precede productive acquisition and, thus, results on the receptive tests will be higher than on the productive ones.

6.2 Methodology

6.2.1 Participants

A total of *N*=187 4- and 5-year-old pre-primary education students in two semi-private schools in Catalonia (Spain) were tested for the purpose of the present study. Nevertheless, not all students were included in our final sample, which was of *N*=155. Thus, *N*=32 participants were excluded because they missed too many EFL classes or some testing sessions, or because they were exposed to English outside of the school for more than 4h a week. The participants in our final sample were Catalan and Spanish bilingual children with no special education needs and no diagnosed speech impairments. The participants selected had a maximum of 1.5h per week of extracurricular English classes, and a maximum of 3.5h per week of exposure to English at home, which included reading, watching videos, listening to songs, and/or playing games in English at home. Such information was provided by the students' parents through the sociolinguistic background questionnaire (see Section 6.2.4 and Appendix 3).

Participants were in their last 2 years of pre-primary education[12] and distributed within each of the schools into two classes per grade. Those class divisions were kept the same and used to divide the students into a control and an experimental group per grade within each of the schools. Consequently, each of the groups, as presented in Table 6.1, included the students from both schools who were enrolled in the same grade and followed the same treatment.

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[12] In the Spanish educational system, pre-primary education comprises two stages: the first one, for children aged 0–3 years old; and the second one, for children aged 3–6 years old. In the present study, we focus on the second stage, which is made up of three grades: P3 (3-year-olds), P4 (4-year-olds), and P5 (5-year-olds), which would be equivalent to Foundations 3, 4, and 5.

Table 6.1

Participants distribution

Age (Grade)	Group	Treatment	N
4-year-old learners (P4)	G1	Control group (FI / non-CLIL)	35
	G2	Experimental group (soft CLIL)	34
5-year-old learners (P5)	G3	Control group (FI / non-CLIL)	42
	G4	Experimental group (soft CLIL)	44

6.2.2 Pedagogical Intervention and Treatment

According to the Decree 181/2008,[13] the curriculum for the second stage of the pre-primary schooling years in Catalonia is organized around the abilities that the students are to develop, and how such abilities can be used in a transversal and interactive way in a variety of contexts and situations. Those abilities are organized around three main areas: (1) discovery of oneself and others, (2) discovery of one's surroundings, and (3) communication and languages. Within the latter, children are to experiment with the different uses and functions of the language to develop their verbal and non-verbal communication. Ultimately, they will be able to communicate ideas, as well as to participate in interactions to, for example, solve conflicts, work cooperatively, and use the language to share knowledge, as a learning tool.

Thus, in Catalonia, the curriculum for the pre-primary education grades presents the abilities that students are expected to develop organized around the aforementioned three main developmental areas. However, there is not a syllabus of the specific content within each of those areas for schools to follow. Namely, within the communication and language area, there is not a specific list of vocabulary and grammatical structures that pre-primary students are expected to learn in order to develop the abilities listed in the Decree. Therefore, schools have a certain degree of freedom to develop their own syllabus to promote the learners' development of such abilities.

More specifically, the two schools that participated in the present study had both pointed out that their own EFL syllabus through the last three pre-primary grades was very basic, repetitive, and that it lacked progression from one grade to the next, which was a limitation for students' English acquisition. Therefore, a needs analysis was conducted by the researchers,

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[13] Decret 181/2008, de 9 de setembre, pel qual s'estableix *l'ordenació dels ensenyaments del segon cicle de l'educació infantil. Departament* d'Educació, Generalitat de Catalunya. [Decree 181/2008, September 9, by which the ordinance of the teaching in the second stage of pre-primary education is established. *Department of Education, Generalitat de Catalunya*.]

together with the schoolteachers, to develop a more complete and progressive EFL syllabus for the last two pre-primary grades.

A soft CLIL approach was chosen to be adopted by the English teachers within the EFL classes with one of the groups in each grade, to provide a more contextualized and natural learning environment. The soft CLIL programme analysed in this article was designed to bring to the EFL classroom content of projects usually taught in Catalan, namely the main language of schooling. Two units related to the four seasons (Autumn and Halloween, and Winter and Christmas) were chosen for the soft CLIL intervention. These units were selected because students were already familiarized with the content in their L1, and because they are present in the learners' daily lives. Additionally, they are worked on in all pre-primary levels, which leaves room for progression by increasing the amount of vocabulary related to the topics included in each grade. The school's basic EFL syllabus content related to these two units was the only content presented to the control groups within the EFL classes, while the experimental groups followed a more complete syllabus, including not only that same basic EFL syllabus, but also some additional topic-related vocabulary that was added through the soft CLIL approach (see Appendix 2 for the complete list of vocabulary presented to each group and grade). Soft CLIL sessions were embedded within the regular EFL hours, which meant that all groups were in contact with English within the school for the same amount of time. That is, in total, about 3h per week.

In terms of class dynamics, although the two units of the seasons were presented to the students in all groups, in the control groups they were not the main focus of attention, and this vocabulary was worked on with less intensity in the traditional EFL sessions only. On the other hand, experimental groups were presented with a more complete syllabus of these units within the EFL sessions, following a soft CLIL approach. The EFL soft CLIL sessions were more student centred, and promoted communication, as well as higher order thinking skills. Soft CLIL students were highly engaged in cooperative tasks that enhanced their autonomy and promoted interaction with their peers and teacher. Furthermore, for 1h a week, students are divided into two smaller groups: half of them remain in the classroom for 30 min with an assistant English teacher playing educational computer games (ICT subject) in English, while the other half go with the English teacher to a separate room and do Arts and crafts in English. During this time, the students in the control groups attended those lessons in English, but followed the regular school's syllabus, which was not related to the units of the seasons. Students in the experimental groups worked on some crafts and played some computer games that were related to the soft CLIL units.

Each of the two units was worked on for 2 months, which adds up to a total of between 45 and 48h of EFL instruction between the general vocabulary pre-test and the target words vocabulary post-tests (described in Sections 6.2.3 and 6.2.4). Regular meetings were held with

the English teachers and classroom teachers to select the vocabulary to be taught in English in each unit, to develop the materials, and to follow up on the implementation. Each of the schools had only one English teacher for all pre-primary grades and, thus, all groups from the same school were taught by the same teacher. Both English teachers were bilingual Catalan and Spanish native speakers and had a B2 level of English.

6.2.3 Design

A 6-month longitudinal study was conducted, from October 2019 (pre-test at time 1, T1) until March 2020 (post-test at time 2, T2). Within the first 2 weeks, all students were administered a general English vocabulary pre-test. Following the pre-test period, the pedagogical intervention took place: about 2 months were devoted to working on the vocabulary of each of the two units selected, namely the basic school syllabus in the control groups, and that same basic vocabulary as well as the additional more complex and less frequent words in the experimental groups. Learners in both groups were exposed to the FL for the same amount of time within the school. At the end of the intervention, that is in March 2020, all students were administered a post-test of the target vocabulary of the seasons that was presented to them in the EFL classes.

In terms of the words selected, BNC and NGSL frequency lists were used to evaluate word frequency. For the purpose of this study, and according to previous publications (Nation 2013, Schmitt and Schmitt 2020), we have considered high-frequency words those lexical items belonging to the first three 1,000 bands of the abovementioned frequency lists, and low-frequency words the items belonging to the fourth and lower bands. Regarding the distribution of high- and low-frequency words that each of the groups were presented with, there was an increase in low-frequency words from the younger group to the oldest one, as well as in the additional vocabulary presented only to the experimental groups, as can be seen in Table 6.2.

Table 6.2

Frequency of target words included in the intervention

Group	Treatment	% High-Frequency Words	% Low-Frequency Words
G1 & G2	Basic words only	59 %	41 %
G3 & G4	Basic words only	50 %	50 %
G2	Additional words added to the basic ones	33 %	67 %
G4	Additional words added to the basic ones	25 %	75 %

6.2.4 Instruments

Before starting with the pedagogical intervention, all students were tested with the standardized Peabody Picture Vocabulary Test (PPVT 4th Edition, Form A). This test was used to guarantee that there were no statistically significant differences in terms of the starting EFL levels between the control and experimental groups within each grade.

Students' families were given a sociolinguistic background questionnaire in Catalan (its English translation can be found in Appendix 3) to collect information about the family languages and the student's contact with English outside the school. The main goal of such questionnaire was to identify any students whose mother tongue was English, who used English at home regularly, who had lived in an English-speaking country, or who had a lot of contact with English outside of the school, namely extracurricular activities, interaction with native speakers, watching videos, etc. Such information was taken into consideration for the final selection of participants, as detailed in Section 6.2.1.

After the pedagogical intervention, all students were tested both receptively and productively on between 50 and 70% of the target words presented in the classroom. In the receptive test, students were shown sets of four pictures and asked to point to the one matching the word spoken by the researcher. In the productive test, students were shown flashcards and asked to name in English whatever they saw in the flashcard. Some variations were made in the tests for each of the four groups, depending on the words that had been worked on in the classroom. That is, control group tests (referred to as 'basic test' henceforth) were shorter, including only a percentage of the basic school curricular words, while experimental group tests (referred to as 'complete test' henceforth) were longer, since they included the same basic words as in the test administered to their same-grade peers in the control group, as well as some of the more complex and less frequent words that were added through the pedagogical intervention. Both the receptive (Appendix 4 and Appendix 5) and the productive (Appendixes 6 and Appendix 7) vocabulary tests were developed by the researchers, following the guidelines of the PPVT-4[14], and the Expressive Vocabulary Test (EVT)[15], respectively, in terms of format, picture selection, and picture combination within the page. Before administration, both target words tests were piloted with 6-year-old learners from the same schools. These learners were chosen for the piloting of the tests, because they were still at the beginning of first grade in primary education,

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[14] Dunn, Lloyd M. and Douglas M. Dunn. 2007. PPVT4 Peabody Picture Vocabulary Test, Fourth Edition. Manual. Bloomington: Pearson.

[15] Williams, Kathleen T. 1997. Expressive Vocabulary Test. Circle Pines: American Guidance Service.

namely they were only a few months older than our participants. Furthermore, they were already familiar with the target words in the tests designed. Thus, there was a lower chance that they would randomly guess the answers, which allowed us to test the design of the tests in terms of picture selection, to ensure that all the pictures were clear and elicited the appropriate target words.

6.2.5 Data Collection Procedure

Data were collected at two different testing times, within a fortnight each. The first one (T1) was prior to the pedagogical intervention and students were administered the PPVT-4 as a pre-test diagnostic tool; the second one (T2) took place after the intervention and students were administered both the productive and the receptive target words post-tests. In T2, both tests were administered consecutively, starting with the productive test, in which positive feedback was given to the students, but incorrect answers were not corrected, to avoid any transference into the receptive test, which was administered afterwards. Both in T1 and T2, students were tested individually in a separate room, instructions to the tests were given in the student's L1, and the first five items of each test were used as training items. All learners within the same group were tested on the exact same items.

6.2.6 Data Analysis

Raw scores for each test were calculated by adding points for each correct response, while incorrect ones did not add nor deduct points. The 4-year-olds' basic test included 11 items, while the experimental group's complete test included the same 11 items and 9 additional ones, thus being 11 and 20 the highest scores possible in the younger learners' tests, respectively. The 5-year-olds' basic test included 17 items, while the experimental group's complete test included the same 17 items and 10 additional ones, thus being 17 and 27 the highest scores possible in the older learners' tests, respectively.

R 4.1.2 was used to conduct the data analysis. Regarding the general vocabulary pre-test scores obtained in the PPVT-4 test, two independent samples two-tailed t-tests with Welch's correction were run, one for each grade. To analyse the data in research question 1, group statistics were obtained for all groups and all tests (basic and complete), and two more independent samples two-tailed t-tests with Welch's correction were run to compare the results from the control and experimental groups in the basic test within each grade. As for the second research question, the same software was used to analyse word frequency effects, by describing absolute frequencies and percentages, as well as running a Chi square test and a mixed generalized linear model of Poisson, which included the variables of target word, frequency, class, school, and student; and

from which prevalence ratios of the models were obtained. Regarding the third research question, paired samples t-tests were run to compare the mean results within each group for the receptive and productive tests. Significance levels were set at (p=0.05) in all cases.

6.3 Results

6.3.1 Productive Vocabulary Learning through Soft CLIL

The main focus of the present study was to analyse EFL vocabulary learning through a soft CLIL programme in pre-primary education students. Therefore, the first research question focused on whether such a programme would enhance productive vocabulary acquisition and it was expected that learners following the soft CLIL programme would show higher results when tested on the target words, as compared with their same-grade non-CLIL peers.

To ensure that the control and experimental groups from each grade were comparable, namely that students in both groups did not have significantly different starting EFL proficiency levels, independent samples two-tailed t-tests with Welch's corrections were run. Such test for the younger groups found no significant differences in the EFL proficiency starting levels between the control group (G1) (*M*=12.79, *SD*=8.28) and the experimental group (G2) (*M*=12.15, *SD*=7.87), *t*(63.84)=0.320, *p*=0.749. In the case of the older groups, no significant differences were found in the independent samples t-test either in the starting levels between the control group (G3) (*M*=15.78, *SD*=9.71) and the experimental group (G4) (*M*=15.81, *SD*=8.92), *t*(81.01)=−0.019, *p*=0.985.

Regarding the post-tests focusing on the target words, two independent samples two-tailed t-tests with Welch's correction were run, one per each grade to analyse the results of the students in the basic test. No significant differences were found when comparing the results of the younger students in the control group (G1) (*M*=2.60, *SD*=1.63) with the results of their same-age peers in the soft CLIL experimental group (G2) (*M*=2.88, *SD*=1.70), *t*(66.65)=−0.704, *p*=0.484. On the other hand, a bigger difference of almost one point was found between the results of the older learners in both groups, which was still not statistically significant. The independent samples t-test found that students in the control group (G3) had lower results in the basic test (*M*=4.19, *SD*=2.18) than their same-age peers in the soft CLIL experimental group (G4) (*M*=5.14, *SD*=2.33), *t*(83.97)=−1.946, *p*=0.054.

The aforementioned results show slightly higher results in both groups following the soft CLIL programme in terms of productive vocabulary acquisition of the basic curricular words that were worked on in both the control and the experimental groups, although no statistically significant differences were found. Nevertheless, the results in the older learners almost represent

positive trends, which could lead to significant differences over a longer period of time following the programme.

Additionally, it is worth analysing whether the soft CLIL group participants of both grades were able to not only learn the same number of basic words, but also some of the additional more complex words that were introduced through soft CLIL without increasing their exposure time to English within the school. Tables 6.3 and 6.4 show the results for the experimental groups (G2 and G4) both in the basic test and in the complete test, which was longer because it included the basic test and some additional items that were less frequent. When participants in both grades were administered the complete test, higher raw scores (Table 6.3) were obtained than in their basic test, which indicates that increasing the amount of vocabulary that young learners are exposed to in the EFL class does not hinder learning, but it enhances greater vocabulary acquisition. In the case of the younger group (G2), students had a mean result that was 2.059 points higher when tested in the complete test (*M*=4.941, *SD*=2.436) in comparison to the basic test (*M*=2.882, *SD*=1.701). And a similar trend was found in the older group (G4), which obtained a mean score 1.387 points higher in the complete test (*M*=6.523, *SD*=2.808) than in the basic test (*M*=5.136, *SD*=2.329). When transforming such scores into percentages of correct answers (Table 6.4), similar percentages of productive vocabulary acquisition were found between both tests within each experimental group, although percentages were slightly higher for the basic test. That could be due to the fact that the basic tests included target words that were easier and of a higher frequency in comparison to the additional words that were added to the complete tests administered to the experimental groups.

Finally, it is important to outline the fact that the younger learners in the experimental group (G2) obtained a higher mean score in the complete test (*M*=4.94, *SD*= 2.436) than the older learners in the control group (G3) in the basic test (*M*=4.19, *SD*=2.18), and almost as high as the results of the older learners in the experimental group (G4) in their basic test (*M*=5.14, *SD*=2.33). Such results may encourage the introduction of more vocabulary in EFL pre-primary classes.

Table 6.3

Group statistics in raw scores for experimental groups (G2 - G4) in basic and complete (basic + extra) target words productive test

Group	N	Test	Mean	Std. Deviation	Std. Error	Gains
G2	34	Basic test (out of 11)	2.882	1.701	.292	
		Complete test (out of 20)	4.941	2.436	.418	+ 2.059
G4	44	Basic test (out of 17)	5.136	2.329	.315	
		Complete test (out of 27)	6.523	2.808	.423	+ 1.387

Table 6.4

Group statistics in percentages of correct answers for experimental groups (G2 - G4) in basic and complete (basic + extra) target words productive test

Group	N	Test	Mean	Std. Deviation	Std. Error
G2	34	Basic test	26.201 %	15.467	2.652
		Complete test	24.700 %	12.181	2.089
G4	44	Basic test	30.214 %	13.698	2.065
		Complete test	24.256 %	10.399	1.567

6.3.2 Frequency Effects on Productive Vocabulary Acquisition

The second research question focused on analysing whether there was a frequency effect that facilitated vocabulary acquisition. It was expected that high-frequency words belonging to the first three 1,000 bands of the BNC and NGSL frequency lists would be more easily learnt and, thus, that results reported for those words would be higher than those for the low-frequency ones.

Table 6.5 details the number of high- and low-frequency words that were correctly named by the students in all groups and all grades in the productive tests. These raw scores show that students correctly produced a higher number of high-frequency words (481 out of 1,680, 28.63%) than low-frequency ones (314 out of 1,636, 19.19%), a difference that was statistically significant (p=0.0001), with a prevalence ratio of 1.492 (95% CI, 1.32 to 1.69).

Additionally, an adjusted Poisson Regression test was run, as shown in Table 6.6, including the variables of school, student, grade, treatment (control vs experimental), and frequency. It was found that, when all variables were included in the model, there was a higher prevalence ratio of 5.092 (95% CI, 1.91 to 13.58), with a statistically significant difference (p=0.0011). Therefore, a significant effect of word frequency was found in productive vocabulary learning, which indicates that high-frequency words are recalled more easily by young learners than lower-frequency ones.

Table 6.5

Descriptive statistics and p-value of Chi square test (high- and low-frequency)

Test	Frequency	Words Identified	Percentage	*P*-Value	Prevalence ratio (Effect Size)	95% Confidence Interval
Productive	High	481 / 1680	28.63 %	$p.$ = .0001	1.492	(1.32; 1.69)
	Low	314 / 1636	19.19 %			

Table 6.6

Adjusted poisson regression for frequency effects in productive vocabulary

Test	Frequency	*P*-Value	Prevalence ratio (Effect Size)	95% Confidence Interval
Productive	High- vs Low-Frequency	*p.* = .0011	5.092	(1.91; 13.58)

6.3.3 Productive and Receptive Vocabulary Acquisition

The last research question enquired on the differences between receptive and productive vocabulary acquisition. Following previous findings in articles investigating vocabulary acquisition, it was expected that receptive vocabulary scores would be higher than productive vocabulary ones, when students were tested on the same target words. To analyse such differences, students were tested on the same target words productively and receptively. As can be seen in Table 6.7, in the case of the control groups, only their scores on the basic test were considered, while in the experimental groups the basic test results, as well as the complete test scores, which included both the basic test and the additional words, were analysed. Participants' mean scores showed that much higher results were obtained in the receptive vocabulary tests, when compared with the productive tests. In all cases the differences were statistically significant (p=0.0001).

In sum, it can be seen that results in the basic receptive and productive tests were quite similar between both groups in each grade. Consequently, the mean differences between the scores in the basic productive test and the basic receptive test were also quite similar, as shown in Table 6.7. Such mean differences were obtained through several paired samples t-tests. In the case of the younger learners' basic test, the control group's (G1) mean difference between the productive (*M*=2.600, *SD*=1.63) and receptive (*M*=7.114, *SD*=2.26) basic tests was 4.514 points, $t(34)=-16.17$, $p=0.0001$; Cohen's d=2.29 (large). For the younger learners in the experimental group (G2), the mean difference between the productive (*M*=2.882, *SD*=1.70) and receptive (*M*=7.618, *SD*=1.83) basic tests was 4.735 points, $t(33)=-15.081$, $p=0.0001$; Cohen's d=2.68 (large), which was slightly higher than the mean difference in their control group peers. On the contrary, when it comes to the results of the older participants, the mean difference of the control group's (G3) productive (*M*=4.190, *SD*=2.18) and receptive (*M*=11.786, *SD*=2.64) basic tests was 7.595 points, $t(41)=-18.699$, $p=0.0001$; Cohen's d=3.14 (large), which was slightly over the mean difference in the experimental group (G4). In the case of the older learners in the experimental group (G4), the mean difference between the productive (*M*=5.136, *SD*=2.33) and receptive (*M*=12.545, *SD*=2.41) basic tests was 7.409 points, $t(43)=-21.599$, $p=0.0001$; Cohen's d=3.13 (large). It is also worth mentioning that, as expected, the mean difference between the results in both tests increased considerably when analysing the results of the experimental groups' complete

test, that is when students in the experimental groups were administered the longer test with more target words. Regarding the results of the younger students (G2), the mean difference between the productive complete test (*M*=4.941, *SD*=2.44) and the receptive complete test (*M*=12.941, *SD*=2.74) was 8.000 points, *t*(33)=−17.297, *p*=0.0001; Cohen's *d*=3.09 (large), which almost doubles the mean difference reported for that same group in the basic test. In the case of the older learners (G4), a higher mean difference was also reported in the complete test: the mean difference between the productive complete test (*M*=6.523, *SD*=2.81) and the receptive complete test (*M*=18.182, *SD* = 3.72) was 11.659 points, *t*(43)=−23.054, *p*=0.0001; Cohen's *d*=3.54 (large).

Therefore, it can be concluded that higher scores were obtained in all cases in the receptive vocabulary tests, all with statistically significant differences (*p*=0.0001) and large effect sizes, as compared with the productive vocabulary tests. The differences between both tests increased when students in the experimental groups were administered the complete test, indicating that, in this case, a longer test increases the gap between receptive and productive vocabulary acquisition. Such results concurred with the fact that older participants (G3 and G4) showed a greater mean difference in all cases, when compared with their younger peers (G1 and G2), which could be due to the fact that the latter were tested on a smaller amount of target words, while the former were given a longer test to guarantee progression through the grades.

Table 6.7

Descriptive statistics and paired samples t-tests for receptive and productive scores in both basic and complete tests

Group, Test (N)	Mean	Std. Deviation of Mean	Mean Difference (Productive−Receptive)	Std. Error	Sig.
G1, Basic Productive (35)	2.600	1.63			
G1, Basic Receptive (35)	7.114	2.26	−4.514	.367	.0001
G2, Basic Productive (34)	2.882	1.70			
G2, Basic Receptive (34)	7.618	1.83	−4.735	.372	.0001
G2, Complete Productive (34)	4.941	2.44			
G2, Complete Receptive (34)	12.941	2.74	−8.000	.463	.0001
G3, Basic Productive (42)	4.190	2.18			
G3, Basic Receptive (42)	11.786	2.64	−7.595	.335	.0001
G4, Basic Productive (44)	5.136	2.33			
G4, Basic Receptive (44)	12.545	2.41	−7.409	.327	.0001
G4, Complete Productive (44)	6.523	2.81			
G4, Complete Receptive (44)	18.182	3.72	−11.659	.407	.0001

6.4 Discussion

The main goal of the current study was to analyse vocabulary learning in very young learners, namely 4- and 5-year-old students learning English in a FL context through a soft CLIL approach. Special attention was paid to productive vocabulary acquisition, as well as frequency effects. Furthermore, results were compared to the ones reported in Segura et al. 2021, where the same participants' receptive vocabulary acquisition was studied.

The first research question focused on productive vocabulary acquisition, and positive trends were observed, which can indicate that adding more vocabulary through soft CLIL to the regular FL sessions does not hinder language learning. On the contrary, slightly higher results were found in the groups that were presented with a wider amount of vocabulary through a soft CLIL approach, although differences were not statistically significant in either grade. Additionally, participants in the CLIL groups, when tested on the complete test including the additional more complex and less frequent vocabulary items, were also able to recall more words. Similar results were reported in Segura et al. 2021, who analysed the same learners' receptive vocabulary learning as in the current study, and similar positive trends in the CLIL groups were also observed. The lack of statistically significant differences in the basic tests may be attributed to the length of the soft CLIL programme, 6 months, which may not have given the learners enough time to fully benefit from the intervention. In a previous study, Reynaert (2019) found that significant differences in productive vocabulary acquisition through CLIL in secondary education students only appeared after 2 years of CLIL education. Therefore, the author concluded that 'CLIL can be an effective way of vocabulary acquisition, but it is essential to consider certain time needed for significant productive vocabulary development' (Reynaert 2019, 158). This may have been the case in the current study, since positive trends were reported in productive vocabulary, as well as in receptive vocabulary in Segura et al. (2021), which may eventually lead to more significant results with a longer CLIL education. Therefore, further research with longer CLIL programmes of various intensities is needed to analyse the effects of such an approach in FL vocabulary learning in very young learners.

Such positive trends concur with findings reported in previous studies, where higher results were observed in FL vocabulary acquisition in the groups following CLIL compared with their non-CLIL peers (Agustín-Llach and Canga Alonso 2014, Artieda et al. 2020, Canga Alonso and Arribas Garcia 2015, Lasagabaster 2008, Merikivi and Pietila 2014, Pérez Cañado 2018). In most cases, the advantage in the CLIL groups was attributed to the CLIL context, which provides higher quality and quantity of input, as well as a more natural and communicative context (Dalton-Puffer 2008, Lasagabaster and Sierra 2009). However, in most studies, CLIL hours were additional hours, which is yet another factor that may have contributed to the greater vocabulary

learning (Agustín-Llach and Canga Alonso 2014, Vallbona 2011) in previous studies. It is important to note that in the current study exposure time to the FL was taken into account and all groups were exposed to the FL for the same amount of time, as the soft CLIL programme was embedded in the regular FL sessions. Thus, in this case, the positive trends in vocabulary learning may in fact be due to the setting that CLIL brings to the classroom. Nonetheless, it remains to be seen if pre-primary education learners would have been able to achieve higher results within the same period of time if soft CLIL hours had been additional hours to the regular FI sessions. Considering that young learners benefit more from natural learning contexts when they are exposed to massive amounts of contact with the FL (Muñoz 2008), it could be expected that higher results in FL learning would be achieved if CLIL hours were additional hours. Thus, there is a need for further research where the implementation of CLIL programmes in pre-primary provides additional hours of exposure to the FL within the school, to analyse whether very young learners can achieve higher learning outcomes within the same period of time.

The second research question aimed at analysing whether there was a frequency effect when learning lexical items. It was hypothesized that higher-frequency words belonging to the first three 1,000 bands of the BNC and NGSL frequency lists would be learnt more easily, and thus, there would be a higher percentage of production of such words in the post-test, compared with the lower-frequency ones. This hypothesis can be fully confirmed, as participants were able to recall and produce a higher percentage of higher-frequency words, with a statistically significant difference, and a prevalence ratio that was also significant. Similar results were reported in a previous study following the same students, but focusing on receptive vocabulary (Segura et al. 2021), in which learners were also able to identify a higher percentage of high-frequency words than lower-frequency ones. Nevertheless, it is important to note that in receptive vocabulary, Segura et al. (2021) reported a prevalence ratio of 1.235, while the present research showed that this prevalence ratio is even bigger in productive vocabulary, with a value of 5.092. Such results indicate that the frequency effect is bigger in productive vocabulary learning.

Previous research analysing the effects of word frequency in FL vocabulary learning reported similar findings, namely that higher-frequency words were acquired first and more easily than lower-frequency ones (Alexiou 2015, Shaban 2013). This may be due to the fact that higher-frequency lexical items have more concrete (Shaban 2013) and common referents (Alexiou 2015). Additionally, they are more present in our daily lives (Alexiou 2015), meaning that there will be more encounters with these items both inside and outside of the classroom, which may also contribute to these words being acquired faster (Albaladejo et al. 2018). Such findings have important pedagogical implications, as they may guide FL teachers when choosing the vocabulary

to teach their students in the beginning stages: higher-frequency items seem to be acquired faster and they allow speakers to function in basic conversations (Nation 2013, Nation and Meara 2020).

The third research question enquired on the differences between receptive and productive vocabulary learning. Results regarding productive vocabulary were analysed in the present study and then contrasted with the receptive results reported in Segura et al. (2021). Such comparison allowed the authors to confirm the hypothesis that receptive vocabulary scores would be higher than productive ones, when the same students were tested on the same vocabulary items both receptively and productively, since higher scores were reported in receptive tests, in all groups and tests.

These results are in line with previous research on FL vocabulary learning. Considering the many dimensions of each lexical item (Nation 2013, Schmitt and Schmitt 2020), it is natural to conceive vocabulary acquisition as a complex process. Receptive vocabulary seems to precede productive vocabulary learning (Schmitt and Schmitt 2020, Yongqui Gu 2020), and, thus, one can expect receptive vocabularies to be bigger than productive vocabularies (Meara and Miralpeix 2021, Merikivi and Pietila 2014, Webb 2009). That is precisely what was reported in the present study, in which students in all grades and groups obtained higher scores in receptive tests. Such findings are relevant, not only because they confirm that receptive vocabulary development precedes productive vocabulary development, but also because they show that young EFL learners' inability to produce a word does not necessarily mean they do not know it, but it may just mean they have partial receptive knowledge of that item (Schmitt and Schmitt 2020).

6.5 Conclusions

The current study has contributed to the EFL teaching field of research, by analysing a soft CLIL programme and how it fosters vocabulary learning in very young learners in a FL context. Pre-primary education levels have been the focus of attention of very few studies so far, and thus the present research provides significant data regarding vocabulary acquisition through CLIL at such early ages.

The results of this study contribute three main findings to the FL teaching field. First, some positive trends in EFL productive vocabulary learning through a 6-month soft CLIL programme in 4- and 5-year-old learners were seen. This indicates that increasing the vocabulary introduced in the EFL classroom, in this case, did not overwhelm the learners. Nevertheless, such results are not to be generalized to all CLIL contexts and more research is needed to overcome the main limitation of this study: treatment periods longer than 6 months may be necessary to see if those positive trends turn into significant advantages for the CLIL groups. Second, there is a pedagogical implication from the significant frequency effects reported. Results showed that

higher-frequency lexical items are indeed easier to recall and identify than lower-frequency ones. Therefore, focusing first on higher-frequency words would facilitate vocabulary learning at the very early stages and allow for some interaction, since there is a rather small amount of vocabulary items that are very frequent and that would allow for basic communication. Finally, as expected from findings reported in previous studies, it was observed that receptive vocabulary was indeed developed before productive vocabulary, as higher results were observed in receptive vocabulary tests. However, some trends of productive vocabulary acquisition were seen after the 6-month intervention. Such results confirm the idea that vocabulary learning is a process, and that learning a lexical item starts with having partial receptive knowledge of the word to then evolve to a more complete productive knowledge. Nevertheless, there is a need for more longitudinal studies in the field of vocabulary learning to analyse whether productive vocabulary acquisition is enhanced with longer instruction time through CLIL, as compared with the FI context. Thus, it remains to be seen whether the gap between receptive and productive vocabulary can be reduced over longer treatment periods thanks to the contextualized learning environment and interaction opportunities that CLIL brings to the classroom.

Overall, the present research has aimed to further analyse vocabulary learning through a soft CLIL programme in very young EFL learners. Some positive trends were seen, but further research is needed to analyse CLIL programme effectiveness in such young learners, with longer treatment periods and a wider variety of learning contexts, such as CLIL programmes of different intensities, CLIL programmes embedded in the regular FL sessions, and CLIL sessions as additional hours.

Chapter 7. CLIL in Pre-Primary Education: The Views of In-Service and Pre-Service Teachers

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As the doctoral candidate, I was the lead investigator in this study. I came up with the design of the study after very extensive reading of previous literature. Next, I developed and piloted the data collection instruments, under the supervision of my two PhD coordinators, Dr Roquet, and Dr Barón. I contacted schools and universities to collect the data and followed up on it. During my research stay at the University of Vienna, I worked on data analysis, and my supervisor there, Dr Hüttner, guided me during the data analysis process, thanks to her expertise on qualitative content analysis. Finally, I wrote the manuscript, and submitted it to the journal, always turning to my supervisors for feedback.

The full text of the published article can be found in the following pages.

7.1 Introduction

Ever since the onset of the European Union and in light of our increasingly globalised society, there has been a shift in the linguistic needs of European citizens, which has led to the enhancement of policies to promote plurilingualism around European countries (Dafouz & Guerrini, 2009). Considering such a context and seeing the success of the immersion programmes in Canada (Cenoz, 2015), Foreign Language (FL) teaching approaches that bring to the FL classrooms a natural and meaningful learning context (Llinares & Morton, 2010; Lorenzo, et al., 2010) have become more present in schools within the latest decades. That is the case of dual-focused educational approaches such as Content and Language Integrated Learning (CLIL). Consequently, there has been an increasing interest in researching which linguistic skills, and personal and interpersonal competencies are enhanced through such an approach (e.g., Dalton-Puffer, 2008; Lasagabaster, 2008; Lasagabaster & Sierra, 2009; Lorenzo, et al., 2010). Since the emergence of CLIL, research in this domain has also focused on examining teachers', students', and families' views towards the approach. Nevertheless, most of the studies have analysed stakeholders' perspectives of CLIL programmes implemented in primary, secondary, and higher education levels.

To our knowledge, very few studies have investigated the effects of CLIL in pre-primary students' development. And research analysing stakeholders' perspectives at such early educational stages (Cortina-Pérez & Pino Rodríguez, 2021; Du Plessis & Louw, 2008) is even scarcer. This is precisely the objective of the present article, which aims to investigate in-service and pre-service pre-primary teachers' views regarding CLIL implementation at this educational stage.

7.1.1 Content and Language Integrated Learning (CLIL)

CLIL is a dual-focused educational approach in which an additional language is used for the teaching and learning of both content and language (Coyle, et al., 2010; Jiménez-Catalán & Ruiz de Zarobe, 2009). CLIL programmes usually entail an increase in the exposure time to the FL, which is rather limited outside of the classroom (San Isidro & Lasagabaster, 2019), and more opportunities for interaction (Lasagabaster & Sierra, 2009) in a context of real and meaningful communication (Llinares & Morton, 2010; Lorenzo, et al., 2010).

Research within the FL acquisition domain focusing on CLIL has so far aimed at analysing CLIL's effects on the learners' L1 and FL development, as well as on content acquisition to a lesser extent (e.g., Dalton-Puffer, 2008; Goris, et al., 2019; Lasagabaster, 2008; Lorenzo, et al., 2010; Pérez-Vidal, 2013; Roquet & Pérez-Vidal, 2017; Ruíz de Zarobe, 2011). Nevertheless, there is a need for further studies that go beyond and aim to investigate

stakeholders' perceptions to ultimately understand 'what is actually happening in the classroom and how participants in the process feel.' (Pladevall-Ballester, 2015, 45). More specifically, it is essential to analyse the views of the main stakeholders involved, that is, the teachers, the students, and the families to gain insight into how to best support them and interpret the learning outcomes of such programmes (Bonnet, 2012).

7.1.2 Teachers' Perceptions on CLIL

With the emergence of FL teaching approaches such as CLIL, new opportunities and challenges arise, the main one being the need for teachers who are willing and trained to teach content and language in an integrated way (Infante, et al., 2009; Mehisto, et al., 2008). In a small-scale study conducted with Serbian teachers (Savić, 2010), a large percentage of the participants showed eagerness to teach subject content through a FL, although most identified a need for further methodological training as they were not familiar with what CLIL referred to. Similar findings were reported by McDougald (2015), who found that about 60% of the primary, secondary, and higher education Colombian teachers surveyed knew very little about CLIL.

Such lack of CLIL methodological knowledge has been identified as a limitation not only for the teachers implementing CLIL programmes (Alcazar-Mármol, 2018; Campillo, et al., 2019; Pena & Porto, 2008), but also for the students involved, since teachers' methodological training on the appropriate techniques and strategies to foster learning plays a crucial role in students' learning (Alcazar-Mármol, 2018; Pavón, et al., 2015). Consequently, this should be addressed explicitly in teacher training programmes (Pavón & Rubio, 2010; San Isidro & Lasagabaster, 2019), which should focus on getting the teachers familiarised with the principles of CLIL (Infante, et al., 2009), and simultaneously allow them to expand their knowledge of the FL, the curricular content, and how to integrate them both in the classroom (Alcazar-Mármol, 2018). Therefore, an essential element for CLIL programme success (Pavón & Ellison, 2013) is teacher training, not only in terms of the methodology (San Isidro & Lasagabaster, 2019), but also in terms of practical issues (San Isidro, 2021), such as CLIL course planning, interaction techniques, teacher cooperation, evaluation strategies, classroom management (Pavón & Ellison, 2013), and identification of learner strengths, weaknesses, and needs to provide adequate support (Pavón, et al, 2015). In sum, working with innovative approaches such as CLIL poses an interesting new challenge for the teachers (Hunt, 2011; Johnson, 2012; Lova, et al., 2013), since it entails a change in the teaching methodology (Amat et al., 2017), while also allowing for professional development (Hunt, 2011).

When asked about student's attitudes towards their own learning process and outcomes, CLIL teachers have reported an increase in their students' motivation (Borrull, et al., 2008;

Campillo, et al., 2019; Infante, et al., 2009; Pavón & Rubio, 2010), as well as higher engagement in the sessions (Pavón, et al., 2015), which has been attributed to the experiential (Fleta, 2016) and active learning context that CLIL provides (Borrull, et al., 2008; Campillo, et al., 2019). Within such CLIL setting, learners can freely communicate in a relaxed atmosphere (Pavón, et al, 2015), where they feel safe to express themselves (Infante et al., 2009).

Regarding the skills and competences that teachers have reported to be enhanced through CLIL, Méndez's (2014) results indicate that primary and secondary school teachers seem to agree that CLIL especially enhances students' vocabulary, and development of communicative competence in all languages. San Isidro & Lasagabaster's (2019) results concurred with such conclusions. After monitoring and interviewing six CLIL teachers in a longitudinal study, the authors reported a consensus among the teachers who stated that learners improved their competences in the three vehicular languages.

There is, nonetheless, one main concern among CLIL stakeholders: whether the use of a FL (instead of the students' L1) as the language of instruction in CLIL contexts can hinder in-depth content learning (Alcazar-Mármol, 2018; San Isidro & Lasagabaster, 2019). Such concern stems from the question of whether learners' low FL levels may make the learning of curricular content in that FL more challenging for them (Infante, et al., 2009; Massler, 2012; Pavón, 2014; Pavón & Ellison, 2013; Pavón & Rubio, 2010; Pena & Porto, 2008). Previous researchers have also outlined teachers' worries regarding how to find a good balance between focusing on content and language (Infante, et al., 2009), and how to deal with low-achieving learners (Pladevall-Ballester, 2015). Thus, it is important that teachers are aware of students' weaknesses and strengths, in order to provide additional support, and materials to facilitate their learning (Pavón, et al., 2015), as well as to adapt their teaching to students' individual abilities (Fleta, 2016).

Multiple studies have also focused on the identification of the main challenges and needs that teachers expect to encounter or have actually faced when implementing CLIL. The CLIL teacher challenges reported in previous research thus far can be classified into three main groups: (1) the increased workload, (2) the need for language and content teachers' cooperation, (3) the generalised lack of knowledge of the CLIL approach and low FL level of the teachers. These three categories of challenges are described in further detail in the following paragraphs.

First, teachers have reported that working through CLIL increases their workload (McDougald, 2015), and is more time consuming, which poses a problem due to the lack of preparation time (Lova, et al., 2013). Such additional workload has been attributed to the methodological changes that need to take place when shifting from formal to CLIL instruction, such as in the evaluation system (Borrull, et al., 2008), the planning of the lessons (Cammarata, 2009; Coonan, 2008), and above all the creation of materials (Cammarata, 2009; Campillo, et al.,

2019; McDougald, 2015; Savic, 2010). When teaching through CLIL, teachers may need to make use of different scaffolding strategies, as well as of visual materials to facilitate students' understanding (Pavón, et al, 2015). However, access to such materials seems to be difficult (Pena & Porto, 2008), and teachers have reported a need for more resources (Lova, et al., 2013).

The second set of challenges stems from the dual nature of the CLIL approach. The integration of content and language requires teacher cooperation and coordination (Du Plessis & Louw, 2008; Massler, 2012; San Isidro & Lasagabaster, 2019; Savic, 2010). A three level teacher coordination between (1) teachers of all languages, (2) content teachers of different subjects, and (3) language and content teachers (Pavón, 2014; Pavón & Ellison, 2013) is essential to guarantee that linguistic and content objectives are integrated in the CLIL curriculum (Pavón & Rubio, 2010). Such coordination is key, above all, during the programme planning phase (Coonan, 2008) since, when done properly, it can eventually minimise the challenges for the teachers involved (San Isidro, 2021). Additionally, although teachers' willingness to cooperate is essential for programme success (San Isidro & Lasagabaster, 2019), institutional support is also fundamental. This support can be provided by the institutions, for example, by designating the figure of a CLIL coordinator, or by providing teachers with more preparation time and materials (Borrull, et al., 2008; Campillo, et al., 2019; McDougald, 2015; San Isidro & Lasagabaster, 2019; Savic, 2010).

The last but equally concerning category of challenges is related to teachers' lack of specialised content knowledge and limited FL level (Banegas, 2012). As summarised in Alcázar-Mármol (2018), several studies analysing CLIL teachers' perceptions have outlined that teachers often feel that they have not mastered the specialised content from the curricular area to be taught through CLIL. Thus, FL teachers involved in CLIL may feel insecure, since they need to have a good command of the subject content (McDougald, 2015). Likewise, CLIL content teachers have highlighted their low FL level as a setback and source of insecurity (Massler, 2012).

Due to the many aspects that need to be carefully considered when developing and implementing CLIL programmes, it is expected that teaching experience plays an important role (Navarro-Pablo & López Gándara, 2019; Navés, 2009). This way, teachers' views and concerns may change over time, with more experience and training (Cabezuelo & Fernández, 2014). As such, it is essential to analyse the views of teachers with different levels of experience, including as well pre-service teachers, who are still undergoing their academic training. Few studies have started to do so, but some relevant findings have already been reported. Pre-service teachers seem to be somewhat familiar with what CLIL is (Tachaiyaphum & Sukying, 2017) and how it enhances communication, active, and cooperative learning (Amat, et al., 2017). Nonetheless, pre-service teachers do not feel prepared to start teaching through CLIL (Amat, et al., 2017; Cortina-Pérez & Pino Rodríguez, 2021), mainly because of their perceived low FL level, lack of

methodological knowledge (Amat, et al., 2017), and lack of content knowledge (Tachaiyaphum & Sukying, 2017).

Although the three studies mentioned above have started to analyse pre-service teachers' views on CLIL, there is still, to date, a dearth of research in this domain with such participants. Thus, there is a need for further studies with pre-service teachers to identify their main concerns and training needs, which can ultimately help orient the training programmes for future CLIL teachers (Tachaiyaphum & Sukying, 2017).

With the previous context in mind, this article aims at analysing in-service and pre-service pre-primary[16] teachers' perception on CLIL. Its ultimate goals are to examine their level of CLIL knowledge, as well as to identify the potential benefits and challenges teachers expect CLIL to entail both for pre-primary students and themselves. Additionally, we aim at analysing teachers' readiness to implement CLIL and identify their main perceived teaching and training needs. To do so, in-service, and pre-service pre-primary teachers' views were collected through two online surveys, and compared to answer the following five research questions (RQ):

RQ1   What is pre-primary teachers' level of knowledge of CLIL?

RQ2   Which benefits do pre-primary teachers expect CLIL will entail for pre-primary students and teachers?

RQ3   Which challenges for students and teachers do pre-primary teachers expect to encounter when implementing CLIL in pre-primary?

RQ4   Do pre-primary teachers feel ready to start implementing CLIL at such an early educational stage?

RQ5   What are pre-primary teachers' main perceived teaching and training needs to implement CLIL?

7.2 Method

7.2.1 Participants

A total of *N*=134 pre-primary teachers responded to the survey that was made available to them via email. Five participants' responses were disregarded because all or some open-ended

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[16] In Catalonia, the context of the present study, the pre-primary education years are grouped into two main stages: the first one for students aged 0-3, and the second one for students aged 3-6. The present study focuses on the second stage since it is when EFL instruction usually begins in schools. As such, henceforward when referring to pre-primary teachers, the author is referring to teachers of 3-6-year-old students.

questions were left blank. Thus, the final sample of participants was of *N*=129 pre-primary teachers, out of which *N*=76 were in-service (IST), and *N*=53 were pre-service (PST). In-service teachers' ages ranged from 23 to 62 years (*M*=40.96; *SD*=11.34), and their accumulated teaching experience ranged from 1 to 41 years (*M*=16.92; *SD*=11.51). Pre-service teachers' ages ranged from 18 to 25 years (*M*=20.68; *SD*=2.05), and their accumulated teaching experience (including internships and some part time jobs) ranged from 0 to 6 years (*M*=0.662; *SD*=1.13). Further information regarding the participants' EFL levels, academic background and teaching experience can be found in Table 7.1.

Table 7.1

Description of participants

	N (%) in-service teachers (ISTs)	*N* (%) pre-service teachers (PSTs)
Total	76 (100%)	53 (100%)
Gender		
Female	69 (90%)	52 (98%)
Male	7 (10%)	1 (2%)
English level (self-assessed)		
Native (equivalent to C2)	0 (0%)	0 (0%)
Advanced (equivalent to C1)	9 (12%)	4 (8%)
Upper-intermediate (equivalent to B2)	12 (16%)	20 (38%)
Intermediate (equivalent to B1)	33 (43%)	21 (40%)
Low (equivalent to A1/A2)	21 (28%)	8 (15%)
None	1 (1%)	0 (0%)
Year of Pre-Primary Education undergraduate degree		
First year	NA	26 (49%)
Second year	NA	3 (6%)
Third year	NA	17 (32%)
Fourth year	NA	7 (13%)
FL specialisation in degree		
With FL specialisation	21 (28%)	16 (30%)
Without FL specialisation	55 (72%)	27 (51%)
No FL specialisation yet, but interested	NA	10 (19%)
Teaching experience[1]		
Working	76 (100%)	9 (17%)
Internship	NA	27 (51%)
None	NA	22 (42%)
FL teaching experience[1]		
Currently teaching a FL	18 (24%)	3 (9%)
Prior FL teaching experience	23 (30%)	7 (22%)
No FL teaching experience	40 (53%)	23 (72%)
CLIL training		
With CLIL training	20 (26%)	3 (6%)
Without CLIL training	56 (74%)	50 (94%)

CLIL teaching experience	18 (24%)	0 (0%)
With CLIL teaching experience	58 (76%)	53 (100%)
Without CLIL teaching experience	30 (52%)	40 (77%)
Would like to teach CLIL in future[2]	28 (48%)	12 (23%)
Not interested in teaching CLIL[2]		

[1] Because multiple answers per participant are possible, the results within this section may exceed 100%.

[2] Percentages calculated out of the number of participants that have no CLIL teaching experience.

To reach in-service teachers, school principals or pre-primary coordinators in 32 different schools in Catalonia were contacted and asked to share the link to the survey with their pre-primary teachers. Only teachers from 29 of those 32 schools filled in the questionnaire. Out of these 29 schools, 17 were located in Barcelona city, while the other 12 were located in 12 other cities in Catalonia. Regarding school type, 10 of them (*N*=14 ISTs) were public schools, 17 (*N*=54 ISTs) were semi-private, and 2 (*N*=8 ISTs) were private.

As for pre-service teachers, the coordinators of the Pre-Primary Education degree in 8 universities in Catalonia were contacted. These coordinators either sent the questionnaire link to the students enrolled in the degree via email or asked specific teachers to allow students to answer the questionnaire during class time. Out of the 8 universities contacted, students from 5 of them answered the survey. Regarding university type, 3 of them were public (*N*=16 PSTs), while the other 2 were private (*N*=37 PSTs). These universities were located in 5 different cities in Catalonia.

7.2.2 Data Collection Procedure

Data were collected through two online questionnaires using the Sogolytics platform. Both surveys were created by the author, after extensive reading and analysis of surveys previously used by other researchers to investigate the same topic with different target participants (Hunt, 2011; McDougald, 2015; Pena & Porto, 2008; Pérez-Cañado, 2016; San Isidro, 2021; San Isidro & Lasagabaster, 2019; Savic, 2010). Both questionnaires were peer-reviewed by two other researchers involved in the project. In February 2022, the surveys were piloted with 15 in-service and 10 pre-service primary education teachers. After the piloting, two questions were modified: one open-ended question's phrasing was adjusted, and another question that was originally open-ended was transformed into a multiple-choice one. These questions were piloted again with 5 other primary education teachers.

After the piloting, data collection with pre-primary teachers took place during March and April 2022. The surveys themselves served to inform participants of the research project and data treatment policies[17], as well as to collect their consent to participate in the research.

7.2.3 Data Collection Instruments

Two separate questionnaires were created for each of the two groups of participants: in-service teachers (Appendix 1), and pre-service teachers (Appendix 2). The two surveys only differed in questions 3 to 15 which enquired onto participants' academic background and teaching experience through a different angle: in the case of ISTs such questions focused on their current and previous teaching positions, while in the PSTs' survey the focus was on their undergraduate studies and internship experiences.

Participants took an average of 25 minutes (*M*=25.46; *SD*=15.95) to answer the survey, which had four main sections that gathered data about: (1) academic background and teaching experience, (2) general knowledge about CLIL, and its effects on the learning of languages (FL and L1s) and curricular content, (3) perceptions on the possibility of implementing CLIL with students of any age and FL level, and (4) beliefs on the benefits and challenges that implementing CLIL in pre-primary may entail both for teachers and students, as well as the main perceived teaching and training needs for pre-primary CLIL teachers. For the purpose of the present study, only results from sections 1 and 4 of the survey are considered.

7.2.4 Data Analyses

All data collected through the two surveys were exported and merged into one dataset, which was cleaned before data analysis. For the single- and multiple-answer questions, data were cleaned and transformed into numeric values, and analysed with R (v.4.2.0) to develop the participants' profiles.

Participants' answers elicited through open-ended questions were analysed qualitatively with Atlas.ti (v.22) following a combination of the content analysis process proposed by Schreier (2012) and Saldaña (2021), and the 6-phase thematic analysis process proposed by Braun & Clarke (2006) and later summarised by Neuendorf (2019). As such, all answers to open-ended questions were first imported into Atlas.ti and read entirely to identify the potential interest topics while creating a first version of the codebook. The codebook was refined by the main researcher and

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[17] Ethics approval for the current research project was granted by the Research Ethics Committee at Universitat Internacional de Catalunya.

piloted: 20% of the data were coded by two external raters. Their coding was compared and the cases that were interpreted differently were discussed. Following that, the codebook was refined again and there was a second round of pilot coding. Next, Krippendorff's c-Alpha-binary was calculated as an inter-rater reliability measure using the Atlas.ti function for intercoder agreement mode, resulting in $\alpha=0.967$. Finally, the main rater finished coding the data in its entirety.

The large number of codes (*N*=137) resulting from the qualitative analysis of the participants' open-ended answers precluded any inferential analysis. Thus, we employed descriptive visualisations to show between-group and between-code differences, with the main ones being highlighted in the Results section. The data represented in the visualisations have been normalised into percentages from code counts. Percentages were used instead of absolute frequencies because of the different number of participants in each group (ISTs and PSTs). Descriptive visualisations were created in R (v.4.2.0) using *BaseR*, and the *ggplot* package.

7.3 Results

7.3.1 CLIL Knowledge

RQ1 aimed at analysing participants' CLIL knowledge. In order to do so, teachers were asked to write a definition of CLIL. If they were not familiar enough with it to provide such a definition, they were encouraged to give an example of a CLIL learning context. If they still were unable to give an example, they were asked to write 'I don't know'.

The analysis of the teachers' answers showed that in-service teachers are more familiar with what CLIL is, than pre-service teachers. That is, only 27 out of the 76 ISTs (36%) answered 'I don't know', while the number of PSTs that were not able to provide a definition or example for CLIL was 35 out of the 53 (66%). Out of the 35 PSTs that did not know what CLIL was, 63% were 1st year undergraduate students of the Pre-Primary degree. Additionally, 5 ISTs (7%) and 4 PSTs (8%) did not provide a definition, but gave examples[18] of CLIL contexts, such as 'CLIL is, for example, when a geometry class is done in English, so the students work on the maths curricular content and at the same time work on the foreign language content' (participant 09, IST), or 'I think that CLIL consists on the learning of a language within a context, that is, not only in the regular English classes, but also in other subjects, such as Psychomotricity, Arts and crafts or Science' (participant 44, IST).

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[18] The examples and definitions presented in this section were given by the participants in their L1s, that is Catalan or Spanish, and have been translated into English for the purpose of the current study.

44 ISTs (58%) and 14 PSTs (26%) provided a somewhat accurate definition of CLIL. There was some variation within the definitions that participants wrote. A third of the definitions from both groups were rather simple, for example 'Working on curricular content through another language' (participant 42, IST), 'Doing a subject in English' (participant 64, IST), or 'Using English to teach and learn a subject' (participant 86, PST). The remaining two thirds of the definitions were more complete, such as 'Teaching and learning curricular content of a subject, unit, or topic, being both the content and the language the objectives. This way students learn content and receive more input in English, which allows them to improve their English level' (participant 34, IST). In addition, 5 teachers (4 ISTs, 1 PST) also mentioned the importance of CLIL context and communication, for instance 'CLIL is based on the learning of content in any foreign language, and this language being used as a transversal tool so that children can learn in a contextualised environment' (participant 76, IST), and 'CLIL integrates English and curricular content from other subjects through a communicative approach' (participant 85, PST).

7.3.2 Perceptions on CLIL Implementation in Pre-Primary Education

RQ2 enquired on the potential CLIL benefits both for pre-primary students and teachers, while RQ3 focused on the challenges CLIL may entail for those same stakeholders. As such, participants were asked open-ended questions regarding their perceptions on the potential benefits and challenges of CLIL implementation in pre-primary both for the students and themselves. The results presented in the following paragraphs of the current section illustrate the themes that were identified after coding the participants' responses. The figures display the percentage of teachers in each of the two groups that mentioned each theme.

As presented in Figure 7.1, pre-service teachers showed more positive views than in-service teachers regarding CLIL effects on pre-primary students, since a higher percentage of the former mentioned that CLIL enhances the development of many linguistic skills in pre-primary learners (e.g., communication and interaction [91% PSTs, 55% ISTs], general FL level [79% PSTs, 41% ISTs], vocabulary [47% PST, 38% ISTs], oral comprehension [53% PSTs, 22% ISTs], and phonetics [21% PSTs, 7% ISTs]), as well as other personal competences (e.g., self-confidence [51% PSTs, 26% ISTs], motivation [30% PSTs, 25% ISTs], and autonomy [13% PSTs, 4% ISTs]). Results also showed that more in-service teachers reported that CLIL can promote spontaneity (7% ISTs, 0% PSTs), as well as normalisation of FL use (16% ISTs, 4% PSTs). A small percentage of teachers in both groups also mentioned explicitly that such benefits come from the learning context that CLIL provides (e.g., natural learning [27% ISTs, 28% PSTs], contextualised learning [30% ISTs, 25% PSTs], and increased exposure to the FL [16% ISTs,

19% PSTs]). Additionally, Figure 7.1 shows other expected CLIL benefits for pre-primary students that were mentioned by a smaller percentage of teachers.

Figure 7.1

Teachers' perceptions on potential benefits of CLIL for pre-primary students. Each bar shows the percentage of teachers in each group (in-service or pre-service) that mentioned the themes listed on the y axis as a potential CLIL benefit for students.

Potential CLIL benefits for pre-primary students
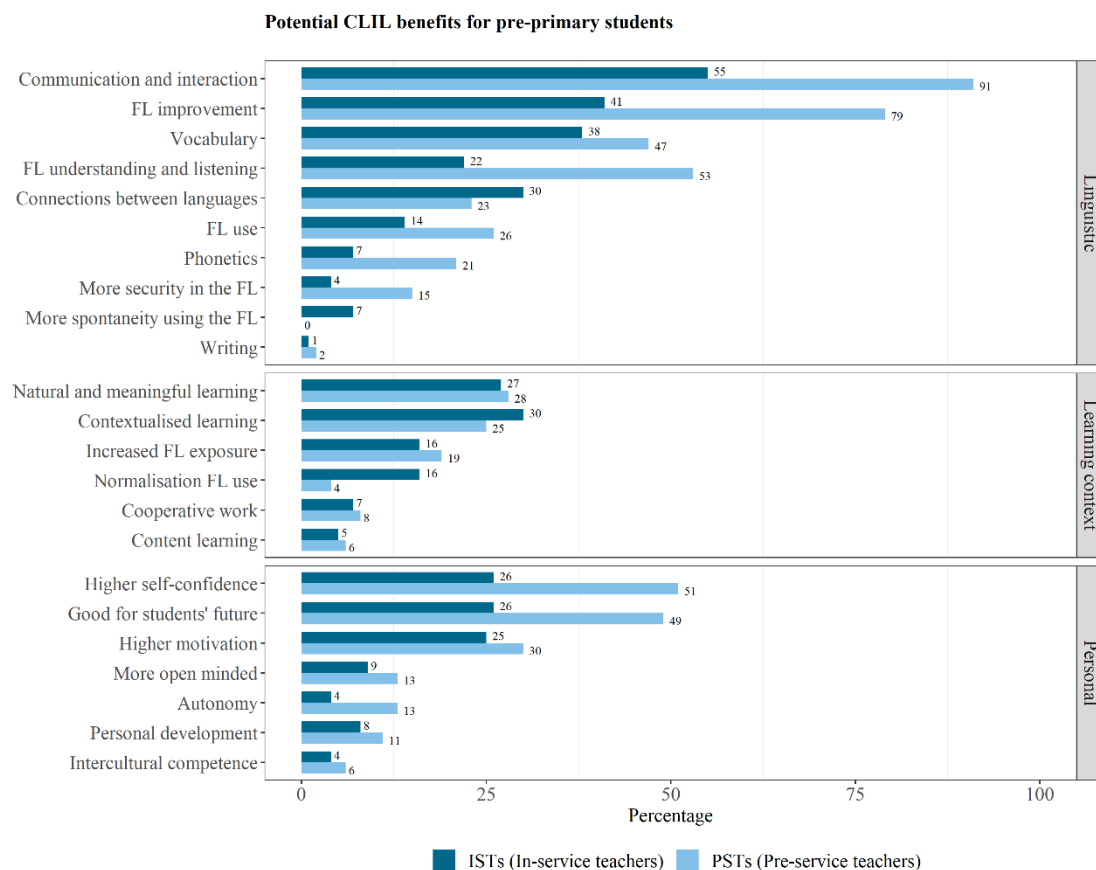
Compared to the wide amount of CLIL benefits for students reported in Figure 1, the surveyed teachers identified a smaller number of benefits for themselves as pre-primary CLIL teachers, as illustrated in Figure 7.2. The surveyed teachers mentioned five main benefits: implementing CLIL can allow them to improve and practise the FL, and engage in innovative teaching practices, as well as to receive further training, develop professionally, and increase their motivation. The views of both groups in this case were quite aligned, but there was a significantly higher percentage of pre-service teachers that mentioned FL improvement (47% PSTs, 25% ISTs), innovative teaching (60% PSTs, 28% ISTs), training (28% PSTs, 14% ISTs), and teacher cooperation (11% PSTs, 3% ISTs). On the contrary, more in-service than pre-service teachers stated that CLIL would increase their motivation (15% ISTs, 6% PSTs) and allow them to develop

professionally (11% ISTs, 4% PSTs). Both in-service and pre-service teachers' views were similar regarding the other potential benefits for CLIL teachers, which were mentioned by less than 10% of the participants (see Figure 7.2).

Figure 7.2

Teachers' perceptions on potential benefits of CLIL for pre-primary teachers
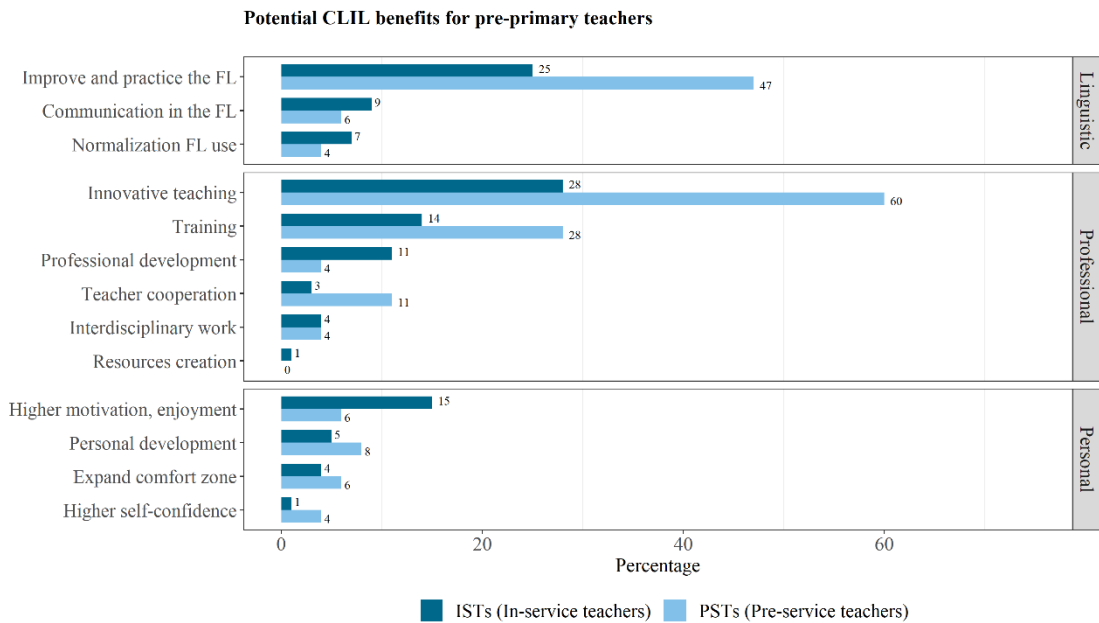

Potential CLIL benefits for pre-primary teachers

Figure 7.3 presents the challenges that teachers expect CLIL to entail for pre-primary education students. The learning and the understanding of content through the FL outstands as the main one mentioned by both groups of teachers (32% ISTs, 34% PSTs). Nonetheless, some differences were found between both groups regarding the other main challenges mentioned: while understanding the FL was the challenge that ISTs mentioned the most (48% ISTs, 25% PSTs), in the case of PSTs it was the difficult adaptation of students to the CLIL approach (42% PSTs, 11% ISTs), and the confusion between languages, namely students' L1s and FL (45% PSTs, 14% ISTs). Additionally, PSTs seem to be more concerned than ISTs about CLIL having detrimental effects on the students' general linguistic development, since a greater percentage of PSTs mentioned that CLIL can hinder L1 development (17% PSTs, 9% ISTs) and create a communication barrier due to the teachers' use of the FL (16% PSTs, 0% ISTs) and the students' low FL level (17% PSTs, 8% ISTs). It is also worth highlighting that significantly more ISTs than PSTs mentioned that CLIL can cause students to lose attention quickly (9% ISTs, 0% PSTs), and that this approach can also entail an additional challenge for students with learning difficulties or special needs (17% ISTs, 8% PSTs). Other minor challenges (e.g., more effort, feeling lost,

frustration, insecurity, and lack of motivation) were mentioned almost equally often in both groups of teachers, as displayed in Figure 7.3.

Figure 7.3

Teachers' perceptions on potential challenges of CLIL for pre-primary students
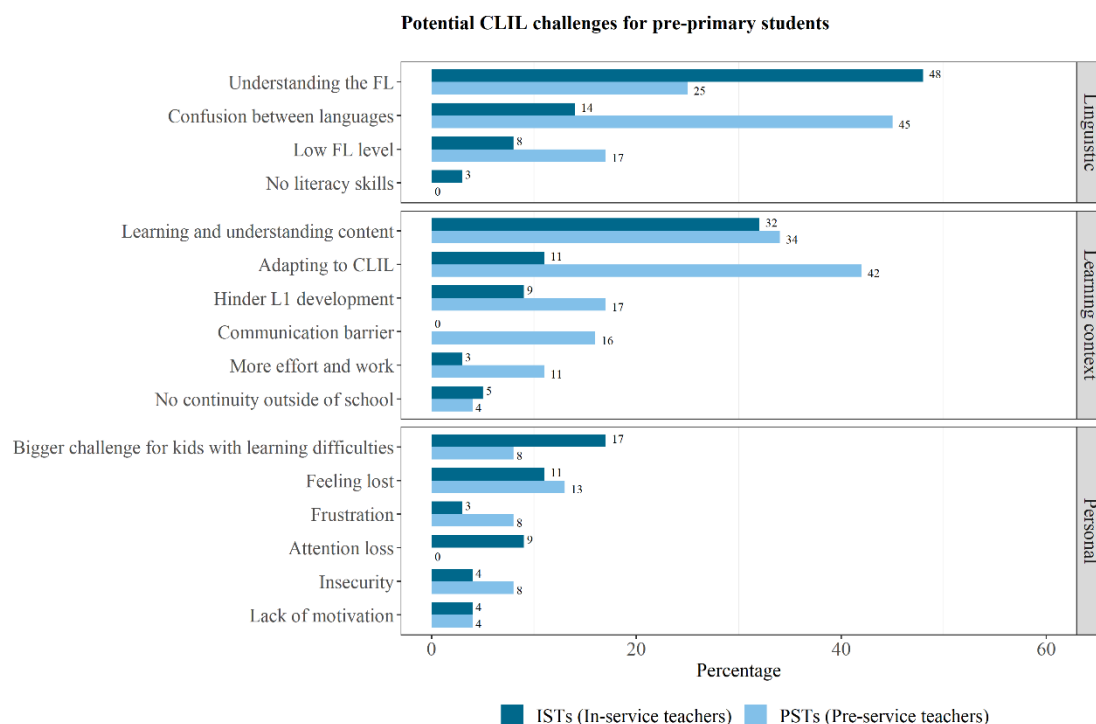

Figure 7.4 illustrates the potential challenges that pre-primary CLIL teachers may encounter. The teachers' low FL level stands out as the main challenge in both groups, although fewer PSTs (37%) than ISTs (57%) mentioned it. Additionally, a smaller percentage of teachers in both groups coincided in some other difficulties they may have to face at a linguistic level (e.g., communication [6% ISTs, 9% PSTs], and content transmission problems [3% ISTs, 2% PSTs]), at a professional level (e.g., preparation [14% ISTs, 13% PSTs], creation of materials [1% ISTs, 4% PSTs], time consuming [5% ISTs, 2% PSTs]), and at a personal level (e.g., feeling insecure [12% ISTs, 4% PSTs]). It is also worth noting that in-service teachers (although less than 15% of them) mentioned a wider amount of challenges that were not found in pre-service teachers' answers (e.g., codeswitching [4% ISTs], programming [11% ISTs], classroom management [8 % ISTs], changes in the evaluation system [4% ISTs], lack of motivation [5% ISTs], and frustration [2% ISTs]).

Figure 7.4

Teachers' perceptions on potential challenges of CLIL for pre-primary teachers

Potential CLIL challenges for pre-primary teachers
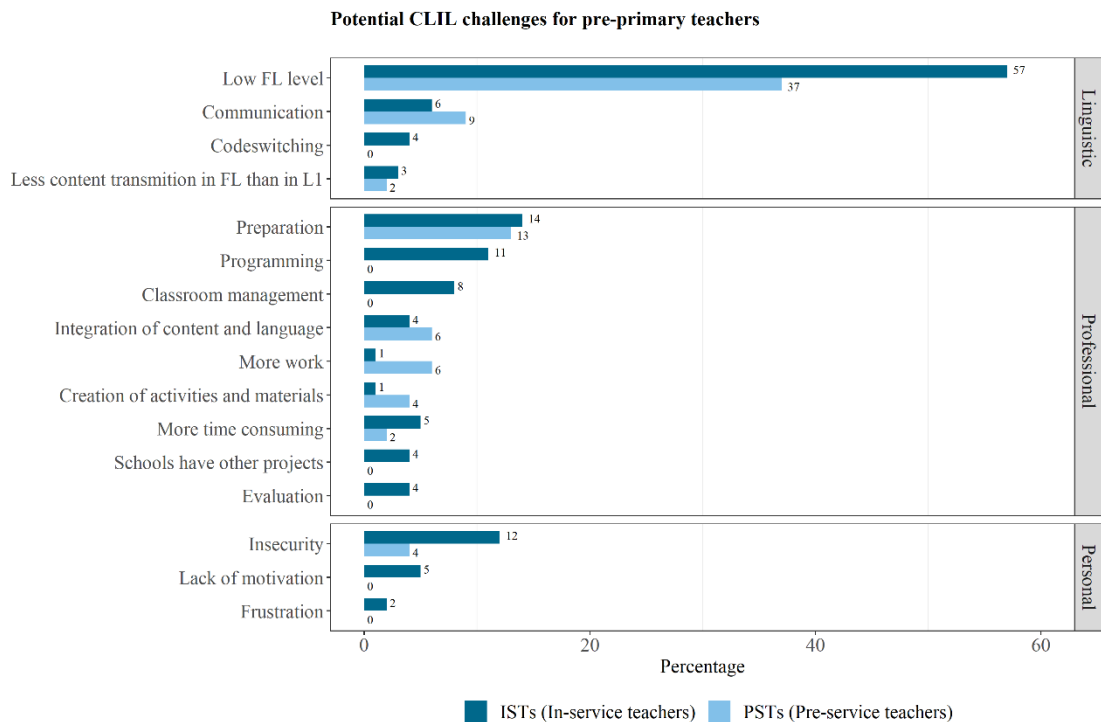
7.3.3 Teachers' Readiness to Implement CLIL and Analysis Perceived of Needs

Finally, RQ4 and RQ5 focused respectively on analysing the teachers' readiness to implement CLIL in pre-primary, as well as on identifying their perceived CLIL teaching and training needs. When asked whether they were ready to start implementing CLIL in pre-primary, 54% of ISTs and 70% of PSTs said they were not ready. Out of these, 36% of ISTs and 40% of PSTs mentioned that, although they did not feel ready, they would support other teachers in the school who were willing to try. Only 46% of ISTs and 30% of PSTs said they felt ready to implement CLIL in pre-primary.

Figure 7.5 shows the aspects that teachers mentioned would help them feel more confident if they had to implement CLIL in pre-primary, namely their perceived teaching and training needs. Overall, teachers' main perceived needs are related to specific training (methodological [64% ISTs, 83% PSTs], linguistic [67% ISTs, 60% PSTs], and on curricular content [20% ISTs, 53% PSTs]), CLIL materials (e.g., accessing [71% ISTs, 80% PSTs], guidelines [50% ISTs, 81% PSTs], resources [55% ISTs, 75% PSTs]), and stakeholders' support (e.g., between-teacher support [42% ISTs, 64% PSTs], information from other schools [53% ISTs, 62% PSTs], and support from families [22% ISTs, 64% PSTs]). In most cases (except in three: FL training, more preparation time, and visual materials), the percentage of pre-service

teachers mentioning each need was greater than in the in-service group, as detailed above and illustrated in Figure 7.5.

Figure 7.5

Teachers' perceived needs to start implementing CLIL in pre-primary

Teachers' perceived needs to start implementing CLIL in pre-primary
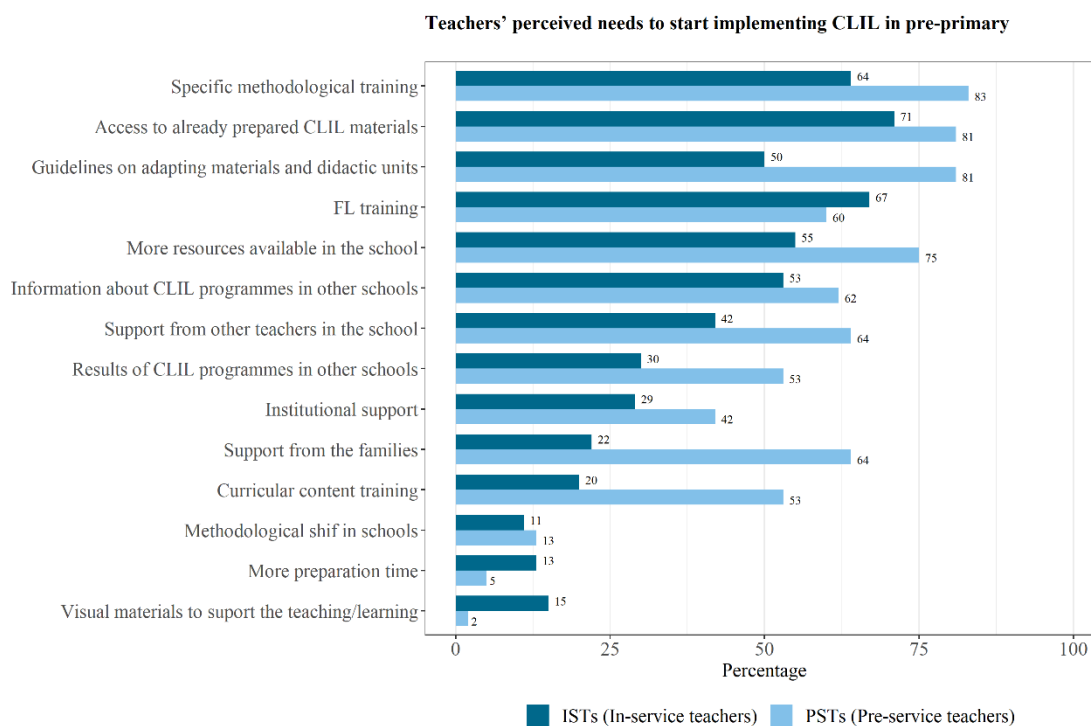
7.4 Discussion

The present study aimed at analysing pre-primary teachers' perceptions regarding CLIL implementation with very young FL learners. To our knowledge, very few studies have examined any stakeholders' perspectives regarding CLIL in pre-primary, and research considering both in-service and pre-service teachers' is even scarcer. This is precisely the research gap we aimed to contribute to.

To answer RQ1, participants' knowledge of the CLIL approach was analysed, and our results aligned with previous studies conducted with teachers of higher education levels (e.g., McDougald, 2015; Savić, 2010). Such studies reported that a large percentage of the teachers are not familiar with the CLIL approach, which can be problematic when trying to implement successful CLIL programmes (Pavón & Ellison, 2013). Similar findings were reported in the present study, in which 60% of ISTs and only 30% of PSTs were able to provide a definition or example of CLIL. Such results also indicate that ISTs are more familiar with what CLIL is than PSTs. These findings may be due to (1) in-service teachers' greater teaching experience and

continuous training, and (2) about half of our pre-service teachers sample being first year undergraduate students who were enrolled in programmes that did not include courses related to FL teaching didactics yet. However, it is worth highlighting that, within the pre-service teachers, there was an increase in the number of participants that gave a definition as they were further along in their undergraduate studies. This has a major pre-primary teacher training implication: schools are bringing down the age of onset of FL teaching and implementing integrated approaches such as CLIL at earlier grades, but teacher training programmes are not catching up, and most teachers still feel unprepared. In the best cases, FL teaching approaches such as CLIL are presented to pre-service teachers only in the last years of their undergraduate degree, and in a limited number of hours of training. As such, teachers are not receiving enough methodological training to confidently implement CLIL with young learners, which is something that should be addressed explicitly in teacher training programmes (Infante et al., 2009; Pavón & Rubio, 2010; San Isidro & Lasagabaster, 2019).

RQ2 and RQ3 focused on identifying pre-primary teachers' perceptions of CLIL's potential benefits and challenges both for pre-primary students and teachers. Although CLIL is still not widely implemented in pre-primary, some forms of soft-CLIL are gaining ground. In soft-CLIL, FL teachers do cross-curricular work and bring to the FL classroom curricular content that is usually taught in the main schooling language, as a way to contextualize the FL learning, through meaningful and communicative activities (Dale & Tanner, 2012; García Esteban, 2015; Ikeda, et al., 2021). The implementation of this soft version of CLIL has increased lately in pre-primary grades, in which it commonly takes the shape of small projects embedded within the EFL sessions, or language showers. As such, it is essential to examine teachers' perceptions, as one of the main stakeholders involved.

Overall, our study found that not only a wider amount of potential benefits than challenges for both groups of stakeholders were identified, but also that the percentage of teachers mentioning benefits was larger than when mentioning challenges. Thus, it seems that, despite most teachers' unfamiliarity or inexperience with CLIL, when they are briefly introduced to the approach, their expectations are positive, and the potential benefits outweigh the challenges.

More specifically, to answer RQ2, concerning CLIL benefits, our analysis found that pre-service teachers appear to be more positive than in-service teachers, with a larger percentage of the former mentioning potential linguistic, and personal benefits for CLIL learners. However, in both groups of teachers, the benefits that were mentioned the most were the same, that is, FL level and use, communication, vocabulary, self-confidence, and motivation. Similar findings had been reported in previous studies conducted by Alcázar-Marmol (2018), and San Isidro & Lasagabaster

(2019), in which teachers identified the same linguistic skills as the ones enhanced by CLIL the most.

As for benefits for CLIL teachers, both groups (with a larger percentage of PSTs) highlighted the chance that CLIL would offer them to improve their FL, to teach through an innovative approach, to receive training, and to develop professionally. The current research is not the first one to report such results. In a study conducted by Hunt (2011), the author already concluded that teachers saw CLIL as a chance to develop professionally despite it being a new additional challenge.

RQ3 focused on identifying the expected CLIL challenges for both groups of stakeholders. In line with results from previous studies, our findings showed that teachers are worried about the students' low FL competence being a major setback (Infante et al., 2009; Johnson, 2012). More specifically, teachers expect that pre-primary students' low FL level may, on the one hand, hinder content learning and understanding, and, on the other hand, constitute a communication barrier and make learning even harder for students with other pre-existing learning difficulties. Such concerns seem to be accentuated even more in the present study's findings, possibly due to pre-primary learners' very young age and very low FL levels.

The second part of RQ3 aimed at identifying CLIL teachers' expected challenges. In this domain, a significant number of studies have classified the main challenges for CLIL teachers of higher educational stages into three main categories: (1) the increased workload due to the planning of lessons, creation of materials, and adaptation of evaluation systems, amongst other methodological changes (e.g., Campillo, et al, 2019; Pavón, 2014), (2) the need for language and content teachers to work in cooperation (Pavón, 2014; Pavón & Ellison, 2013) and receive institutional support (e.g., Borrull, et al., 2008; San Isidro & Lasagabaster, 2019, Savić, 2010), and (3) the generalised lack of knowledge of the CLIL approach (Alcazar-Mármol, 2018; Banegas, 2012), and low FL level of the teachers (Massler, 2012). The results reported in the present study regarding CLIL challenges for pre-primary teachers are in line with the numerous abovementioned studies. As such, the main challenge that most of the surveyed teachers mentioned was the generalised low FL level of teachers, which is an unresolved issue in Catalonia, and Spain. In addition, teachers also mentioned a rather long list of challenges related to the additional workload that CLIL implementation and planning entails, such as programming, material creation and, evaluation adaptation among others.

RQ4 examined teachers' readiness to implement CLIL. The majority of the surveyed teachers indicated that they did not feel ready, with the percentage of PSTs being larger than of ISTs. Such results were expected, considering that previous studies have reported hesitation and insecurity to start implementing CLIL both in in-service (Alcázar-Marmol, 2018; Campillo, et al.,

2019; Pavón, et al., 2015; Pena & Porto, 2008), and in pre-service teachers (Amat, et al., 2017; Cortina-Pérez & Pino Rodríguez, 2021).

When examining teachers' perceived teaching and training needs in RQ5, our results were in line with previous studies in the field. A wide percentage of our participants reported needing (1) CLIL materials, guidelines on how to adapt them, and more resources (e.g., Cammarata, 2019; Campillo, et al., 2019), (2) opportunities for teacher collaboration (e.g., Du Plessis & Louw, 1008; Massler, 2012; San Isidro & Lasagabaster, 2019), and support from other teachers in the school, the institution and the families, and (3) more training, both in the FL (e.g., Massler, 2012) and the CLIL approach itself (Alcázar-Marmol, 2018; Campillo, et al., 2019; Pena & Porto, 2008). In all cases, although there was a large percentage of in-service teachers who mentioned such needs, the percentage of pre-service teachers was even greater. Such findings were expected due to the latter's lack of teaching experience and unfinished training.

Finally, it is important to highlight that our participants also showed an interest in knowing about CLIL programmes implemented in other schools, as well as their outcomes, which is something that has not been considered in previous studies. This brings along an important aspect to consider that, as far as we know, has not been mentioned before: teachers need to feel part of a community to share experiences, and find encouragement to try out new teaching approaches.

7.5 Conclusions

The present study has aimed at examining the level of knowledge that pre-service and in-service pre-primary teachers have of the CLIL approach, as well as to identify the expected benefits, challenges, and perceived needs of its implementation at such an early educational stage. Overall, pre-primary teachers seem to be positive about the potential effects of CLIL, but also wary of its challenges, and have identified a long list needs. Such findings provide significant takeaways for school administrators and teacher trainers to provide better support and resources. By taking into consideration the challenges and needs identified, schools may be able to make the transition into CLIL teaching at such early stages smoother, by providing the teachers with more resources and materials, as well as spaces and time for them to feel part of a community where they can work collaboratively and share experiences. Additionally, teacher training programmes (both university-level courses, and training sessions for in-service teachers) should constantly be updated to keep up with the new FL teaching approaches being implemented in schools in order to provide a more robust methodological training.

Although the present study has started to fill the research gap regarding pre-primary CLIL implementation and the respective teachers' perceptions, there is still a need for further research

focusing on such early education stages. The present study has provided some relevant insights, but it is not exempt of limitations: the use of questionnaires only, and the lack of inferential statistical analysis may have limited the data collection procedure and data analysis respectively. As such, further studies may want to use focus groups and interviews with a subset of the participants to gain a deeper understanding of teachers' answers in the questionnaire. Alternatively, the analysis of the data could gain strength by following a mixed methods approach in which inferential quantitative analysis were conducted with a subset of the main themes of interest that have emerged from the qualitative analysis.

Despite these limitations, the present study has contributed to a field of research that is still in its infancy, namely CLIL in pre-primary education. It has provided relevant findings that, together with results from further research studies, can eventually help guide school principals and teacher trainers to provide tailored support to future and current CLIL teachers.

Chapter 8. General Discussion

This chapter presents a general discussion of the three articles that comprise the present dissertation. Such discussion is divided into two main subsections, to address the two main aims of the thesis. The first goal was to examine the effects of soft-CLIL on 4- and 5-year-old-EFL learners' vocabulary acquisition over the course of 6 months. This objective was tackled in studies one and two. The second goal was to investigate in-service and pre-service pre-primary teachers' level of knowledge of the CLIL approach, and identify the expected benefits, challenges and needs in CLIL implementation at such early education stages. This last objective was addressed in study three.

Thus, considering the two main goals of the present thesis, the current general discussion section is divided into two subsections, corresponding to each of the main objectives. The two discussion subsections are structured as follows: first, the goals of the studies are reviewed, and the results summarized while answering the research questions established for each article. In parallel, some limitations and suggestions for further research are presented.

8.1 Studies 1 and 2: Vocabulary Acquisition through Soft-CLIL in Pre-Primary Education

The first two studies that make up this dissertation examined the effects of a soft-CLIL programme in pre-primary education EFL students' acquisition of receptive and productive vocabulary. Over the course of 6 months, 4- and 5-year-old learners in two schools in Catalonia worked on the topics of the seasons either through traditional EFL instruction, or through soft-CLIL. We aimed at (1) examining students' vocabulary acquisition, by comparing a soft-CLIL to a conventional EFL instruction group per grade, (2) analysing differences between receptive and productive vocabulary acquisition, (3) studying age effects, namely if older learners benefited more from CLIL than their younger peers, and (4) examining word frequency effects, that is whether high-frequency words are easier to be learnt than low-frequency ones.

RQ1.1 and RQ2.1 enquired onto the effects of such soft-CLIL programme. It was hypothesised that the students in the soft-CLIL group would benefit from such teaching approach and obtain higher receptive (RQ1.1) and productive (RQ2.1) vocabulary scores in their target words post-test, as compared to their same grade non-CLIL peers. Results showed no significant differences between the results of the learners in both groups within each grade when it comes to the basic target words test, namely the words that all students were taught, regardless of the approach and group they were in. However, although no significant differences were found, the

scores in the experimental groups (G2, and G4) were slightly higher than in the control groups (G1, and G3). The lack of significance in this case should be interpreted carefully, since it can still indicate a positive outcome from the soft-CLIL programme: the learners in the soft-CLIL experimental groups were exposed to and able to learn a greater amount of vocabulary of lower frequency than their control group peers within the same exposure and instruction time. Thus, the additional vocabulary introduced through soft-CLIL did not overwhelm them, and they were not only able to acquire a slightly (although not significantly) higher amount of the basic vocabulary than their counterparts following conventional EFL instruction, but when tested on the additional target words, they showed they had also learnt a similar percentage of them.

Such results were expected, considering the findings reported in previous studies in the field, which have reported higher vocabulary uptake in primary and secondary education students following CLIL programmes, when compared to their non-CLIL counterparts (Agustín Llach & Canga Alonso, 2014; Artieda, et al., 2020; Goris, et al., 2013; Jiménez-Catalán, et al., 2006; Lasagabaster, 2008; Merikivi & Pietila, 2014; Pérez Cañado, 2018). However, in the case of the studies in this dissertation, there was a lack of significance in the differences between groups, with only small trends in favour of the soft-CLIL students. It is also important to note that, in contrast with the studies above cited, in the case of the present studies, CLIL hours were embedded within the regular EFL sessions, without increasing exposure time to the TL. Thus, in these other previous studies, the higher scores obtained by the CLIL groups cannot fully be attributed to the CLIL approach but may also be due to the increased exposure to the TL (Agustín-Llach & Canga Alonso, 2014).

With this respect, it is also worth mentioning that the slightly higher, although not significant, results reported in the present studies in the CLIL groups can be interpreted as an indicator of the potential positive effects of CLIL in pre-primary in the long term. The results obtained could eventually turn into significantly higher outcomes in favour of the CLIL learners, provided that (1) the CLIL programme increased the hours of exposure to EFL as the TL, and that (2) the CLIL programmes' continuity was ensured over a longer period of time.

Regarding the former, previous researchers have pointed out the importance of the advantages of the combination of an earlier AOA of FL learning with massive input exposure (Krashen, et al., 1979; Miralpeix, 2007; Muñoz, 2008). Such a combination of factors, together with immersion-like settings or the implementation of CLIL approaches, would allow younger FL learners with earlier AOA to reap the most benefits from implicit and naturalistic FL exposure and reach higher levels of attainment in the TL. However, due to the lack of studies of CLIL conducted with pre-primary students, and the fact that in the present studies there was no

increased exposure to the FL through CLIL, the effects of such a combination of elements remains to be seen and should be further studied.

Concerning the latter, some studies have found that CLIL benefits increase over treatment time (Alonso, et al., 2008) and are greater in older students (Agustín-Llach & Canga Alonso, 2014; Pérez Cañado, 2018). Thus, it would be expected that in the earlier stages of CLIL in pre-primary only small trends were found in favour of the CLIL groups, as reported in the studies here described, and that such trends increased to become significant differences over time. Nonetheless, due to the lack of longer longitudinal studies with the first testing times taking place while the students are still in pre-primary education, whether such expected outcomes would actually develop remains to be studied.

In sum, the findings reported in studies 1 and 2 of the present thesis regarding vocabulary acquisition by pre-primary students following soft-CLIL or conventional EFL instruction show positive results for CLIL learners that could potentially become significant over longer CLIL treatment periods and with increased exposure to the TL. This is a research line that should be further studied, due to the lack of empirical research that has been conducted so far concerning CLIL effects on very young learners, namely pre-primary students.

RQ2.3 followed up on the findings just discussed, as it investigated the differences between receptive and productive vocabulary acquisition. In this case, the original hypothesis, that greater scores would be obtained in the receptive vocabulary tests than in the productive ones, can be fully confirmed. Such a hypothesis was formulated based on previous researchers' conclusions that receptive vocabulary acquisition precedes productive acquisition (Schmitt & Schmitt, 2020; Youngqui Gu, 2020; Webb, 2009). This is because receptive vocabulary skills entail meaning recognition and recall, while productive vocabulary skills involve form recognition and recall, being the latter more challenging and requiring more time to fully develop (Nation, 2013; Schmitt, 2010). As a consequence, theoretically, receptive vocabularies are usually bigger than productive (Meara & Miralpeix, 2021; Merikivi & Pietila, 2014; Webb, 2009), as has been confirmed in previous research studies, in which the same vocabulary has been tested receptively and productively, and higher scores have been found in the receptive tests (Ellis & Beaton, 1993; Laufer, 2005; Shintani, 2011; Waring, 1997).

As such, the results reported in the first two studies that make up the present dissertation regarding the receptive to productive vocabulary learning spectrum are in line with previous findings. The present results corroborate, thus, the existence of such a vocabulary learning continuum at the very early stages of FL learning. This brings along an important takeaway: the fact that early FL learners are not able to produce words in the TL does not necessarily mean that they are completely unfamiliar with such vocabulary, but it may just mean that they have partial

knowledge of these words, namely that they understand them but may need more time to develop productive knowledge. Although this vocabulary continuum from receptive to productive learning has been studied in a rather theoretical way, it should be kept in mind in future empirical research, above all when the tests used are solely receptive or productive, since the results may be misleading. Thus, further research within the vocabulary acquisition domain should ideally be carried out with a combination of instruments that examine both receptive and productive vocabulary and analyse the results as complementary.

As for other influencing factors in vocabulary acquisition, the first two studies in this thesis also examined age and word frequency effects. Concerning age, RQ1.2 investigated whether older participants (5-year-olds) would be able to acquire a greater amount of receptive vocabulary than their younger counterparts (4-year-olds). It was hypothesised that older students would show significantly greater vocabulary acquisition rate than younger learners, considering that previous research had reported such results (e.g., Muñoz, 2006). However, these were not the results reported in the present dissertation, in which no differences were found between the results in receptive vocabulary tests between the older and younger learners. In our specific case, older students were able to correctly recall a greater amount of target words than their younger counterparts, but they had also been tested through longer tests. Consequently, percentages of correct responses were used to compare the results between the younger and older groups of students, and no significant differences emerged, despite the percentage of correct answers being slightly bigger in the case of the older students.

Thus, although previous research has found that older learners seem to have higher vocabulary acquisition rates (e.g., Muñoz, 2006), the results reported in the present dissertation do not align with such previous findings. In this case specifically, the lack of significantly higher results in the older learners' groups, as compared to the younger ones may be attributed to the small difference in age between the participants, namely only one year. Thus, it remains to be studied whether these differences would appear over longer treatment periods, or with a bigger age difference, for instance, had the younger students been tested at the age of 3, at the very onset of the second cycle of pre-primary schooling in Catalonia. Therefore, there is a need for further research in the shape of longer longitudinal studies, to examine the differences in vocabulary rates of students with different AOA, to better understand their FL acquisition learning process since such young ages.

Finally, frequency effects on receptive and productive vocabulary acquisition were respectively analysed to answer RQ1.3 and RQ2.2. It was hypothesised that scores for high-frequency target words would be higher than for low-frequency ones, and, thus, that higher-frequency words would be easier to recall and produce by the participants than lower-frequency

lexical items. Such a hypothesis was formulated considering the conclusions reported by researchers that have studied frequency and coverage in English. In this domain, it has been found that there is a rather small amount of very high-frequency words (around 3,000) that provide a very wide coverage (about 90%) in general English texts (Nation, 2013; Vilkaitè-Lozdiené & Schmitt, 2020). As such, these high-frequency words allow for communication since very early stages of FL learning. In addition, they are also extremely frequent, increasign the number of times that a language learner will encounter them, which can ultimately facilitate their acquisition (Albaladejo, et al., 2018; Alexiou, 2015; Vilkaitè-Lozdiené & Schmitt, 2020).

In the first two studies that are part of the present dissertation, the hypothesis above stated was fully confirmed, since both in the receptive test and the productive one, students were able to recall and produce a significantly greater number and percentage of high-frequency words of the first three 1,000 bands of the BNC and NGSL corpora, than low-frequency words. Such findings bring along an important pedagogical implication for teachers of students in the early stages of FL learning: prioritizing the learning of high-frequency words at beginning stages of learning a FL may be a good starting point, considering that such words are learnt faster, encountered more often, and allow for basic communication.

In sum, the first two studies of the present dissertation have, on the one hand, examined receptive and productive vocabulary acquisition through soft-CLIL in pre-primary education EFL learners, and, on the other hand, analysed age and word frequency effects. Since this is a very under-researched age group, the findings reported may provide relevant insights for pre-primary education FL teachers and policy makers, to help tailor FL instruction better, considering the young age of such learners. Nonetheless, there is a dearth of research with such young participants and, thus, there is a need for further studies, as mentioned above throughout this section, to better understand the FL learning process that such young learners go through and, ultimately, provide more suitable pedagogical interventions.

8.2 Study 3: Teachers' Perceptions of CLIL in Pre-primary

The third study that makes up this dissertation examined pre-service and in-service pre-primary teachers' perceptions of CLIL implementation at such early educational stages. This last study followed a mixed methods approach, that relied on data collected through an online survey. More specifically, it aimed to (1) examine the knowledge that pre-primary teachers have of the CLIL approach, (2) identify the potential benefits and challenges that CLIL may bring along for pre-primary students and teachers, and (3) analyse teachers' readiness to start implementing CLIL in pre-primary to (4) ultimately identify their main teaching and training needs.

To address such objectives, five research questions were formulated. RQ3.1 focused on analysing the level of knowledge that pre-service and in-service pre-primary teachers have about the CLIL approach. As hypothesised, there was a big percentage of teachers who were not familiar with the approach, more specifically, about a third of in-service teachers, and two thirds of pre-service teachers. Such hypothesis, and our results, are in line with previous research in this domain, in which primary and higher education teachers reported low levels of CLIL knowledge (McDougald, 2015; Savić, 2010, Tachaiyaphum & Sukying, 2017).

The differences found between both groups of teachers in our results could be explained by the fact that in-service teachers are more experienced and have undergone more teacher training programmes or courses during their professional career than pre-service teachers, who are still at the beginning stages of their training and teaching experience. However, due to the rapid spread of CLIL within the latest decades, it would be expected for teacher training programmes (e.g., undergraduate studies for pre-service teachers) to be updated and provide relevant methodological training, such as for CLIL implementation in EU countries, since this approach is part of the EU's strategy towards multilingualism.

RQ3.2 and RQ3.3 enquired onto the expected benefits and challenges that CLIL implementation could entail for pre-primary education students and teachers respectively. In general terms, when it comes to CLIL benefits and challenges for pre-primary students, two main findings can be observed in our results: (1) there is a bigger percentage of teachers mentioning potential CLIL benefits than challenges, and (2) the number of codes reporting benefits is bigger than the number of codes referring to challenges. Such findings could be interpreted as the teachers having overall positive expectations of what CLIL implementation may bring to pre-primary students. However, when it comes to CLIL benefits and challenges for pre-primary teachers, the picture is slightly different: (1) the percentage of teachers reporting benefits and the percentage reporting challenges remain quite similar, with the exception of four codes (improvement and practice in the FL, innovative teaching, training, and low FL level) that accumulated a bigger percentage of mentions, and (2) contrary to the figures refereeing to the students, in this case, there is a longer list of codes refereeing to potential challenges for CLIL teachers than benefits. All these findings are discussed in greater detail in the following paragraphs.

As for RQ3.2 specifically, which focused on CLIL's potential benefits, it was hypothesised that the skills that teachers would expect to be enhanced the most through CLIL in their students would be related to the children's linguistic development, more specifically, to communication and vocabulary, as reported in previous studies on CLIL teachers' perceptions (e.g., Alcázar-Marmol, 2018; San Isidro & Lasagabaster, 2019). In line with this hypothesis, and

the findings reported in such studies, communication and interaction, and vocabulary were the skills that a greater percentage of teachers mentioned would be boosted through CLIL, alongside with overall FL improvement. In this case, it is worth mentioning that a larger percentage of pre-service teachers, than in-service teachers, mentioned such potential benefits. Similarly, a significantly large percentage of pre-service teachers (around 50%) also mentioned another linguistic skill that could benefit from CLIL, namely FL understanding and listening, as well as two personal competencies, namely higher self-confidence, and better preparation for their future.

As for the potential benefits of CLIL for the teachers involved, we expected teachers to regard CLIL as a chance for them to further develop professionally, to receive additional specific training, and to improve and practice the FL. Such a hypothesis was formulated based on the little research that has been conducted regarding this specific topic, which has reported the three aspects just mentioned as the main beneficial opportunities that CLIL may entail for teachers (e.g., Hunt, 2011). Concerning our results, and despite the low percentage of teachers mentioning each of the topics identified in the coding process, there are three that outstood, in line with what was originally hypothesised: the improvement and practice in the FL, the innovative teaching (equivalent to professional development), and the training opportunities.

Regarding the differences between the two groups of teachers analysed, it is worth pointing out that there was a significantly larger percentage of pre-service teachers that mentioned potential CLIL benefits for both stakeholders, as compared to in-service teachers. Such results lead us to believe that pre-service teachers seem to be more positive and open minded concerning the potential benefits of CLIL. Similar results were reported in a previous study by Amat et al. (2017), in which pre-service teachers showed positive views of the CLIL approach.

RQ3.3 focused on the potential CLIL challenges for pre-primary students and teachers. On the one hand, considering what previous researchers in the filed have reported, it was hypothesised that the main setbacks for students that teachers would mention would be related to (1) their low FL level, preventing communication (Infante et al., 2009; Johnson, 2012) and in-depth content learning (Massler, 2012; Pavón, 2014; Pena & Porto, 2008), (2) the potential impairment of the L1 (Pena & Porto, 2008), due to CLIL additional hours being in detriment of L1 hours, and (3) the lack of individualised attention and support (Massler, 2012; Pena & Porto, 2008; Pladevall-Ballester, 2015). In this case, the results reported in study 3 partially aligned with such a hypothesis. First, as hypothesised, the understanding of the FL, the low FL levels, the FL acting as a communication barrier, and the lack of in-depth content learning were four of the challenges that the surveyed teachers mentioned the most. Second, although the possible negative side-effects of CLIL on the L1 were mentioned by a smaller percentage of teachers, the confusion between languages (namely L1 and FL) was the biggest concern in pre-service teachers. Third,

an equally small percentage of teachers in both groups did mention CLIL entailing an additional challenge to students with pre-existing learning difficulties, although this concern was not at the top of the challenges list. Additionally, some setbacks mentioned by a smaller percentage of teachers in both groups were the difficult adaptation to CLIL, the students feeling lost, insecure, or frustrated, and consequently their attention loss and potentially lower motivation.

The identification of such potential challenges for young CLIL learners provides insightful information for young learners' CLIL teachers. Carefully considering the expected challenges in pre-primary CLIL students may be an appropriate starting point for CLIL programme design and planning. Seeing that low FL levels seem to be the biggest expected challenge, and the one triggering most of the other ones, a potential teaching strategy would be to provide massive amounts of scaffolding, and carefully planning lessons and tasks in a progressive way, to prevent CLIL learners from feeling lost and frustrated, and help them maximise their learning of both the FL and the content.

On the other hand, as for the potential CLIL challenges for pre-primary teachers, based on previous research findings, it was hypothesised that teachers would struggle due to (1) the additional workload and lack of CLIL materials (Cammarata, 2009; Campillo et al., 2019; McDougald, 2015, Lova, et al., 2013; Savić, 2010), (2) their own low FL levels (Banegas, 2012; Massler, 2012), and (3) the lack of previous specific training (Alcazar-Mármol, 2018; Campillo, et al., 2019; Pena & Porto, 2008). As expected, the setback that a significantly greater percentage of teachers in both groups mentioned was their low FL levels, which in turn can lead to communication problems, codeswitching, and less content transmission in the FL than through the L1. Although this was the challenge mentioned by the biggest percentage of teachers by far, it is also relevant to highlight that the list of setbacks that teachers mentioned related to their potential CLIL practice was rather long. As hypothesised, teachers mentioned the additional workload, which can potentially arise from the course preparation and programming to guarantee content and language integration, the creation of materials, and the adaptation of evaluation systems, among others. Finally, our results indicate that teachers feel insecure, and that in-service teachers specifically feel that CLIL may bring along a decrease in their motivation or foster frustration due to the additional workload and lack of specific training.

The findings just reported regarding the challenges that CLIL may entail for pre-primary teachers show that there is still room for improvement in teacher training programmes, which do not seem to have caught up with the rapidly increasing spread of CLIL in the EU. Teachers still feel unprepared, in terms of their FL levels, and the methodological aspects of the CLIL approach, namely those related to programming, integration, preparation of materials, and design of evaluation systems. Thus, the identification of such challenges can hopefully provide guidelines

for teacher trainers, both for pre-service undergraduate levels, and for in-service continuous training courses, to better equip future and current CLIL teachers.

RQ3.4 examined teachers' readiness to start implementing CLIL. Previous research studies have reported feelings of insecurity and hesitation both in in-service teachers (Alcazar-Mármol, 2018; Campillo et al., 2019; Pavón et al., 2015; Pena & Porto, 2008), and pre-service teachers (Amat, et al., 2017; Cortina-Pérez & Pino, 2021) when asked whether they felt ready to implement CLIL. Consequently, and considering that CLIL has not yet spread in pre-primary levels, in our study, it was hypothesised that the majority of pre-primary teachers surveyed in the present study would indeed not feel ready to start teaching through CLIL. More specifically, it was expected that a bigger percentage of pre-service teachers, than in-service ones, would show a lack of readiness. The findings reported in study three of the present dissertation confirm such a hypothesis and align with the findings reported in the previous studies abovementioned.

In sum, the results regarding teachers' readiness to implement CLIL in pre-primary showed that about half of the surveyed in-service teachers, and two thirds of the pre-service teachers did not feel ready. Such findings are concerning since AOA is being brought down and innovative teaching approaches such as CLIL are being implemented earlier on in schools. Thus, the lack of teachers who feel ready, who are trained, and who are willing to teach using such an approach may pose a problem in the event that CLIL practices keep spreading in earlier educational stages, such as pre-primary.

Finally, RQ3.5 aimed at identifying the main teaching and training needs for potential pre-primary CLIL teachers. Previous research studies have examined primary and secondary education CLIL teachers' needs, and have reported three main conclusions: (1) there is a lack of adapted materials and didactic units (Cammarata, 2009; Campillo et al., 2019), (2) it is essential that schools facilitate and encourage opportunities for collaborative and interdisciplinary (L1, FL, and content) work among teachers (du Plessis & Louw, 2008; Massler, 2012; Pavón, 2014; Pavón & Ellison, 2013; San Isidro & Lasagabaster, 2019; Savić, 2010), and (3) there is a generalized need for further teacher training, both to improve teachers' FL proficiency level (Massler, 2012), and to provide them with the appropriate methodological knowledge (Alcazar-Mármol, 2018; Campillo et al., 2019; Pena & Porto, 2008). Considering such findings, it was hypothesised that pre-primary teachers would identify similar teaching and training needs, namely related to the lack of materials, the need for teacher cooperation, and the lack of training.

In the present study, teachers were asked about which aspects would help them feel more prepared to implement CLIL in pre-primary. This allowed to identify their main needs, which, as hypothesised, were related to the lack of materials and guidelines for their adaptation, and the lack of FL and methodological training. A smaller percentage of teachers mentioned the need of

support from other teachers in the school or the need to be informed about CLIL programmes implemented in other schools. In addition, it is worth mentioning that the percentage of pre-service teachers mentioning each of these needs was greater than the percentage of in-service teachers.

Such findings suggest that teacher training programmes still have room for improvement. On the one hand, they should focus on fostering the development of future CLIL teachers' FL skills, as well as on providing them with enough theoretical methodological knowledge about the approach, to guarantee its adequate implementation. On the other hand, they should include a practical module in which teachers are presented with resources and guidelines for the creation or adaptation of materials and didactic units, since this seems to be a recurrent concern reported in many studies.

To summarize, the third study in the present dissertation has aimed at examining pre-primary pre-service and in-service teachers' level of knowledge and perceptions of CLIL. More specifically, the potential benefits and challenges of CLIL in pre-primary education have been analysed, and the main teaching and training needs for teachers have been outlined. Although CLIL programmes are, to date, not extremely popular in pre-primary levels, the results of the present study provide relevant conclusions, which can ultimately guide school principals and teacher trainers to provide, respectively, the adequate support and training to current and future teachers. As such, pre-primary teachers should be better equipped to implement integrated or holistic teaching approaches such as CLIL, which are becoming more popular at the earlier years of schooling.

Chapter 9. Conclusions

The present doctoral dissertation has sought to examine CLIL implementation in pre-primary education though a double approach by conducting three complementary quantitative and qualitative research studies. On the one hand, the effects of a 6-month soft-CLIL programme on receptive and productive vocabulary acquisition by EFL pre-primary education students were investigated. On the other hand, the perceptions of pre-primary pre-service and in-service teachers were studied to identify the potential benefits, challenges and needs of CLIL implementation in pre-primary.

Regarding EFL vocabulary acquisition by pre-primary students through CLIL, three main findings and three subsequent pedagogical implications are worth highlighting. First, it was found that the soft-CLIL approach allowed pre-primary learners to acquire not only the same amount of basic high-frequency vocabulary as their peers following conventional EFL instruction, but also to acquire a wider amount of low-frequency words with the same exposure time to EFL within the school. Thus, it could be concluded that restricting the amount of vocabulary that pre-primary students are presented with is rather limiting for the learners, who could be acquiring a larger amount of vocabulary through a naturalistic and meaningful approach such as CLIL. However, the lack of significant differences between both groups when tested in the basic words indicates that a 6-month CLIL programme may not have been enough for such young learners to fully benefit from it. Such finding may indicate that for students to fully benefit from CLIL at such early ages and levels of EFL proficiency, there needs to be longer programme continuity, in the shape of longer longitudinal CLIL programmes.

Second, when students' receptive and productive vocabulary acquisition was studied by comparing their results in both tests, it was found that significantly higher scores were obtained by all groups in the receptive test than in the productive one. Such findings indicate that it is possible that students, especially at the early stages of FL learning, have partial knowledge of lexical items. As such, they may have receptive knowledge of a word, but may need more time to develop productive knowledge of that word. It is important that FL teachers are aware of such a progression in vocabulary acquisition, since learners may understand more than they are able to produce, but that does not mean that they are completely unfamiliar with certain vocabulary.

Third, word frequency seems to play a crucial role at the early stages of learning any FL. That is because there is a rather limited number of words that are extremely frequent and that provide a wide coverage of basic interactions in English. Since these words are so frequent, they are encountered very often and, thus, acquired faster, which in turn allows the learners to start

communicating from early FL learning stages. Such findings provide the third relevant pedagogical implication: FL teachers of low level students should consider starting with high-frequency words, so that learners can quickly acquire a large amount of vocabulary and begin to communicate in the FL. Later on, once learners have already built a solid base with high-frequency words, lower-frequency words can be introduced, which will provide them with more specialised vocabulary. Keeping in mind such a vocabulary learning progression becomes especially relevant in contexts where CLIL is implemented, in which interaction is key.

The three main takeaways just summarized can hopefully contribute to the design of FL instruction programmes in pre-primary education, considering that AOA is being brought down. It is also hoped that the encouraging results reported enhance the implementation of naturalistic and immersion-like programmes, such as CLIL, starting at the early years of schooling, to allow students to fully benefit from them in the long term.

As for teachers' perception regarding the potential implementation of CLIL in pre-primary education, the results of the third study have shown that teachers are still rather unfamiliar with the principles of such an approach, despite its rapidly increasing implementation within the latest decades. In addition, our results showed that teachers' positive expectations outweigh the potential challenges. In the case of the students, it is expected that their vocabulary and communication abilities will be boosted through CLIL, while in the case of the teachers, they see CLIL implementation as a way for them to innovate in their teaching practices and improve their FL skills. When it comes to the challenges that CLIL in pre-primary may entail, teachers have shown concerns about the students' low FL being an obstacle for understanding, communicating and content learning. Similarly, they are worried about how students with pre-existing learning difficulties may react to CLIL at such young ages.

Finally, the potential challenges for CLIL teachers were also examined, which ultimately allowed us to identify their teaching and training needs. Our results showed that pre-primary teachers feel unprepared to teach through CLIL due to the additional workload that it would entail, their own low FL level, and above all the lack of training. Thus, it seems that teachers are in need of further support, in the shape of cooperation with other teachers and of accessibility to materials and didactic units. In addition, they are also in need of further training to improve their FL competencies, and to get familiarized with the CLIL approach itself. Such results indicate that, despite their lack of methodological knowledge regarding the CLIL approach, pre-primary teachers are positive about its potential positive effects. However, there is still work to be done to provide them with the adequate materials, support, and training.

In sum, the findings reported in the studies that compile the present dissertation contribute significant data to the field of FL learning and teaching, since they are among the first ones to

examine CLIL implementation at the pre-primary education stage. However, due to the dearth of research focusing on this age group, generalizations are not possible at this point. Therefore, there is a need for further longitudinal studies investigating the effects of CLIL programmes of different intensities and characteristics on pre-primary education students' FL development. Similarly, further qualitative research should be conducted as more CLIL programmes are implemented in pre-primary, to identify the main challenges, to improve teacher training programmes to better equip future CLIL teachers, and to allow school administrators to provide CLIL teachers with the adequate support and resources.

It is hoped that by examining the effects of CLIL on EFL vocabulary acquisition, examining teachers' perceptions, and identifying the main teaching and training needs, the three studies in this dissertation have provided a starting point for more research in the pre-primary education stage to be carried out. This is especially important because AOA is being brought down while the implementation of naturalistic approaches such as CLIL is also gaining ground in younger education stages.

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Appendices

Appendix 1 Acceptance Letters from Journal Editors

Study 1

Segura, M., Roquet, H., & Barón, J. (2021). Receptive vocabulary acquisition in pre-primary education through soft-content and language integrated learning. *English Language Teaching. Canadian Center of Science and Education, 14*(10), 1-22. https://doi.org/10.5539/elt.v14n10p1

Dear Marta Segura,

Thank you for your submission to the journal. We have reached a decision regarding your submission. Please find the result report attached.

Please confirm receipt of this e-mail.

Thank you.

Note: We encourage authors share their published articles on social network and repositories, such as SSRN, arXiv academia.edu, ResearchGate, RePEc, Google Scholar, Linkedin, Facebook, etc.

Best Regards,

Gavin Yu
English Language Teaching
Canadian Center of Science and Education
****

Result report attached to acceptance email:

English Language Teaching   http://elt.ccsenet.org

Result of Review

Article Title: Vocabulary Acquisition in Pre-Primary Education through Soft-Content and Language Integrated Learning

Author(s): Marta Segura, Helena Roquet& Júlia Barón

Decision of Paper Selection

( ) A. Accept submission, no revisions required.

(*) B. Accept submission, revisions required; please revise the paper according to comments.

( ) C. Decline submission; you may revise and resubmit for review.

( ) D. Decline submission.

Study 2

Segura, M., Barón, J., & Roquet, H. (2022). Productive vocabulary development in pre-primary through soft CLIL. *Open Linguistics, 8*(1), 297-327. https://doi.org/10.1515/opli-2022-0194

Ref.: Ms. No. OPLI-D-22-00019R1
Productive Vocabulary Learning in Pre-Primary Education through Soft CLIL
Open Linguistics

Dear Ms Segura,

I am pleased to tell you that your work has now been accepted for publication in Open Linguistics.

It was accepted on May 30, 2022

Comments from the Editor and Reviewers can be found below.

Thank you for submitting your work to this journal.

With kind regards

Katarzyna Michalak
Managing Editor
Open Linguistics

Study 3

Segura, M. (Accepted). CLIL in pre-primary education: The views of in-service and pre-service teachers. *Bellaterra Journal Of Teaching & Learning Language & Literature*.

Marta Segura:

We have reached a decision regarding your submission to Bellaterra Journal of Teaching & Learning Language & Literature, "CLIL in Pre-Primary Education: The Views of In-Service and Pre-Service Teachers".

Our decision is to: Accept Submission

_____

Bellaterra Journal of Teaching & Learning Language & Literature
https://revistes.uab.cat/jtl3

Appendix 2 Vocabulary List per Unit and Group

Autumn and Halloween Unit

Grade	Basic vocabulary for control and experimental groups		Experimental group added vocabulary	
P4	Orange Brown Yellow Green Red Tree Squirrel	Cat Rainy Windy Halloween Ghost Moon Bat	Leaf / leaves Worm Snail Owl	Acorn Witch Pumpkin Night
P5	Leaf / leaves Orange Brown Yellow Green Red Tree Snail Squirrel	Cat Rainy Windy Halloween Ghost Moon Bat Pumpkin Skeleton	White Black Chestnut Worm Owl Acorn	Mushroom (Water) boots Raincoat Stormy Witch Night

Winter and Christmas Unit

Grade	Basic vocabulary for control and experimental groups		Experimental group added vocabulary	
P4	Snow Snowman Buttons Snowflake Jacket Gloves Scarf Hat Presents Christmas tree	Cold Frozen Snowy Penguin Polar bear Jesus Three wise men Bethlehem Angel Shepherd	Carrot Hot chocolate Snowball Coat	Boots Reindeer Star
P5	Snow Snowman Buttons Snowflake Jacket Gloves Scarf Hat Presents Christmas tree Cold Frozen Snowy Penguin	Polar bear Carrot Hot chocolate Snowball Coat Boots Reindeer Star Jesus Three wise men Bethlehem Angel Shepherd	To ice-skate Footprints Snow angel Snowball fight	Sledge Fairy lights Chimney Candy stick

Appendix 3 Sociolinguistic Background Questionnaire

Dear parents,

We are carrying out a research project together with the [*University Name*] and the objective of the study is to investigate the acquisition of English as a foreign language in pre-primary education. Considering that vocabulary acquisition is one of the most important aspects of language learning during the first stages, the goal of the present research project is to promote vocabulary learning in English during the early years of education.

We ask you to fill in the present questionnaire, so that we can learn about the students' language learning background and their exposure to English outside of school. Answering the questionnaire will take around 10 minutes. If you currently have more than one child in pre-school in this school, please answer this questionnaire once for each child.

All information given here will remain confidential. The data resulting from your child's participation may be available to other researchers in the future for research purposes not detailed within this consent form. In these cases, the data will contain no identifying information that could associate it with your child, or with your child's participation in any study.

If you decide to let your child participate in this project, this form will be used to record your permission. Your child's participation in this study is voluntary and you can always withdraw from the study at any stage.

If you have any questions regarding the research project, please contact your child's English teacher or tutor.

Thank you for your participation.

- Please write your child's name, grade, and class: _____

- Do you consent to your child participating in this research project?

       ☐ Yes, I do.   ☐ No, I don't. *(End of the questionnaire)*

Part 1. General information about the student

- Gender: ☐ Male   ☐ Female

- Does your child have any hearing problems? ☐ Yes   ☐ No   ☐ Other: _____

- Date of birth of your child (day, month, year): _____

- Grade and class of your child: ☐ P4 – A   ☐ P5 – A   ☐ P4 – B   ☐ P5 – B

- Where was your child born? _____

- If your child was not born in Catalonia, how long has he/she been living here for?

    ☐ 1 to 6 months   ☐ 6 months to 1 year   ☐ 1 to 2 years

    ☐ 2 to 3 years   ☐ 3 to 4 years   ☐ More than 4 years

- Has your child ever lived in an English-speaking country?   ☐ Yes ☐ No

- If so, where, for how long and how old was he/she: _____

Part 2. Student's linguistic background

- What language(s) is the mother tongue of your child?

    ☐ Catalan ☐ Spanish ☐ Other: _____

- If in the previous question you have stated that your child has more than one mother tongue, which is the language that he/she uses more often? Which is his/her dominant language?

    ☐ Catalan ☐ Spanish ☐ Other: _____

- Does your child know any other foreign languages?

    ☐ Yes   ☐ No

- If so, which ones? Write them in order of acquisition (start with the language that he/she learnt first, and end with the ones he/she is still learning): _____

- How often does your child use each of the languages he/she knows? Mark it with an (x) in the following table:

	Never	**Rarely**	**Sometimes**	**Usually**	**Always**
Catalan					
Spanish					
English					
Other language: _____					

Part 3. Family background

<u>About the student's siblings</u>

Answer the following questions only if your child has any siblings. If he/she has no siblings, move on to the next section.

- Does your child have any siblings?

    ☐ Yes   ☐ No

- If so, how old are they?

☐ Younger than 2 years old   ☐ Between 2and 5 years old

☐ Between 5 and 8 years old   ☐ Between 8 and 12 years old

☐ Between 12 and 15 years old   ☐ Older than 15 years old

- Do your child's siblings study English?

☐ Yes   ☐ No

About the student's mother

If the child does not live with the mother or has no frequent contact with the mother, answer "Does not apply" to the questions in this section.

- Place of birth of the mother:

☐ Catalonia   ☐ Does not apply   ☐ Other: _____

- Educational level of the mother:

☐ Primary school   ☐ Secondary school

☐ Professional training   ☐ Undergraduate / Bachelors

☐ Masters / Postgraduate   ☐ Doctorate / PhD

☐ Does not apply   ☐ Other: _____

- Mother's occupation: _____

- What is the mother's mother tongue?

☐ Catalan   ☐ Spanish   ☐ Does not apply   ☐ Other: _____

- What other foreign languages does the mother speak?

☐ Catalan   ☐ Spanish   ☐ English

☐ None   ☐ Does not apply   ☐ Other: _____

- What is the mother's overall English proficiency?

☐ Native level ☐ Advanced level   ☐ High level   ☐ Intermediate level

☐ Low level ☐ Level zero   ☐ Does not apply

- How often does the mother use English?

☐ Every day   ☐ Some times a week   ☐ Once a week

☐ Some times a month   ☐ Once a month   ☐ Some times a year

☐ Never   ☐ Does not apply

<u>About the student's father</u>

- Place of birth of the father:

☐ Catalonia ☐ Does not apply ☐ Other: _____

- Educational level of the father:

☐ Primary school   ☐ Secondary school

☐ Professional training ☐ Undergraduate / Bachelors

☐ Masters / Postgraduate ☐ Doctorate / PhD

☐ Does not apply   ☐ Other: _____

- Father's occupation: _____

- What is the father's mother tongue?

☐ Catalan ☐ Spanish ☐ Does not apply ☐ Other: _____

- What other foreign languages does the father speak?

☐ Catalan ☐ Spanish ☐ English

☐ None ☐ Does not apply ☐ Other: _____

- What is the father's overall English proficiency?

☐ Native level ☐ Advanced level ☐ High level ☐ Intermediate level

☐ Low level ☐ Level zero ☐ Does not apply

- How often does the father use English?

☐ Every day   ☐ Some times a week ☐ Once a week

☐ Some times a month ☐ Once a month   ☐ Some times a year

☐ Never   ☐ Does not apply

<u>About the student's grandparents</u>

- What is the mother tongue of the child's maternal grandparents?

☐ Catalan ☐ Spanish ☐ Does not apply ☐ Other: _____

- What is the mother tongue of the child's paternal grandparents?

☐ Catalan ☐ Spanish ☐ Does not apply ☐ Other: _____

About the languages the student speaks with his/her family

- For the family members that appear in the following table, indicate (1) if they live with your child and (2) which language they use to speak with your child. Answer only the rows about people who are usually in contact with your child.

	Lives with the child?		Which language do they use to communicate?			
	Lives with the child	Does not live with the child	Speaks mostly Catalan with the child	Speaks mostly Spanish with the child	Speaks Catalan and Spanish with the child	Speaks another language with the child
Mother						
Father						
Mother's partner						
Father's partner						
Siblings						
Maternal grandmother						
Maternal grandfather						
Paternal grandmother						
Paternal grandfather						
Other: _____						

- If in the previous questions you have selected "speaks another language with the child", write the person and the language he/she uses to communicate with the child. _____

_____

_____

Part 4. Student's contact with English

- When did your child start studying English in the school?

       ☐ P3   ☐ P4   ☐ P5

- Does your child attend English extracurricular classes?

       ☐ Yes   ☐ No

- If your child attends English extracurricular activities, at what age did he/she start?

       ☐ Younger than 2 years old   ☐ Between 2 and 3 years old

       ☐ Between 3 and 4 years old   ☐ Between 4 and 5 years old

- Indicate in the following table how much time per week (outside of school) is your child in contact with English doing each of the following activities:

	Time per week							
	Never	Less than 30 min	30 min to 1 hour	1 to 2 hours	2 to 3 hours	3 to 4 hours	4 to 5 hours	More than 5 hours
Watching television, movies or cartoons								
Watching Youtube or other videos								
Listening to songs								
Reading books								
Extracurricular or private lessons								
Other extracurricular activities								
Social interaction (with parents, other family members, friends, babysitters…)								
Interaction with a native speaker of English								
Playing games or video games								

- If your child participates in other extracurricular activities in English, name the activities:

_____

_____

_____

Part 5. Opinions about learning English

Child's involvement in learning English

- Your child tells you about the English lesson. ☐ Yes   ☐ No

- Your child practices English at home.   ☐ Yes   ☐ No

Child's attitudes towards learning English

- Your child is keen to learn English.   ☐ Yes   ☐ No

- Your child likes to talk in English.   ☐ Yes   ☐ No

Parents opinions about their child's learning English

- Early English learning is useful for children.

    ☐ Strongly agree   ☐ Agree   ☐ Neutral

    ☐ Disagree   ☐ Strongly disagree

- Early English learning helps achieving a higher proficiency in later life.

    ☐ Strongly agree   ☐ Agree   ☐ Neutral

    ☐ Disagree   ☐ Strongly disagree

- The earlier education in English starts, the better.

    ☐ Strongly agree   ☐ Agree   ☐ Neutral

    ☐ Disagree   ☐ Strongly disagree

Thank you

This is the end of the questionnaire. Thank you very much for your contribution to our research project.

Appendix 4 Sample of Basic Curriculum Words Receptive Test

Receptive Vocabulary Test Training Items
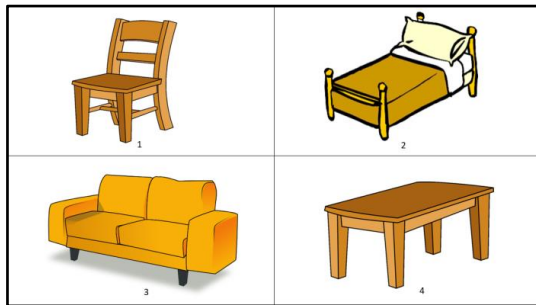
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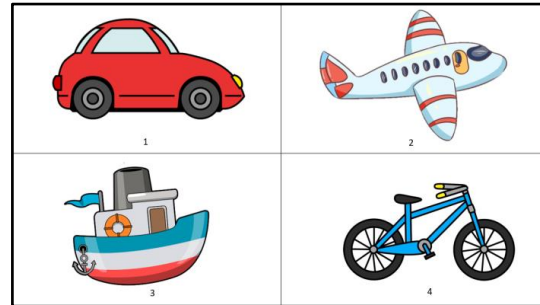
CAR

P4 Basic Curriculum Receptive Vocabulary Test
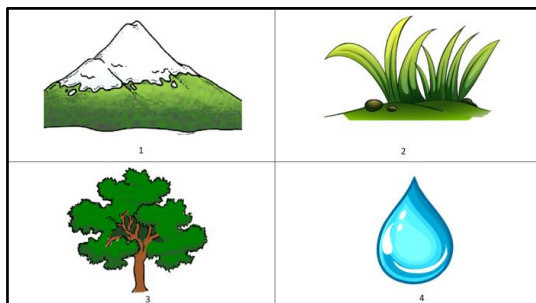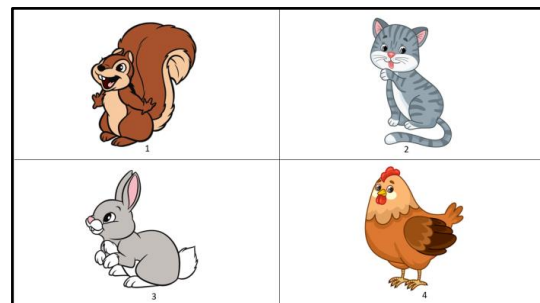
TREE

SQUIRREL
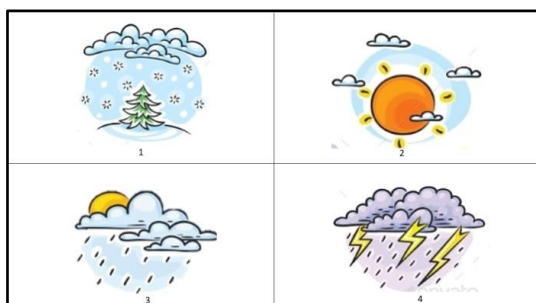
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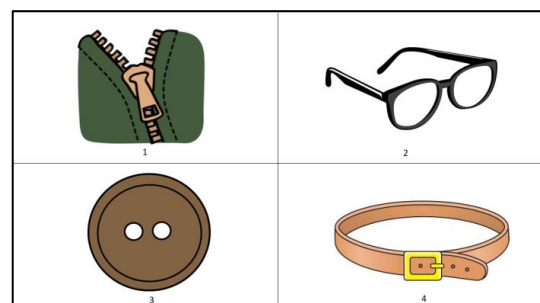
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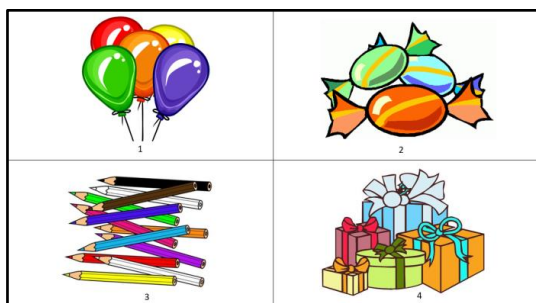
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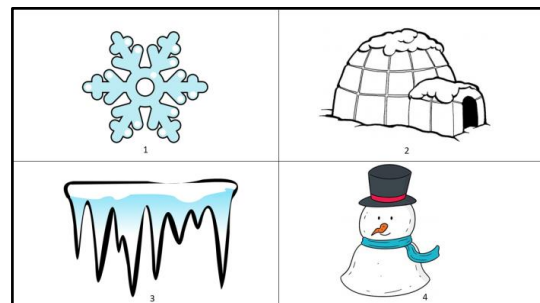
SNOWMAN
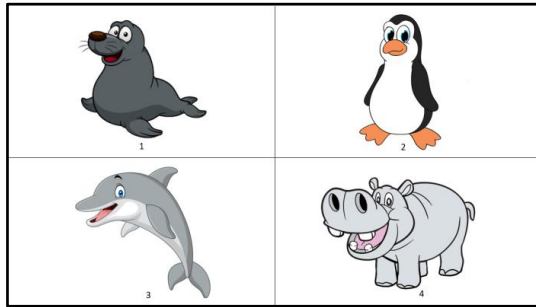
PENGUIN
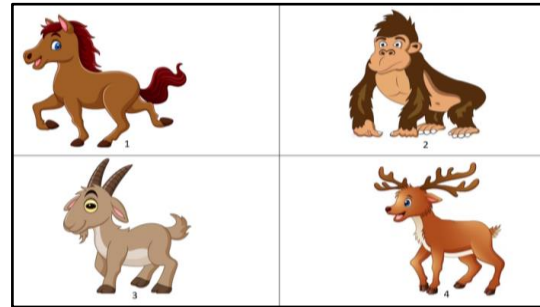
REINDEER

P5 Basic Curriculum Receptive Vocabulary Test (Additional to the P4 Test)
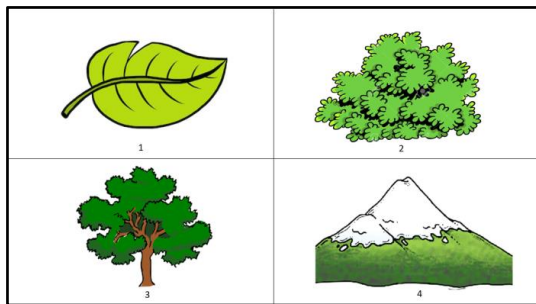
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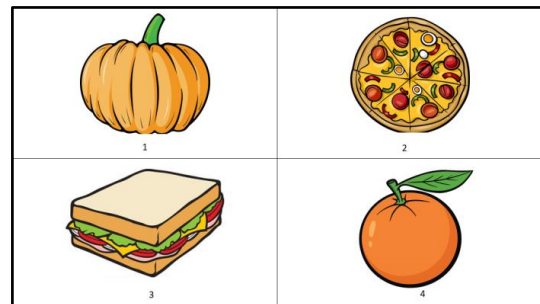
PUMPKIN

NIGHT
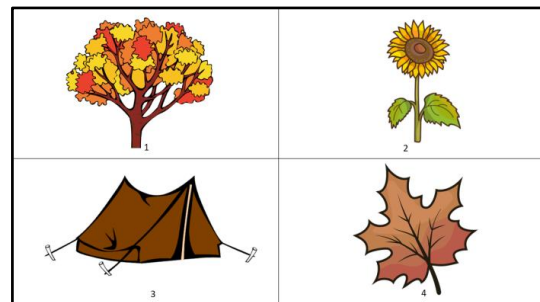
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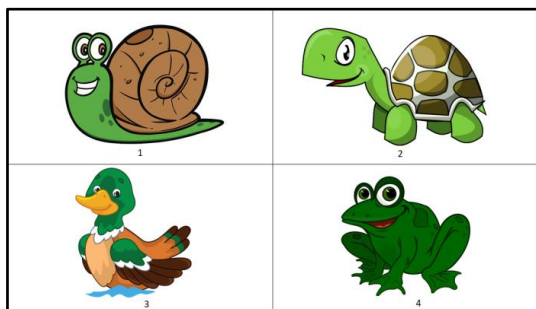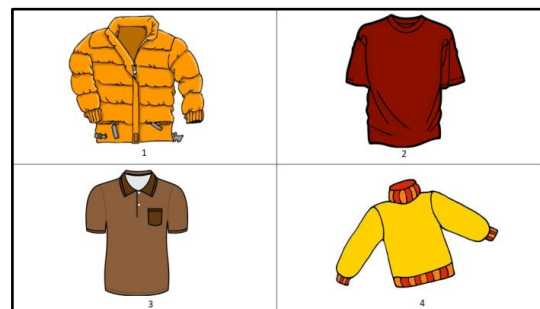
SNAIL

COAT

Appendix 5 Sample of Additional Target Words Receptive Test

P4 Added Target Words Receptive Vocabulary Test
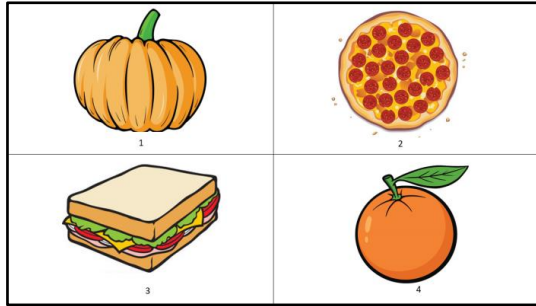
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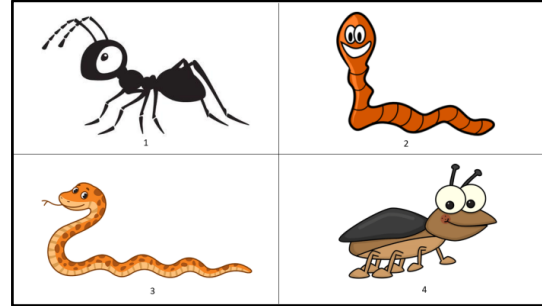
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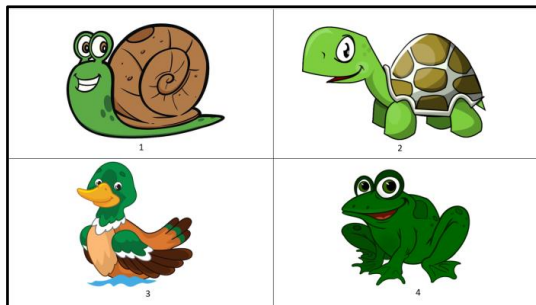
SNAIL
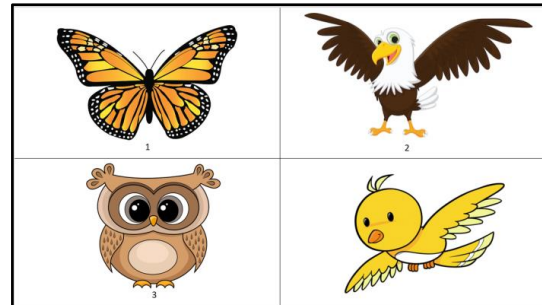
OWL
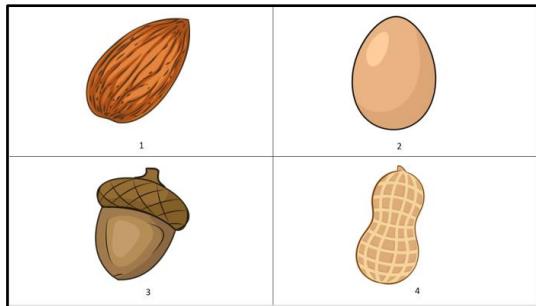
ACORN

COAT

P5 Added Target Words Receptive Vocabulary Test (Additional to the P4 Test)
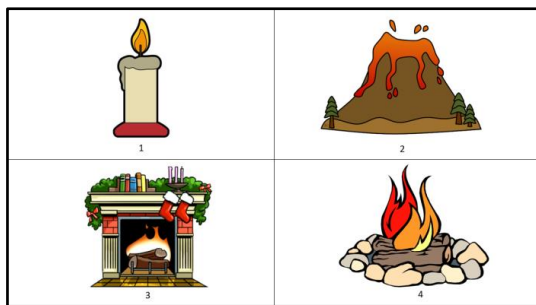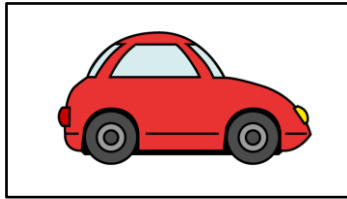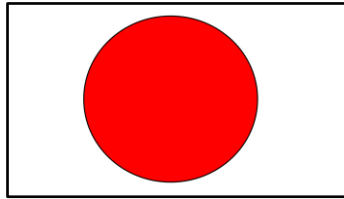

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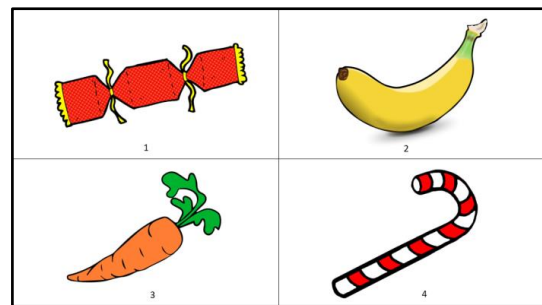
CANDY STICK
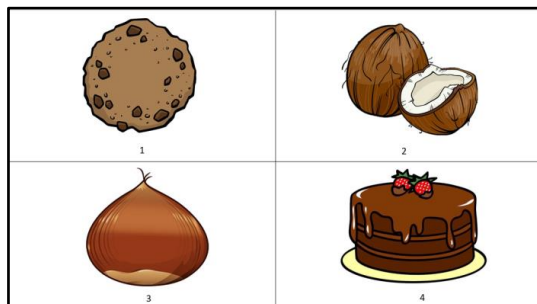
CHESTNUT
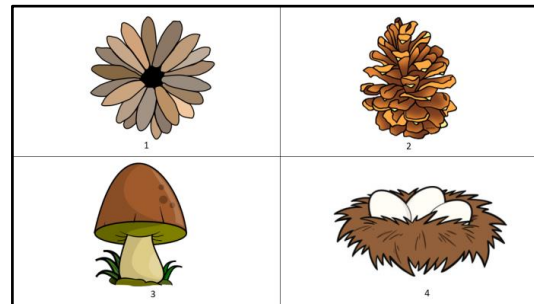
MUSHROOM
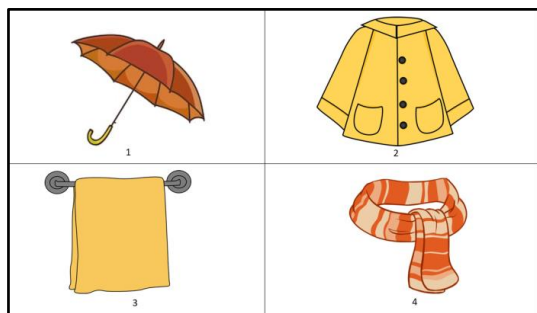
RAINCOAT
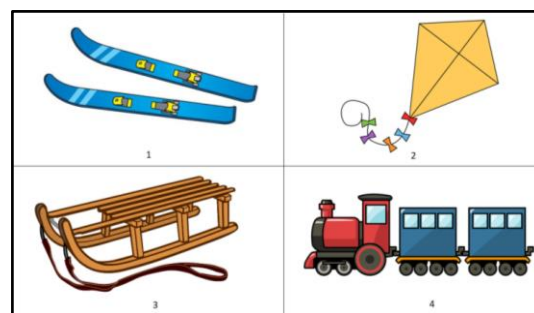
SLEDGE

Appendix 6 Sample of Basic Curriculum Words Productive Test
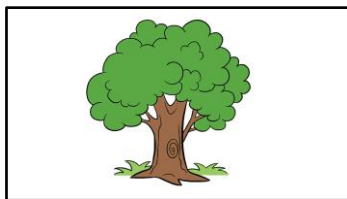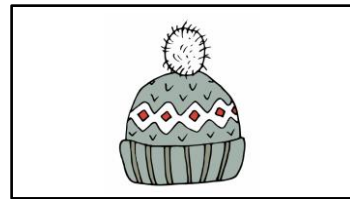
Productive Vocabulary Test Training Items
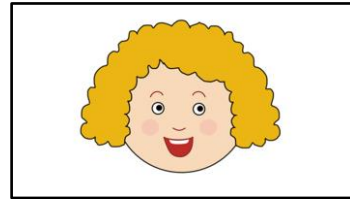
CAR	RED	HAPPY

P4 Basic Curriculum Productive Vocabulary Test

TREE	SQUIRREL	HAT
PRESENTS	CHRISTMAS TREE	SNOWMAN

P5 Basic Curriculum Productive Vocabulary Test (Additional to the P4 Test)

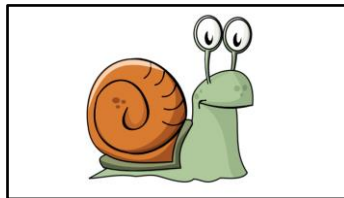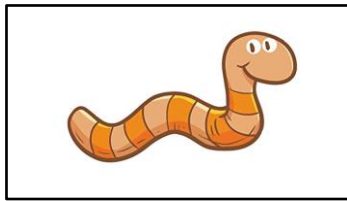|		
PENGUIN	PUMPKIN	NIGHT
LEAF	SNAIL	COAT

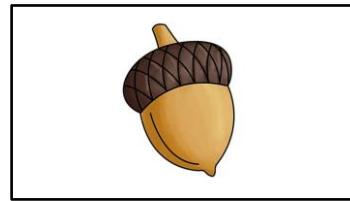## Appendix 7 Sample of Additional Target Words Productive Test

P4 Added Target Words Productive Vocabulary Test

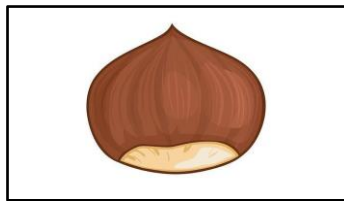| WORM | NIGHT | ACORN |

| COAT | STAR | OWL |

P5 Added Target Words Productive Vocabulary Test (Additional to the P4 Test)
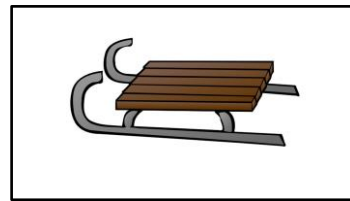

| CANDY STICK | CHESTNUT | MUSHROOM |

| WATER BOOTS | RAINCOAT | SLEDGE |

Appendix 8 In-Service Teachers Survey

Teaching English in Pre-Primary Education[19]

What is this research study about?

We are conducting a research project at [*University name*] focusing on the implementation of the Content and Language Integrated Learning (CLIL) approach in pre-primary education. The implementation of such an approach has gained ground in many schools, mostly in primary and secondary education levels. However, we aim to study its possible implementation in pre-primary education, a level in which its presence is still very scarce.

With this goal in mind, we have developed the present questionnaire, to learn about the perception that pre-primary teachers have about the possibility of implementing CLIL at this stage. We believe it is key to consider the opinions that the pre-primary schoolteachers have in regard to this approach, including its possible benefits for the students and teachers, but also the difficulties and challenges that its implementation in pre-primary may entail.

The questionnaire is organised around several sections to collect information about:
  (1) Academic background, teaching experience, CLIL knowledge, and experience.
  (2) Perceptions about the effects and benefits that CLIL may have on the students and teachers that are involved.
  (3) Opinions regarding potential difficulties and challenges of CLIL implementation.
  (4) Perceptions regarding the implementation of CLIL at the pre-primary stage specifically.

Confidentiality statement and consent form

All the information that you provide in this questionnaire will be anonymised and it will remain confidential. We are only asking for some personal data so that we are able to contact you in case we need further information about a specific answer. Afterwards this information will be anonymised and no data about the participants nor the schools will be disclosed. The results obtained from your participation may be made available to other researchers of the team in the future for research purposes not mentioned in the present consent form. If that were the case, the data would not include any identifying information that may associate it with you or your participation in the study.

---

[19] The original survey was administered in Catalan. However, for the purpose of the present study, it has been translated into English.

If you accept to participate, this questionnaire will serve to register your consent. Your participation is voluntary, and it can be withdrawn at any time if you change your mind.

If you have any questions regarding the research project, please contact [*researcher's name*]: [*researcher's email*]

Thank you for your participation.

1. Do you **agree to participate** in this research project?

- o   Yes, I accept to participate. *(Continue in Page 2)*
- o   No, I do not accept to participate. *(Go straight to Thank you page)*

Part 1. General data

This first part is composed of two main sections that will allow us to better understand your academic background, teaching experience, and knowledge about CLIL:

- -   The first part focuses on general aspects of your academic background and experience as a pre-primary education teacher.
- -   The second one aims to gather your general knowledge about CLIL.

General information

The information you give here will be anonymised and never made public. We are only asking it to understand your profile better and to be able to contact you in case we need more information about any of your answers in the questionnaire.

2(a). Name and surname: _____

2(b). Email address: _____

2(c). Gender: _____

2(d). Date of birth: _____

Academic background

3. What is your **academic background** as a teacher?

You can tick or list more than one item if you have several qualifications, or a double degree.

- ☐   Pre-primary education degree.
- ☐   Primary education degree.
- ☐   Other (please specify): _____

4. Did you **specialise in foreign language teaching**?

o   Yes.

o   No.

5. How would you rate your **English level**?

o   I don't speak English.

o   Low level.

o   Intermediate level.

o   High level.

o   Advanced level.

o   English is my mother tongue.

6. Do you have any **English certification**?

o   Yes. *(Continue in question 7)*

o   No. *(Continue in question 8)*

7. Which English certification do you have?

o   A2 (KET or equivalent).

o   B1 (PET or equivalent).

o   B2 (First or equivalent).

o   C1 (Advanced or equivalent).

o   C2 (Proficiency or equivalent).

o   Other (please specify): _____

Teaching experience

8. What is the name of the **school** where you are **currently working**?

_____

9. How long (in years and months) have you been working in this school?

_____

10. Which **grades** are you **currently teaching**?

☐   P3 (3-year-olds).

☐   P4 (4-year-olds).

☐   P5 (5-year-olds).

☐   1st and 2nd grade in primary (6- and 7-year-olds).

☐   3rd and 4th grade in primary (8- and 9-year-olds).

☐   5th and 6th grade in primary (10- and 11-year-olds).

11. Which **grades** have you **taught previously**?

- ☐ P3 (3-year-olds).
- ☐ P4 (4-year-olds).
- ☐ P5 (5-year-olds).
- ☐ 1st and 2nd grade in primary (6- and 7-year-olds).
- ☐ 3rd and 4th grade in primary (8- and 9-year-olds).
- ☐ 5th and 6th grade in primary (10- and 11-year-olds).

12. Have you worked in **other schools before**?

- o Yes. *(Continue in question 13)*
- o No. *(Continue in question 15)*

13. List the **names of the schools** you have previously worked at and indicate **how long** (in years and months) you have been working in each of them.

List those schools where you worked at for a long time period or the ones that you think have had an influence on the way you teach now.

_____

14. In total, what is your **accumulated teaching experience** (in years and months)?

That is, how many years and months in total have you worked or done an internship for as a teacher over your life?

_____

15. Do you have **experience as a foreign language teacher**?

- ☐ Yes, I am currently a foreign language teacher.
- ☐ Yes, I have taught foreign language classes before.
- ☐ No.

CLIL training and teaching experience

16. Have you ever received **CLIL training**?

- o Yes. *(Continue in question 17)*
- o No. *(Continue in question 19)*

17. Which training have you received?

Indicate the name or topic of the course, the organising entity, and its duration (days, hours).

_____

18. Which **contents** did you work on?

List them briefly.

_____

19. Do you have **experience teaching through CLIL**?

- o   Yes. *(Continue in question 20, skip questions 25 & 26)*
- o   No. *(Continue in question 25)*

20. Which **area or project** have you taught through CLIL? In which grades?

_____

21. How long (in years and months) have you been teaching through CLIL?

_____

22. In which school have you taught through CLIL?

_____

23. How would you rate your **experience teaching through CLIL**?

- o   Very positive.
- o   Positive.
- o   Neutral.
- o   Negative.
- o   Very negative.

24. Why?

_____

25. Would you like to **implement CLIL in the future**?

- o   Yes.
- o   No.

26. Why?

_____

CLIL knowledge

27. How would you **define what the CLIL** (Content and Language Integrated Learning) **approach is**?

Provide a definition as detailed as you can, considering your CLIL knowledge and experience.
You can give an example.

_____

_____

Part 2. CLIL effects on students of any age

This second part of the questionnaire aims to collect your perceptions about the possible effects and benefits that **CLIL** may have in general on **students of any age.**

First, let's review what CLIL entails:

> *The term CLIL refers to any "dual-focused educational approach in which an additional language is used for the learning and teaching of content and language with the objective of promoting both content and language mastery" (Marsch et al., 2010, 11). CLIL brings to the classroom a context of real and meaningful communication, that simulates immersion settings at a smaller scale.*

28. Considering your own CLIL knowledge and the definition you have just read, indicate your degree of agreement or disagreement with the following statements about the **effects of CLIL**:

	Strongly agree	Agree	Disagree	Strongly disagree
28(a). CLIL promotes both the learning of content and languages.				
28(b). CLIL only promotes the learning of content.				
28(c). CLIL only promotes the development of linguistic skills.				
28(d). CLIL only promotes the acquisition of the foreign language.				
28(e). CLIL promotes the development of the mother tongue as well.				

29. Out of the **linguistic skills** listed below, tick the ones that you think are **enhanced through CLIL**:

- ☐ Reading comprehension.
- ☐ Listening comprehension.
- ☐ Written expression.
- ☐ Oral expression.
- ☐ Fluency.

☐ Phonetics/pronunciation.

☐ Morphology.

☐ Syntax.

☐ Pragmatics.

☐ Vocabulary.

☐ None of the above.

☐ Other (please specify): _____

30. Out of the **personal and interpersonal skills** listed below, tick the ones that you think are **enhanced through CLIL**:

☐ Communication and interaction.

☐ Motivation in content learning.

☐ Motivation in language learning.

☐ Self-confidence.

☐ Greater risk-taking when using the language.

☐ Creativity.

☐ Intercultural competence.

☐ Metalinguistic awareness.

☐ None of the above.

☐ Other (please specify): _____

Part 3. Perceptions about the implementation of CLIL at any grade

This third part will allow us to gather your opinions on the implementation of CLIL in general, to be able to identify the possible difficulties and challenges that teachers may face when **implementing CLIL at any educational stage or grade**.

31. Do you think it is possible to implement **CLIL at any age and educational stage**?

o Yes.

o No.

32. Why?
_____

33. Do you think it is possible to implement **CLIL with students of any foreign language proficiency level**?

- o Yes.
- o No.

34. Why?

_____

35. Indicate your degree of agreement or disagreement with the following statements about **CLIL implementation in any grade**:

Implementing CLIL requires…	Strongly agree	Agree	Disagree	Strongly disagree
35(a). a lot of preparation time.				
35(b). changes in the curriculum.				
35(c). changes in the evaluation system.				
35(d). creating new materials.				
35(e). cooperation between content, foreign language and L1 teachers.				
35(f). institutional support.				
35(g). the support of the families.				
35(h). the students to have a very high knowledge of the content.				
35(i). the teachers to have very high knowledge of the content.				
35(j). a content mastery higher than what the language teachers may have.				
35(k). the students to have a very high level of the foreign language.				
35(l). the teachers to have a very high level of the language.				
35(m). a foreign language level higher than what the content teachers may have.				
35(n). further specific methodological training.				

36. If you want to add any **comments** or make any remarks related to the statements in the previous question, you can type them here:

_____

_____

Part 4. Perceptions about the implementation of CLIL in pre-primary education

This is the last part of the questionnaire, and it focuses on your perceptions about the **implementation of CLIL in pre-primary education** specifically.

37. Which **linguistic benefits** do you think CLIL may have on pre-primary education **children**?

_____

_____

38. Which **personal and social benefits** do you think CLIL may have on pre-primary education **children**?

_____

_____

39. Which **benefits** do you think CLIL may have on pre-primary education **teachers**?

_____

_____

40. Which **difficulties and challenges** do you think CLIL may entail for pre-primary education **children**?

_____

_____

41. Which **difficulties and challenges** do you think CLIL may entail for pre-primary education **teachers**?

_____

_____

42. Would you feel **prepared to start implementing CLIL** right now in any pre-primary grade?
- o   Yes, I think I am ready to implement CLIL in pre-primary education.
- o   Yes, but only in P5 (5-year-olds).
- o   Yes, but only in P4 (4-year-olds) and P5 (5-year-olds).
- o   No, I don't think I am ready.
- o   No, but I would support other teachers in the school that want to try it.
- o   Other (please specify): _____

43. Why?

_____

44. Which of the following aspects would **help you feel more prepared** to implement CLIL in pre-primary education?

- ☐ Specific methodological training (content and language integration).
- ☐ Foreign language training.
- ☐ Curricular content training.
- ☐ Guidelines on how to adapt materials and didactic units.
- ☐ Access to already prepared CLIL materials and didactic units.
- ☐ More resources available in the school.
- ☐ Institutional support.
- ☐ Support from other teachers in the school.
- ☐ Support from the families.
- ☐ Information about CLIL programmes implemented in other schools.
- ☐ Results of CLIL programmes implemented in other schools.
- ☐ Other (please specify): _____

Thank you!

This is the end of the questionnaire. We thank you for your time and participation in our research project. We are convinced that your responses will be very useful for our investigation.

If you have any questions or want to know more about our project, you can contact [*researcher's name*]: [*researcher's email*]

Appendix 9 Pre-Service Teachers Survey

The questionnaire for pre-service teachers only differed with the on for in-service teachers in the questions enquiring on participants' academic background and teaching experience, that is questions 3 to 15. The two surveys were identical in terms of the introduction, consent form, and from question 16 onwards. Thus, Appendix 9 includes only the questions that were different in the survey for pre-service teachers. Refer to Appendix 8 for the common questions in both surveys.

Teaching English in Pre-Primary Education[20]

[…]

3. In **which university** are you studying your pre-primary education degree?

_____

4. Which **grade** are you currently enrolled in?

- ☐ First.
- ☐ Second.
- ☐ Third.
- ☐ Fourth.
- ☐ Other (please specify): _____

5. Are you enrolled in the **foreign language specialisation**?

- o Yes.
- o No.
- o I haven't chosen yet, but I would like to specialise in foreign language.

6. Do you have any **other training** related to education?
For example, the primary education degree, any professional training degrees or any other courses related to education.

- o Yes. *(Continue in question 7)*
- o No. *(Continue in question 8)*

---

[20] The original survey was administered in Catalan. However, for the purpose of the present study, it has been translated into English.

7. Which one?

Indicate the name of the course, its duration, and the institution.

_____

8. How would you rate your **English level**?

- o   I don't speak English.
- o   Low level.
- o   Intermediate level.
- o   High level.
- o   Advanced level.
- o   English is my mother tongue.

9. Do you have any **English certification**?

- o   Yes. *(Continue in question 10)*
- o   No. *(Continue in question 11)*

10. Which English certification do you have?

- o   A2 (KET or equivalent).
- o   B1 (PET or equivalent).
- o   B2 (First or equivalent).
- o   C1 (Advanced or equivalent).
- o   C2 (Proficiency or equivalent).
- o   Other (please specify): _____

Teaching and internship experience

11. Have you ever **worked** or done an **internship** as a **pre-primary education teacher**?

- ☐   Yes, I have worked. *(Continue in question 12)*
- ☐   Yes, I have done an internship. *(Continue in question 12)*
- ☐   I have not worked nor done any internships yet. *(Continue in question 16)*

12. What is the name of the **school/schools** where you have worked and/or done an internship?

_____

13. In total, what is your **teaching accumulated experience** (in years and months)?

That is, how many years and months in total have you worked or done an internship for as a teacher over your life?

_____

14. Which **grades** have you taught before or are you **currently teaching**?

☐ P3 (3-year-olds).

☐ P4 (4-year-olds).

☐ P5 (5-year-olds).

☐ 1st and 2nd grade in primary (6- and 7-year-olds).

☐ 3rd and 4th grade in primary (8- and 9-year-olds).

☐ 5th and 6th grade in primary (10- and 11-year-olds).

15. Do you have **experience as a foreign language teacher**?

☐ Yes, I am currently a foreign language teacher.

☐ Yes, I have taught foreign language classes before.

☐ No.

[...]